



The State University
of New York

Project Manual

For construction contracts greater than \$20,000

Miller Stairs and Plaza Reconstruction

20220020

4/26/2024

SUNY Cortland
Facilities, PDC
Whitaker Hall, Room 219
4 Pashley Drive
Cortland, NY 13045

Project Number: 20220020 Date: 4/26/2024
 Project Name: Miller Stairs and Plaza Reconstruction
 Agency/Div Code: 28170 Contract No.: _____

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4. [Form 7554-07](#) – Contractor Proposal
5. [Form 7554-10](#) - Bid Bond and Acknowledgement (*required with bid*)
6. Affirmative Action and Minority & Women Owned Business Enterprises *from SUNY Procedure Item #7557 “Participation by Minority Group Members and Women (MWBEs) with Respect to State University of New York Contract” (applies >\$100,000)*
 - a. [Form 7557-121b](#) – MWBE Prospective Bidders Notice
 - b. [Form 7557-107](#) - M/WBE Utilization Plan (*required within seven days of the bid*)

- c. The Contractor's EEO Policy Statement or [Form 7557-104](#) (required within seven days of the bid)
- d. [7557-108](#) - M/WBE-EEO Work Plan or EEO Staffing Plan (required within seven days of the bid)

Note: In accordance Procedure Item #7557 MWBE Utilization Plans, EEO policy statements and EEO Work Plans are due within seven days of submittal of the bid.

7. Service Disabled Owned Business Enterprise from *SUNY Procedure Item #7564 "Participation by Service-Disabled Veteran-Owned Business (SDVOBs) with Respect to State University of New York Contracts"* (applies >\$100,000)
 - a. [Form 7564-121b](#) – SDVOB Prospective Bidders Notice
 - b. [Form 7564-107](#) - SDVOB Utilization Plan (required within seven days of the bid)

Attachments –Additional Contractor Documentation (required after bid opening from the low bidder)

8. State Finance Law §§139-j and 139-k from *SUNY Procedure Item #7552 "Procurement Lobbying Procedure for State University of New York"* (applies >\$15,000)
 - a. [Form A](#) - Summary: Policy and Procedure of the State University of New York Relating to State Finance Law §§139-j and 139-k
 - b. [Form B](#) - Affirmation with respect to State Finance Law §§139-j and 139-k
 - c. [Form C](#) - Disclosure and Certification with respect to State Finance Law §§139-j and 139-k

Bidder's Certifications (State Finance Law §139-l, Non-collusive bidding, Executive Order 177)

9. from *SUNY Procedure Item #7554 "Construction Contracting Procedures"*
 - a. [Form 7554-20](#) Bidder's Certifications
10. Procurement Forms from *SUNY Procedure Item #7553 "Purchasing and Contracting (Procurement)"*
 - a. [Form I](#) Omnibus Procurement Act of 1992 (applies >\$1,000,000)
 - b. [Form II](#) Omnibus Procurement Act of 1992, Out of state firms (applies >\$1,000,000)
 - c. [Form XIII](#) Public Officers Law Compliance
11. Bonds and Certificate of Insurance from *SUNY Procedure Item #7554 "Construction Contracting Procedures"*
 - a. [Form 7554-11](#) Labor & Materials and Performance Bonds (applies >\$50,000)
 - b. [Form 7554-12](#) Certificate of Insurance (applies to all contracts)
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12. Vendor Responsibility
 - a. OSC's [Vendrep - Online System](#) or [Link to paper forms](#) (form applies \geq \$100,000)
13. NYS Labor Law, Section 220-a
 - a. [Form 7554-13](#)
 - i. Form AC 2947, Prime Contractor's Certification
 - ii. Form AC 2948, Subcontractor's Certification
 - iii. Form AC 2958, Sub-subcontractor's Certification

Notice to Bidders and Newspaper Advertisement

The State University of New York at Cortland will receive sealed bids for project number **20220020** titled **Miller Building Stairs and Plaza Reconstruction** until **Monday, May 20, 2024, 10:00AM** local time at Whitaker Hall Room 201, 4 Pashley Drive, Cortland NY 13045, where such proposals will be publicly opened and read aloud.

All work on this Contract is to be completed by phases as follows:

Phase I: East Side/Graham Ave side to start construction roughly June 1, 2024 and be fully completed May 1, 2025.

Phase II: West Side/Old Main side to start construction on May 15, 2025 (after commencement) and fully completed by August 15, 2025.

Bidding and Contract Documents may be examined free of charge at the campus and at the following locations.

Associated Building Contractors: 15 Belden St. Binghamton, New York 13903

Builders Exchange of Rochester: 180 Linden Oaks #100, Rochester, NY 14625

Dodge Reports c/o Dataflow: 318-320 Columbia Street, Utica, NY 13502

Mohawk Valley Builders Exchange: 10 Main Street, Suite 202, Whitesboro, NY 13492

Syracuse Builders Exchange: 6563 Ridings Road, Syracuse, NY 13206

Complete sets of Contract Documents for bidding may be obtained from Plan and Print Systems Inc. 6160 Eastern Ave. Syracuse, NY 13211, 315-437-5111.

Section 143 of the State Finance Law requires payment of a deposit to receive these documents. Accordingly, a deposit check of \$45.00, made payable to Plan and Print, is required. Deposits less than \$50.00 are nonrefundable.

A non-mandatory pre-bid walkthrough will be held on Tuesday, May 7, 2024 at 1:00PM. Please meet at SUNY Cortland, Miller Building, Room 308, 22 Graham Ave, Cortland NY 13045. Email Kristi.Hughston@Cortland.edu for parking permit.

Bids must be submitted in duplicate in accordance with the instructions contained in the Information for Bidders. Security will be required for each bid in an amount not less than five (5) percent of the Total Bid.

It is the policy of the State of New York and the State University of New York to encourage minority business enterprise participation in this project by contractors, subcontractors and suppliers, and all bidders are expected to cooperate in implementing this policy.

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

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

Drawings and Specifications will be issued by the Consultant upon request after payment of the deposit specified in the Notice to Bidders.

Section 3 Proposals

- (1) Proposals must be submitted in duplicate on the forms provided 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. The University accepts no responsibility for Proposals that may be delivered by any courier or other messenger service that does not contain all of the above-noted information on the outside of a sealed envelope. Facsimile or email copies of the Proposal will not be accepted.
- (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 contains 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 rejected as 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 of bids designated in the Bidding and Contract Documents or prior to the time of opening as extended by Addendum.
- (7) Bids may be modified, withdrawn or canceled only in writing or by email notice received by the University prior to the time of opening of bids designated in the Bidding and Contract Documents. A written or email 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. Upon

receipt by the University a duly authorized employee of the University, who shall note thereon the date and time of receipt and shall thereupon attach said written or email notice of modification, withdrawal or cancellation to the envelope submitted by the bidder pursuant to subdivision (1) of this

- (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 to each person recorded as having received a copy of the Bidding and Contract Documents from the 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 emailing 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. Prospective bidders are responsible for ensuring that all addenda have been incorporated into the bid. 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 of 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) Unit prices may be inserted in the Proposal by the University or the bidder at the discretion of the University. 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 Notice of Award. In the event the Proposal contains blank spaces for unit prices or the bidder 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) Alternates, if any, listed in the Proposal shall be accepted in the order indicated and will be used in combination with the Base Bid to determine the low bidder. Unit prices will not be used to determine the low bidder.
- (4) If a tie bid should occur the University reserves the right to use one of the following methods to determine the successful bidder. For tie bids between two contractors the University representative shall flip a coin, both affected contractors must be present for the coin toss. For tie bids between three or more contractors the University representative shall pull names from a bowl, hat or other container. The affected contractors must be present for the drawing.

Section 6 Payment of Bid Security

- (1) Each Proposal must be accompanied by the required amount of the bid security, which is 5% of the Total Bid, in the form of a bank draft or certified check, payable at sight to the University and drawn on a bank authorized to do business in the United States, or by a Bid Bond, on a form approved by the University, duly executed by the bidder as principal and having as surety thereon a surety company or companies, approved by the University, authorized to do business in the State of New York as a surety. Attorneys-in-fact who execute a Bid Bond on behalf of a surety must affix thereto a certified and effectively dated copy of their power of attorney.
- (2) The University will return, without interest, bid securities in accordance with the following procedure:
 - a. 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 as a replacement for a previously provided 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.
- (3) The University reserves the right to deposit bid security drafts or checks pending final disposal of them.

Section 7 Qualifications of Bidders

- (1) A bidder must demonstrate, to the satisfaction of the University, that it has successfully completed three (3) contracts similar in size, scope and complexity to this contract within the last five (5) years.
 - a. For scope and complexity, similar work is defined as Exterior Stair with Stone veneer, Concrete footings, Steel Handrails and similar site work, of as further described in the General Requirements, Description of Work.

- b. The determination of relevant contract experience in terms of size, scope and complexity will be at the sole discretion of the University.
 - c. The above three projects shall be submitted on Attachment A of the Proposal (Form 7554-07), "List of Completed Similar Construction Projects" (the List). If the List is not provided or is missing information, and/or is found to have erroneous information or information that is no longer current, a Proposal may be rejected as not responsive. If requested by the University, the bidder may be permitted to add missing information, modify and/or explain erroneous information or information that is no longer current on the List. Modifications and/or explanations of the List must be received within 48 hours of receipt of the University's request.
- (2) All prospective bidders must demonstrate to the satisfaction of the University that they have the skill and experience, as well as the necessary facilities, ample financial resources, ability to manage staff and subcontractors effectively, ability to anticipate and plan construction work for optimal progress, ability to create, strive for and maintain working environments and relationships that are constructive, communicative and cooperative, 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.
- (3) Each bidder must demonstrate 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 Base Bid plus 10 percent of the next \$900,000 plus 5 percent of the remainder of its Base 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.
- (4) The University may make such investigation as the University deems necessary to determine the ability of any bidder to perform the Work. Bidders shall furnish to the University all information and data required by the University, including complete financial data, within the time and in the form and manner required by the University. The University reserves the right to reject any bid if the evidence submitted by or an investigation of such bidder fails to satisfy the University that such bidder is properly qualified to carry out its obligations of the contract and to complete the work contemplated therein. Conditional bids will not be accepted.
- (5) At the time of the bid opening, all bidders and subcontractors, domestic and foreign, must be in compliance with New York State business registration requirements. Contact the NYS Department of State regarding compliance.

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. Evidence of a completed New York State Uniform Contracting Questionnaire (Vendor Responsibility Questionnaire For-Profit Construction (CCA-2)). Either email confirmation that the bidder's CCA-2 is current and certified in the New York State VendRep System (VendRep) within the last six months from the bid date, or deliver a certified paper format CCA-2, including all attachments, to the University.

The University recommends that vendors file the required CCA-2 online via the VendRep. To enroll in and use the VendRep, see the VendRep Instructions at https://www.osc.state.ny.us/vendrep/info_vrsystem.htm or go directly to the VendRep online at <https://portal.osc.state.ny.us>. To request assistance, contact the Office of the State Comptroller's ("OSC") Help Desk at 866-370-4672 or 518- 408-4672 or by email at ciohelpdesk@osc.state.ny.us.

The paper format CCA-2 and accompanying definitions are available on the OSC website at the following location:

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

- b. A working plan and schedule showing clearly, in sequence and time-scale, all significant activities of the work. 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 for the anticipated time of commencement and completion of the work and its significant phases and activities and the interrelationship between such significant activities and other items pertinent to the work. This requirement is in addition to and not a substitute for the schedule requirements of section 3.02 (Time Progress Schedule) of the Agreement. Although the working plan and schedule submitted shall not be used in determining the lowest responsible bidder, failure to submit the working plan and schedule may result in the rejection of the Proposal as not responsive.
- c. The names and addresses of the bidder's proposed subcontractor for the Asbestos Abatement work of any value, and proposed subcontractors for Electrical Work, the Heating, Ventilating and Air-Conditioning Work and the Plumbing Work for each of said work categories valued at \$100,000 or more.
 - i. For each proposed subcontractor named, provide a completed "List of Completed Similar Construction Projects (the List)." If the List is not provided or is missing information, and/or is found to have erroneous information or information that is no longer current, a proposed subcontractor may be rejected. If requested by the University, the bidder may be permitted to add missing information, modify and/or explain erroneous information or information that is no longer current on the List; modifications and/or explanations of the List must be received promptly after receipt of the University's request.
 - ii. Only one proposed subcontractor should be named for each of such trades. Proposed subcontractors of the bidder may not be changed except with the specific written approval of the University.
 - iii. 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 or substantially completed three (3) contracts similar in size, scope and complexity for the designated work within the last five (5) years. The determination of relevant contract experience in terms of size, scope and complexity will be at the sole discretion of the University.
 - iv. 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. By submission of the "List of Completed Similar Construction Projects," a proposed subcontractor must be able to demonstrate that they have successfully completed or substantially completed three (3) contracts similar in size, scope and complexity for the designated work within the last five (5) years. The determination of relevant contract experience in terms of size, scope and complexity will be at the sole discretion of the University.

- v. For each of the proposed subcontractors, the bidders must submit to the University, within seven (7) calendar days after the bid opening, evidence of a completed New York State Uniform Contracting Questionnaire (Vendor Responsibility Questionnaire For-Profit Construction (CCA-2)). Either email confirmation that the subcontractor's CCA-2 is current and certified in the New York State VendRep System (VendRep) within the last six months from the bid date, or deliver a certified paper format CCA-2, including all attachments, to the University.
 - vi. In the event that the University and the Consultant reject any of said proposed subcontractors, the bidder, within two (2) 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; When naming another proposed subcontractor, the bidder must promptly submit the proposed subcontractor's completed "List of Completed Similar Construction Projects" and their completed CCA-2.
 - vii. The bidder will not be permitted to submit another proposed subcontractor if it designated itself for any of the aforesaid categories of work.
 - viii. 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.
- d. 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) Except for Contracts of \$100,000 or less, within seven (7) calendar days after the opening of bids, unless otherwise directed by the University, the three low bidders shall submit to the University for its approval, a Minority and Women-owned Business Enterprise Utilization Plan ([Form 7557-107](#)).
 - (3) Except for contracts of \$100,000 or less, within seven (7) calendar days after the opening of bids, the three low bidders shall submit to the University for its approval, an Equal Employment Opportunity Statement and EEO Staffing Plan ([Form 7557-108](#)) to ensure equal employment opportunities without discrimination because of race, creed, color, sex or national origin. Such Statement and plan should demonstrate the bidder's intent to comply with the provisions of Article VI of the Agreement. The EEO plan should include the methods that the bidder will use to address

nondiscrimination and affirmative action so that minorities and women will be included in the work force. The Equal Employment Opportunity (“EEO”) Policy Statement that shall contain, but not necessarily be limited to, a provision that the bidder, as a precondition to entering into a valid and binding Contract with the University, shall during the performance of the Contract, agree to the following:

- a. It will not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability or marital status, will undertake or continue existing programs of affirmative action to ensure that minority group membership 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 the Contract.
 - b. It shall state in all solicitations or advertisements for employees that, in the performance of the 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.
 - c. At the request of the University, it shall request each employment agency, labor union or authorized representative of workers, with which it has 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 bidder’s obligations herein.
 - d. After the award of the contract, it shall submit to the University a work force utilization report, in a form and manner required by the University, of 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 and any proposed subcontractors. 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 and any proposed subcontractors. Failure to comply with the latter may result in the rejection of the Proposal as not responsive. All information required to be furnished to the University under this Section shall be sent to the State University at {insert address or email address}.

Section 9 Award of Contract

- (1) The award of the Contract shall be made to the bidder submitting the lowest bid that is responsive to the solicitation and who, in the sole opinion of the University, is qualified to perform the work. The University shall determine the lowest bid by adding to or deducting from the Base Bid of the bidders the additive or deductive alternates, if any, the University elects to accept after the opening of the Proposals. Alternates 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.

The lowest base bid shall not exceed the amount of funds then estimated by the University as available to finance the contract. If the lowest bidder exceeds such amount, the University may

reject all bids, or may award the contract on the base bid combined with deductive alternates applied in the order they are set forth in the Proposal as produces the net amount which is within the available funds.

- (2) 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 as not responsive if the bidder fails to furnish the required bid security or to submit the data required with or after its Proposal and this Information for Bidders.
 - b. A Proposal may be rejected as not responsive if the bidder cannot show to the satisfaction of the University: (i) that it has the necessary qualifications and capital; 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 as not responsive if it does not provide for the completion of the work by the date of completion specified in the Proposal.
- (3) The University also expressly reserves the right to reject any Proposal as not responsive 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.
- (4) 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 and Insurance

- (1) Unless otherwise agreed to by the University, within ten (10) working days after the receipt of Letter of Intent, the Contractor shall procure, execute and deliver to the University and maintain, at its own cost and expense:
 - a. 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. **Bond must be dated on or at least one day later than agreement signature date.**
 - b. 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.
- (2) Prior to the commencement of work the Successful Bidder will provide, at its sole cost and expense, Certificates of Insurance in accordance with Section 5.06 and 5.07 of the Construction Agreement,

which shall remain in force throughout the term of the agreement, or any extension thereof. Such Certificates of Insurances shall be from an insurance company licensed by the New York State Department of Insurance with a rating of at least "A-" as published with Standard & Poor's, and a liability insurance policy with limits no less than \$1,000,000.00 per claim. If during the term of the policy, the carrier's rating falls below "A-", the liability insurance must be replaced no later than the renewal date of the policy with an insurer acceptable to the State of New York. Such policies shall name the STATE UNIVERSITY OF NEW YORK as an additional insured. The policy shall designate the State University of New York as the loss payee and shall contain a provision that the State University of New York shall receive at least thirty (30) days' notice prior to material change, cancellation or expiration of any such policy.

- (3) **Workers Compensation Insurance & Disability Benefits Coverage**
All employees of the Successful Bidder shall be adequately and properly covered by Workers' Compensation Insurance and Disability Benefits coverage for all work related to the resultant contract. Such policies shall name the STATE UNIVERSITY OF NEW YORK as an additional insured and are to be written by recognized and well-rated insurance companies authorized to transact business in the State of New York. The Successful Bidder shall deliver certificates of such coverage, or proof that such coverage is not required, in the required format, as required by the Workers' Compensation Board, to the following when the agreement is signed by the parties and thereafter not less than thirty (30) days prior to material change or cancellation of such coverage.
- (4) **Proof of insurances with the specific coverage and limits required in Article V of the Agreement.**
Acceptable documents are:
- a. Proof of NYS Worker's Compensation is only accepted on the C-105.2 or U-26.3 form.
 - b. Proof of Disability insurance is only accepted on the DB-120.1 form. Use the link below for a description of the required forms for Workers Compensation and Disability:
<http://www.osc.state.ny.us/agencies/guide/MyWebHelp/Content/XI/18/G.htm>
 - c. All other proof of insurance must be on the Acord 25 Certificate of Liability Insurance form.
- (5) **A 120-day schedule**
- a. After receipt of the Letter of Intent but before receipt of the Contract is Awarded, the Contractor, unless otherwise directed by the University, shall update the working plan and schedule previously submitted in accordance with the Information for Bidders to define the contractor's planned operations during the first 120 days and submit it to the University and the Consultant for their acceptance. The updated 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. When updated, 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. The Notice to Proceed may be withheld until this schedule is received and is deemed responsive to the project requirements.
 - b. After Contract Award, but before processing second progress payment application, the Contractor, unless otherwise directed by the University, shall submit to the University and

the Consultant for their acceptance its proposed working plan and project time schedule for all the work covered by the Contract, and shall include activities for preparation and submission of all Shop Drawings and Samples. Said proposed working plan and schedule shall be prepared in accordance with the form and requirements set forth in the preceding paragraph.

Section 11 Minority and Women-Owned Business Enterprises

- (1) Pursuant to New York State Executive Law Article 15-A, the University recognizes its obligation under the law to promote opportunities for maximum feasible participation of certified Minority and Women-Owned Business Enterprises and the employment of minority group members and women in the performance of University contracts.
- (2) For purposes of this solicitation, the University hereby establishes an overall goal of **30%** for MWBE participation, **15%** for Minority-Owned Business Enterprises (“MBE”) participation and **15%** for Women-Owned Business Enterprises (“WBE”) participation (based on the current availability of qualified MBEs and WBEs). For additional information please refer to the MWBE requirements outlined in the Prospective Bidders Notice ([Form 7557-121b](#)) and Exhibit A-1.
- (3) For guidance on how the University will determine a Contractor’s “good faith efforts,” refer to 5 NYCRR §142.8.
- (4) Please note the forms identified in the Prospective Bidders Notice ([Form 7557-121b](#)) must be submitted within seven days of the bid opening. Required forms include the MWBE-EEO Policy Statement ([Form 7557-104](#) or equivalent), the MWBE Utilization Plan ([Form 7557-107](#)) and the EEO Staffing Plan ([Form 7557-108](#)).
- (5) Upon contract award and prior to contract execution the selected awardee will enter its Statewide Utilization Management Plan (SUMP) and document its good faith efforts to achieve the applicable MWBE participation goals by submitting evidence through the New York State Contract System, which can be viewed at: <http://ny.newnycontracts.com>, provided however, that the selected awardee may arrange to provide such evidence via a non-electronic method by contacting the SUNY Office of Diversity, Equity, and Inclusion.
- (6) Any modifications or changes to the MWBE Utilization Plan after the Contract award and during the term of the Contract must be reported on a revised MWBE Utilization Plan and submitted to the University. The University will review the submitted MWBE Utilization Plan and advise the Bidder of the University’s acceptance or issue a notice of deficiency within 30 days of receipt.
- (7) If a notice of deficiency is issued, Awardee agrees that it shall respond to the notice of deficiency within seven (7) business days of receipt by submitting to SUNY [address phone and fax information], a written remedy in response to the notice of deficiency. If the written remedy that is submitted is not timely or is found by SUNY to be inadequate, SUNY shall notify the Awardee and direct the Awardee to submit, within five (5) business days, a request for a partial or total waiver of MWBE participation goals on [Form 7557-114](#). Failure to file the waiver form in a timely manner may be grounds for disqualification of the bid or proposal.

SUNY may disqualify a Bidder as being non-responsive under the following circumstances:

- i. If a Bidder fails to submit a MWBE Utilization Plan;
- ii. If a Bidder fails to submit a written remedy to a notice of deficiency;

- iii. If a Bidder fails to submit a request for waiver; or
- iv. If SUNY determines that the Bidder has failed to document good faith efforts.

Section 12 Equal Employment Opportunity Requirements

- (1) Pursuant to Article 15 of the Executive Law (the "Human Rights Law"), and all other State and Federal statutory and constitutional non-discrimination provisions, the Bidder will not discriminate against any employee or applicant for employment because of race, creed, color, sex, religion, national origin, military status, sexual orientation, gender identity or expression, age, disability, predisposing genetic characteristics, domestic violence victim status, familial status or marital status. The Bidder shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest. The Bidder will state in all solicitations or advertisements for employees that, in the performance of this Contract, all qualified applicants will be afforded equal employment opportunities without discrimination.
- (2) The Bidder 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, if awarded a Contract pursuant to this solicitation, will make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force during its legal engagement with SUNY.
- (3) By submission of a bid or proposal in response to this solicitation, the Bidder agrees with all of the terms and conditions of SUNY Exhibit A including Clause 12 - Equal Employment Opportunities for Minorities and Women and acknowledges that, if the Bidder is awarded a Contract, The Contractor is required to ensure that it and any subcontractors awarded a subcontract over \$25,000 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, shall undertake or continue programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status. For these purposes, equal opportunity shall apply in the areas of recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, termination, and rates of pay or other forms of compensation. This requirement does not apply to: (i) work, goods, or services unrelated to the Contract; or (ii) employment outside New York State.
- (4) The Bidder further agrees, where applicable, to submit with the bid a staffing plan ([Form 7557-108](#)) identifying the anticipated work force to be utilized on the Contract and, if awarded a Contract, will, upon request, submit to SUNY a workforce utilization report identifying the workforce actually utilized on the Contract if known. Forms are available in SUNY Procurement Policies and Procedures Document 7557 online at: http://www.suny.edu/sunyp/ documents.cfm?doc_id=611.

Please Note: Failure to comply with the foregoing requirements may result in a finding of non-responsiveness, non-responsibility and/or a breach of the Contract, leading to the withholding of funds, suspension or termination of the Contract or such other actions or enforcement proceedings as allowed by the Contract.

Section 13 Executive Order 162 (EO162)

- (1) Governor Cuomo's Executive Order 162 requires state contractors to disclose data on the gender, race, ethnicity, job title, and salary of employees performing work on state contracts.
- (2) Bidder agrees to submit Workforce Utilization Report ([Form 7557-110](#)) and to require the same

information to be submitted by any of their subcontractors on the state contract, in such format as shall be required by SUNY on a monthly basis for all construction contracts and quarterly basis for all other contracts during the term of the contract. Empire State Development has provided specific details on this requirement at <https://esd.ny.gov/doing-business-ny/mwbe/mwbe-executive-order-162>.

Section 14 Executive Order 177 (EO177)

- (1) The New York State Human Rights Law, Article 15 of the Executive Law, prohibits discrimination and harassment based on age, race, creed, color, national origin, sex, sexual orientation, gender identity, disability, marital status, military status, or other protected status.
- (2) The Human Rights Law may also require reasonable accommodation for persons with disabilities and pregnancy-related conditions. A reasonable accommodation is an adjustment to a job or work environment that enables a person with a disability to perform the essential functions of a job in a reasonable manner. The Human Rights Law may also require reasonable accommodation in employment on the basis of Sabbath observance or religious practices.
- (3) Generally, the Human Rights Law applies to: (i) all employers of four or more people, employment agencies, labor organizations and apprenticeship training programs in all instances of discrimination or harassment; (ii) employers with fewer than four employees in all cases involving sexual harassment; and (iii) any employer of domestic workers in cases involving sexual harassment or harassment based on gender, race, religion or national origin.
- (4) In accordance with Executive Order No. 177, prior to contract award, selected Awardee must submit a certification that it does not have institutional policies or practices that fail to address harassment and discrimination as described above. SUNY is electing to obtain the certification with the bid documents to avoid unnecessary delay in the contract award process. All Bidders must sign and submit the certification attached to this IFB, SUNY [Form 7554-20](#).

Section 15 Service Disabled Veteran Owned Business Enterprises

- (1) Consistent with the State University of New York's commitment to, and in accordance with, Article 17-B of the New York State Executive Law, contractors are required to ensure that good faith efforts are made to include meaningful participation by Service Disabled Veteran-Owned Business in SUNY's MWBE Program. The requirements apply to contracts in excess of \$100,000.
- (2) To ensure that SDVOB Enterprises are afforded the opportunity for meaningful participation in the performance of the University's contracts, and to assist in achieving the SDVOB Act's statewide goal for participation on state contracts the University hereby establishes an overall goal of **6%** for SDVOB participation for this solicitation.
- (3) For additional information please refer to the SDVOB requirements outlined in the Prospective Bidders Notice ([Form 7564-121b](#)). Please note the SDVOB Utilization Plan ([Form 7564-107](#)) must be submitted within seven days of the bid opening.

Section 16 Encouraging Use of New York State Business Businesses in Contract Performance

- (1) New York State businesses have a substantial presence in State contracts and strongly contribute to the economies of the state and the nation. In recognition of their economic activity

and leadership in doing business in New York State, bidders/proposers for this contract for commodities, services or technology are strongly encouraged and expected to consider New York State businesses in the fulfillment of the requirements of the contract. Such partnering may be as subcontractors, suppliers, protégés or other supporting roles.

- (2) Bidders/proposers need to be aware that all authorized users of this contract will be strongly encouraged, to the maximum extent practical and consistent with legal requirements, to use responsible and responsive New York State businesses in purchasing commodities that are of equal quality and functionality and in utilizing services and technology. Furthermore, bidders/proposers are reminded that they must continue to utilize small, minority and women-owned businesses, consistent with current State law.
- (3) Utilizing New York State businesses in State contracts will help create more private sector jobs, rebuild New York's infrastructure, and maximize economic activity to the mutual benefit of the contractor and its New York State business partners. New York State businesses will promote the contractor's optimal performance under the contract, thereby fully benefiting the public sector programs that are supported by associated procurements.
- (4) Public procurements can drive and improve the State's economic engine through promotion of the use of New York businesses by its contractors. The State therefore expects bidders/proposers to provide maximum assistance to New York businesses in their use of the contract. The potential participation by all kinds of New York businesses will deliver great value to the State and its taxpayers.
- (5) Information on the availability of New York State subcontractors and suppliers is available from: New York State Department of Economic Development, Procurement Assistance Unit, One Commerce Plaza, Albany, New York 12245, Phone: (518) 474-7756, Fax: (518) 486-7577.

Section 17 Single Contract Responsibility

This is a single bid general construction project. The Contractor submitting the bid is responsible for all work associated with this Project.

Section 18 Examination of Site and Conditions of Work

- (1) **A pre-bid conference and project walk-through will be held with all contractors assembled at Miller Building Room 308, 22 Graham Ave. Cortland NY 13045 on May 7, 2024, at 1:00PM.** No individual or additional walk-throughs will be provided. Failure to attend a walk-through shall not be the cause for extra payment.
- (2) Each bidder must inform itself fully of the conditions relating to the construction of the project and the employment of labor on the project. Failure to do so will not relieve a successful bidder of their obligation to furnish all material and labor necessary to carry out the provisions of their contract. To the extent possible, the contractor, in carrying out the work, must employ such methods or means as will not cause any interruption of or interference with the work of any other contractor.

Section 19 General Terms and Conditions

- (1) The following items will be incorporated into, and made part of, the formal agreement: (1) the University's Invitation for Bid; (2) the Successful Bidder's proposal; (3) Exhibit A, Standard Contract Clauses; (4) Exhibit A-1, Affirmative Action Clauses; and, (5) Forms A and B

Procurement Lobbying Forms.

- (2) In the event of any inconsistency in or conflict among the document elements of the agreement described above, such inconsistency or conflict shall be resolved by giving precedence to the document elements in the following order: (1) Exhibits A and A-1; (2) Forms A and B Procurement Lobbying Forms, (3) the Agreement; (4) this IFB; and (5) the Successful Bidder's proposal.

Section 19.1 Vendor Debriefing and Contract Award Protest Procedure

- (1) Upon being notified of their unsuccessful bids, unsuccessful bidders may request in writing a debriefing within 15 calendar days of such notice. The 15 day period starts once unsuccessful bidders are notified. Once a request is made by the bidder, the University must schedule a debriefing within a reasonable time of such request. Unless the campus and bidder mutually agree to use another method such as by telephone, video conference or another type of electronic communication the debriefing must be conducted in person with the bidder.
- (2) This procurement is subject to SUNY Procedure Item 7561, Contract Award Protest Procedure.

Section 19.2 Proposal Confidentiality

- (1) All proposals and qualifications submitted for the University's consideration will be held in confidence. However, the resulting contract is subject to the New York State Freedom of Information Law (FOIL). Therefore, if an Bidder believes that any information in its proposal constitutes a trade secret or should otherwise be treated as confidential and wishes such information not to be disclosed the Bidder shall submit with its proposal a separate letter to the designated contact. The letter shall specifically identify the page number(s), line(s) or other appropriate designation(s) containing such information, explaining in detail why such information is a trade secret and formally requesting that such information be kept confidential. Failure by an Bidder to submit such a letter will constitute a waiver by the Bidder of any rights it may have under Section 89(5) of the Public Officers' Law relating to protection of trade secrets.
- (2) The proprietary nature of the information designated confidential by the Bidder may be subject to disclosure if ordered by a court of competent jurisdiction. A request that an entire proposal be kept confidential is not advisable since a proposal cannot reasonably consist of all data subject to FOIL proprietary status.

Section 19.3 Information Security Breach and Notification Act

- (1) The Bidder shall comply with the provisions of the New York State Information Security Breach and Notification Act (General Business Law Section 899-aa and State Technology Law, Section 208). The Bidder shall be liable for the costs associated with such breach if caused by its negligent or willful acts or omissions, or the negligent or willful acts or omissions of its agents, officers, employees or subcontractors.

Section 19.4 State Finance Law §§ 139-j and 139-k

- (1) State Finance Law §§139-j and 139-k imposes certain restrictions on communications between the University and a Bidder during the procurement process. During the restricted period the Bidder is restricted from making contacts to other than designated contact unless it is a contact that is included among certain statutory exceptions set forth in State Finance Law §139-j(3)(a).

The restricted period is from the earliest notice of intent to solicit offers through final award and approval of the Contract.

- (2) University employees and their designated representatives are also required to obtain certain information when contacted during the restricted period and make a determination of the responsibility of the Bidder pursuant to these two statutes. Certain findings of non-responsibility can result in rejection for contract award and in the event of two findings within a 4 year period the Bidder is debarred from obtaining government procurement contracts.

Section 19.5 State Finance Law §§ 139-I

- (1) Pursuant to N.Y. State Finance Law §139-I, every bid made on or after January 1, 2019 to the State of any public department or agency thereof, where competitive bidding is required by statute, rule or regulation, for work or services performed or to be performed or goods sold or to be sold, and where otherwise required by such public department or agency, shall contain a certification that the bidder has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such policy shall, at a minimum, meet the requirements of N.Y. State Labor Law §201-g.
- (2) N.Y. State Labor Law §201-g provides requirements for such policy and training and directs the Department of Labor, in consultation with the Division of Human Rights, to create and publish a model sexual harassment prevention guidance document, sexual harassment prevent policy and sexual harassment training program that employers may utilize to meet the requirements of N.Y. State Labor Law §201-g. The model sexual harassment prevention policy, model sexual harassment training materials, and further guidance for employers, can be found online at the following URL: <https://www.ny.gov/combating-sexual-harassment-workplace/employers>.
- (3) Pursuant to N.Y. State Finance Law §139-I, any bid by a corporate bidder containing the certification required above shall be deemed to have been authorized by the board of directors of such bidder, and such authorization shall be deemed to include the signing and submission of such bid and the inclusion therein of such statement as the act and deed of the bidder.
- (4) If the bidder cannot make the required certification, such bidder shall so state and shall furnish with the bid a signed statement that sets forth in detail the reasons that the bidder cannot make the certification. After review and consideration of such statement, SUNY may reject the bid or may decide that there are sufficient reasons to accept the bid without such certification.
- (5) All Bidders must sign and submit the certification attached to this IFB, SUNY [Form 7554-20](#).

Section 20 Additional Terms and Conditions

- (1) The terms and conditions of the State University of New York Construction Agreement (Form 7554-09) shall apply and is provided as an attachment to this IFB.
- (2) The resulting agreement shall be binding upon its execution by both parties and, if required by New York State law, upon the approval of the Attorney General and the Office of the State Comptroller.
- (3) The agreement may be revised at any time upon mutual consent of the parties in writing. Such

- written consent will not be effective until signed by both parties and, if required by New York State law, approved by the Attorney General and the Office of the State Comptroller.
- (4) The relationship of the Successful Bidder to the University shall be that of independent contractor.
 - (5) Compliance with the post-employment restrictions of the Ethics in Government Act is required.
 - (6) The submission of a proposal constitutes a binding offer to perform and provide said services.
 - (7) In the event the Successful Bidder uses partners, subcontracts or subcontractors, the Successful Bidder will remain responsible for compliance with all specifications and performance of all obligations under the contract resulting from this IFB. For the resulting agreement, the Successful Bidder will be the prime contractor.
 - (8) The University will not be liable for any costs associated with the preparation, transmittal, or presentation of any proposals or materials submitted in response to this IFB.
 - (9) Public announcements or news releases regarding this IFB or any subsequent award of a contract must not be made by any Bidder without the prior written approval of SUNY.
 - (10) The Successful Bidder is responsible for compliance with all applicable rules and regulations pertaining to cities, towns, counties and State where the services are provided, and all other laws applicable to the performance of the resulting contract. The Successful Offeror shall provide all necessary safeguards for safety and protection as set forth by the United States Department of Labor, Occupational Safety and Health Administration.
 - (11) The Successful Bidder will be responsible for the work, direction and compensation of its employees, consultants, agents and contractors. Nothing in the resulting agreement or the performance thereof by the Successful Bidder will impose any liability or duty whatsoever on the University including, but not limited to, any liability for taxes, compensation, commissions, Workers' Compensation, disability benefits, Social Security, or other employee benefits for any person or entity.
 - (12) In the event the Successful Bidder is required to be reimbursed for travel, Bidder shall be reimbursed at rates not to exceed the current NYS Schedule of Allowable Reimbursable Travel Expenses. Refer to the U.S. Government Administration Rates for Travel at: <http://www.gsa.gov>
 - (13) In addition, the University reserves the right to:
 - a. Not accept any and all proposals received in response to this IFB, waive requirements or amend this IFB upon notification to all bidders, waive minor irregularities or adjust or correct cost or cost figures with the concurrence of the bidder if mathematical or typographical errors exist.
 - b. To terminate any resulting contract for: (1) unavailability of funds; (2) cause; (3) convenience; (4) in the event it is found that the certification filed by the Bidder in accordance with State Finance Law §§139-j and 139-k are found to be intentionally false or intentionally incomplete; and if applicable, the Department of Taxation and Finance Contractor Certification Form ST-220CA was false or incomplete. Upon such finding the University may exercise its termination right by providing written notification to the Bidder in accordance with the written notification terms of the contract.

- c. Request certified audited financial statements for the past three (3) completed fiscal years and/or other appropriate supplementation including, but not limited to, interim financial statements and credit reports.
- d. Contact any or all references.
- e. Request clarifications from Bidders for purposes of assuring a full understanding of responsiveness, and further to permit revisions from all Bidders determined to be susceptible to being selected for contract award, prior to award.
- e. Advise Bidder of any objectionable employee(s) and/or subcontractor(s) and request their removal from the project. Such removal shall not be reasonably withheld by the Bidder.

Section 21 Requirements for Construction Activities To Address Public Health or Safety

- (1) The Bidder agrees it is responsible for complying with any and all requirements issued by federal, state or local entities, including but not limited to New York State Governor Office Executive Orders, New York State Department of Health rules, regulations and guidance, and other New York State or State University of New York laws, rules, regulations or requirements that may be issued and/or amended during the bidding and/or performance of work on this Project.



NAME AND EMAIL ADDRESS OF BIDDER

ADDRESS OF BIDDER

**PROPOSAL
FOR**

Project Number: _____ Date: _____
Project Name: _____

TO THE STATE UNIVERSITY OF NEW YORK:

1. The Work Proposed Herein Will Be Completed Within the timeframe stated on page one of the Agreement. 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 University 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 University in each instance)	\$____/day

- 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.
- 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, modified by such additive or deductive alternates, if any, as are accepted by the University.
- The bidder further agrees to accept the unit prices, if any, set forth in paragraph (5) of this proposal, except as the same may be modified pursuant to the provisions of Section (5) of the Information to Bidders, as full payment for the amount of the credit to the University for any deletions, additions, modifications or changes to the portion or portions of work covered by said unit prices.

5. BID CALCULATION

a. BASE BID (*does not include allowances*)

\$ _____
(in numbers)

(in words)

b. ALLOWANCES: In accordance with the Schedule II and Section 4.05 of Agreement, the bidder further agrees to the following additions to the Base Bid:

A	B	C	D
Work or Materials Description	Allowance Percentage Pursuant to Base Bid	Amount in Words (Calculation from Column B)	Amount in Figures (Calculation from Column B)
Field Order Allowance	3.5% X Base Bid=		

c. TOTAL BID (*base bid + allowances = total bid*)

\$ _____ (in numbers)

\$ _____ (in words)

d. ALTERNATES: In accordance with Section B of the General Requirements the bidder proposes the following additions to or deductions from the Total Bid for the alternates listed below:

Alternate Number	Alternate Description	Add/Deduct	Amount in Words	Amount in Figures
NONE				

e. UNIT PRICES: In accordance with Section (5) paragraph (2) of the Information to Bidders and Section 4.04

of the Agreement the bidder or the University may insert unit prices for the work or materials listed below for clarification.

Work or Materials Description	Amount in Words	Amount in Figures
NO. L-1 UNDERCUTTING		
NO. L-2 SOIL STABILIZATION FABRIC		
NO. L-3 STANDARD DUTY CONCRETE SIDEWALK		
NO. L-4 SODDED LAWN		
NO. L-5 6" STORM WATER MANAGEMENT TRENCH (SMT)		
NO. L-6 ROCK EXCAVATION(S)		
NO. S-1 PARTIAL-DEPTH CONCRETE RESTORATION: VERTICAL SURFACES		
NO. S-2 PARTIAL-DEPTH CONCRETE RESTORATION: HORIZ. SURFACES		
NO. S-3 PARTIAL-DEPTH CONCRETE RESTORATION: OVERHEAD SURFACES		
NO. S-4 REPLACEMENT #5 CONCRETE REINFORCING STEEL		
NO. S-5 REPLACEMENT #7 CONCRETE REINFORCING STEEL		
NO. S-6 REPLACEMENT #9 CONCRETE REINFORCING STEEL		
NO. S-7 CRACK REHABILITATION BY INJECTION GROUTING WITH EPOXY		
NO. M-1 BRICK REPOINTING		

6. 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 induce 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 therefor. 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 the Campus President, or designee, or 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.

7. 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.
8. 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
_____	___/___/___	_____	___/___/___
_____	___/___/___	_____	___/___/___
_____	___/___/___	_____	___/___/___

9. 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 University 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 the University, 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. The University 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 the University is entitled, the bidder shall pay the difference, upon demand, to the University.
10. 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.
11. The bidder affirms that it understands and agrees to comply with the procedures of the Fund relative to permissible contacts as required by Sections 139-j(3) and 139-j-(6)(b) of the State Finance Law.

12. The bidder certifies that all information provided or to be provided to the University in connection with this procurement is, as required by Section 139-k of the State Finance Law, complete, true and accurate.

Dated ____ / ____ / ____

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

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

By _____
(signature)

Title _____

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
_____	_____



Bidder Name:

Project No.:

Bidders must provide three (3) example projects completed in the past five (5) years in which the Bidder served as the prime contractor. Example projects must be of similar size, scope and complexity to the project currently being bid, as further described in the Description of Work. Each project must include the Owner/Agency, Award Date, Contract Amount, Date Completed, Contact Person, Telephone number of the contact, Architect and/or Engineer's Name, Contract Number, **Contact Email**, and the Project Title and a brief scope description. Reference contacts may be used to verify project size, scope, dollar value, percentages and quality of performance.

1.	Agency/Owner			Award Date	Contract Amount	Date Completed
	Agency/Owner Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Contact Email	Project Title & Scope			
2.	Agency/Owner			Award Date	Contract Amount	Date Completed
	Agency/Owner Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Contact Email	Project Title & Scope			
3.	Agency/Owner			Award Date	Contract Amount	Date Completed
	Agency/Owner Contact Person		Telephone No.	Designer Architect and /or Design Engineer		
	Contract No.	Contact Email	Project Title & Scope			
Completed By:				Phone Number:		
				Email:		
				Date:		

STATE UNIVERSITY OF NEW YORK

SUBCONTRACTING – APPENDIX “A”

Note: Effective September 5, 2008, all Bidders must submit within 48 hours of the bid opening, a list that names each subcontractor that the bidder will use to perform the work on the contract; and the agreed-upon amount to be paid to each of the different trades. Without this form, the Bidder’s proposal may be considered “unresponsive.”

CONTRACTOR'S NAME	BID PROPOSAL DATE	PROJECT NUMBER
ADDRESS	PROJECT NAME AND/OR DESCRIPTION OF WORK	
TELEPHONE NUMBER ()	TOTAL AMOUNT OF BID	

1. Is the Prime Contractor a certified minority/women-owned controlled firm? Yes No

Specify: MBE WBE Federal ID No. _____

Name Complete Address Telephone	Federal ID Number	Value of Subcontractor or Supply Order	Scope of Work	MBE/ WBE

	NAME OF COMPANY DESIGNEE (PRINT/TYPE)	
	SIGNATURE	
	DATE	TELEPHONE NUMBER ()

Certified Business shall mean a business verified as a minority or women-owned business enterprise pursuant to Section 314 of the Executive Law. If you need additional space to provide information, please include attachments.

STATE UNIVERSITY OF NEW YORK

SUBCONTRACTING – APPENDIX “B”

ENCOURAGING USE OF NEW YORK STATE BUSINESSES IN CONTRACT PERFORMANCE

New York State businesses have a substantial presence in SUNY contracts and strongly contribute to the economies of New York and the nation. In recognition of their economic activity and leadership in doing business in New York State, bidders/proposers/contractors for this contract for commodities, services or technology are strongly encouraged and expected to consider New York State businesses in the fulfillment of the requirements of the contract. Such partnering may be as subcontractors, suppliers, protégés or other supporting roles.

Bidders/proposers/contractors need to be aware that to the maximum extent practical and consistent with legal requirements, they are strongly encouraged to use responsible and responsive New York State businesses in purchasing commodities that are of equal quality and functionality and in utilizing services and technology. Furthermore, bidders/proposers/contractors are reminded that they must continue to utilize small, minority and women-owned businesses, consistent with current State law.

Utilizing New York State businesses in SUNY contracts will help create more private sector jobs, rebuild New York’s infrastructure, and maximize economic activity to the mutual benefit of the contractor and its New York State business partners. New York State businesses will promote the contractor’s optimal performance under this contract, thereby fully benefiting the public sector programs that are supported by associated procurements.

Public procurements can drive and improve the State’s economic engine through promotion of the use of New York businesses by its contractors. SUNY therefore expects bidders/proposers to provide maximum assistance to New York businesses in their use of the contract. The potential participation by all kinds of New York businesses will deliver great value to New York State and its taxpayers.

Bidders/proposers can demonstrate their commitment to the use of New York State businesses by responding to the question below:

Will New York State Businesses be used in the performance of this contract?

Yes No

If yes, identify New York State Business(es) that will be used; (Provide identifying information below. If you need additional space, please include attachments.)

Name of Subcontractor / Supply Vendor	Federal ID Number	Value of Subcontractor or Supply Order	Scope of Work

BID BOND

BOND NO. _____

KNOW ALL PERSONS BY THESE PRESENTS, that _____

having an office at
_____(hereinafter called the "Principal") and the
_____(hereinafter called the "Surety") are held and firmly bound unto the State University of New York (hereinafter called the University)
in the full and just sum of

_____ dollars (\$_____)

*(in words)**(in figures)*

good and lawful money of the United States of America, or in the full and just sum of the difference between the Total Bid of the Principal and the Total Bid of the bidder submitting the next lowest bid, whichever sum shall be higher, for the payment of which said sum of money, well and truly to be made and done, the Principal binds itself, its heirs, executors, administrators, successors and assigns and the Surety binds itself, its successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted to the University a Proposal for Project No. _____

Titled _____

which Proposal is incorporated herein by reference and made a part hereof as fully and to the same extent as if set forth at length herein;

NOW, THEREFORE, the condition of this obligation is such that in the event (1) the Principal's Total Bid is the lowest one submitted and the Principal timely provides the Post-Bid Information required under Section 8 of the Information for Bidders or (2) the University shall accept the Proposal of the Principal and the Principal shall enter into a Contract with the University in accordance with the terms of such Proposal and/or enter into certain prescribed subcontracts in accordance with the terms of such Proposal and give such Bond or Bonds as may be specified in the Bidding or Contract Documents, then this obligation shall be null and void, otherwise to remain in full force and effect.

BID BOND

The Surety, for value received, hereby stipulates and agrees that the obligation of said Surety and its Bond shall be in no way impaired or affected by any extension of the time within which the University may accept the Proposal of the Principal and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal has hereunto set its hand and seal and caused this instrument to be signed by its

_____ on this

_____ day of _____, 20_____

Principal

By

IN WITNESS WHEREOF, the Surety has hereunto set its hand and seal and caused this instrument to be signed by its

_____ on this

_____ day of _____, 20_____

Surety

By

ACKNOWLEDGMENTS FOR BID BOND

(Acknowledgment by Principal, unless it is a Corporation)

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 instruments and acknowledged that he / she executed the same.

Notary Public

(Acknowledgment by Principal, if a Corporation)

STATE OF NEW YORK)
) 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 resides in _____;
that he / she is the _____
of the _____,
the corporation described in and which executed the foregoing instruments; that he / she knows the seal of said corporation; that the seal
affixed to said instruments is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation and that he / she
signed their name thereto by like order.

Notary Public

(Acknowledgment by Surety Company)

STATE OF)
) ss.:
COUNTY OF)

On this _____ day of _____, 20_____, before me personally came _____
_____, to me known, who, being by me duly sworn, did depose and say
that he / she resides in _____;
that he / she is the _____
of the _____,
the corporation described in and which executed the foregoing instruments; that he / she knows the seal of said corporation; that the
seal affixed to said instruments is such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation, and that
he / she signed their name thereto by like order; and that the liabilities of said company do not exceed its assets as ascertained in the manner
provided by the laws of the State of New York.

Notary Public

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 Number 20220020, titled Miller Stairs and Plaza Reconstruction 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:

Removal, replacement, and reconstruction of the existing east and west egress stairs at the Miller Administration Building, including but not limited to; site preparation, demolition, removals, protections, supporting, erosion + sediment control, grading, drainage, footings, foundations, stairs, stonework, steel railings, curbing, concrete sidewalks, pavers, lawn work, and plantings.

All work on this Contract is to be completed by phases as follows:

Phase I: East Side/Graham Ave side to start construction roughly June 1, 2024, and be fully completed May 1, 2025.

Phase II: West Side/Old Main side to start construction on May 15, 2025 (after commencement) and fully completed by August 15, 2025.

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 Applicable

SECTION C - Special Conditions**1. Time Progress Schedule**

- a. The Contractor shall schedule the Work for expeditious completion in accordance with Section 3.01(2) of the Agreement. The proposed schedule must be established in cooperation with the

0100-1

Campus and account for Campus calendar restrictions listed in this section that affect the Contractor's access to the work areas and construction activities. At each periodic meeting, the Time Progress Schedule required by Section 3.02 of the Agreement shall be reviewed for compliance with phasing requirements. Revise and update the Time Progress Schedule to properly depict the work required to maintain continuity of campus operations.

- b. First phases of work shall include appropriate time in the schedule for: (1) understanding Campus operations, training crews, acclimating trades and Campus to sequence and apportionment of activities; (2) additional meetings (up to twice a week during the first twelve weeks after the Notice to Proceed) with the Owner, consultant and the Contractor's principals, project manager and those of its significant subcontractors; (3) re-sequencing activities to recover from start-up delays in the progressive operation of interrelated work and (4) other activities commonly associated with the start-up of field work.
- c. Academic Calendar: The Contractor is advised that the Campus intends to maintain a full institutional program throughout the Project duration. The Campus will make continuous use of adjacent spaces, buildings and site, except where work is scheduled or specified to occur. All Contract work must be scheduled and performed without causing unscheduled interruption of the normal institutional activities and processes. The Contractor shall coordinate his work with the following Campus Calendar, and No Utility shutdowns will be permitted during Registration, Study Periods, Exam Periods, or Commencement.

<https://www2.cortland.edu/offices/srrs/academic-calendars-exam-schedule/>

- d. The work site will be available to begin construction immediately upon Notice to Proceed. Unless otherwise indicated, normal working hours on the campus are between 7:00 AM and 4:00 PM. Sequence the work in phases to meet the following interim milestones dates:
- e. On the Date of Substantial Completion in the Proposal, access to the work area for any uncompleted work and for punch list items shall be restricted to after 5:00 PM and prior to 7:00 AM and comply with the following:
 - 1. Methods of performing work shall not hinder or disrupt the Campus' occupancy, reduce Campus provided levels of cleanliness and ambient environmental conditions and affect building systems, services, and utilities serving the building unless, upon completion of each shift's work that is performed outside of normal Campus work hours, the Contractor provides cleaning to return the work areas to a similar level of cleanliness as normally provided by the Campus, returns spaces to their normal ambient environmental conditions and restores building systems, services, and utilities serving the occupancy.
 - 2. No material or equipment shall remain inside the building unless in the active use and control of Contractor personnel.
 - 3. The Contractor shall provide all utility relocations and re-routings necessary to maintain the existing utilities at their current level of service, including limiting their shutdowns for tie-ins and cutovers to those periods specified. All new work shall be in place, tested and accepted prior to performing a shutdown for the required tie in.
- f. Time Delay Allowance: In addition to the requirements of Article III of the Agreement, the base bid contract duration to perform the work specified in the proposal shall include not less than five (5) consecutive and/or non-consecutive eight hour working days in the Time Progress Schedule for delays that are of no fault of the Contractor or any of its subcontractors or suppliers, or caused by events or conditions that could not be reasonably anticipated. Provide notice of delay per Section 3.04 and request use of this time allowance. When approved by Consultant, the time

allowance is expended for each work day that the contractor is unable to work and all delay time used is tracked in the Time Progress Schedule. After this base bid time allowance for delay is expended, comply with the requirements of Article III for any additional delays.

2. 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.

3. 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.

4. Temporary Access and Parking

Access and parking to be coordinated with Project Manager.

5. 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.

6. 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.

7. 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.

8. 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.

9. Sanitary Facilities

The Contractor will be permitted to use existing toilet and janitor closet facilities as designated by the College provided the existing facilities are not misused, defaced, or left in an unsanitary condition. If the University deems that the existing facilities have been subject to misuse or left unsanitary, the Contractor

shall be informed and caused to install and maintain (at its own cost) temporary, sanitary facilities at approved locations. The Contractor shall also be held responsible for the cost of cleaning and repair of any damage to said existing facilities and adherence to health and sanitary codes of the State of New York.

10. 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.

11. 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.

12. Temporary Water for Construction Purposes

Water for construction is available through the campus system without charge to the Contractor from location designated by the College. The Contractor shall obtain the necessary permission, make all connections, as required, furnish and install all pipes and fittings, and remove the same at completion of work. 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.

13. 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.

14. 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.

15. 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.

16. 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

17. 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.

18. 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:

19. 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.

20. Shop Drawings and Samples - (Refer to Section 2.19 of the Agreement)

- a. The Contractor shall submit to the University for its approval five (5) sets of prints of all shop drawings required by the specifications. Those marked:

"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])

21. 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.

22. 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.

23. 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.

24. 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.

25. 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.

26. 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.

27. 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 - 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 currently amended, and applicable federal and state regulations.
- The Owner shall be responsible for hiring and paying an independent third party firm to perform the requirements of air monitoring as called for in 12 NYCRR Part 56 and as permitted in Section 2.17 of the Agreement.
- 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 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.

28. Sustainable Design Reporting

When submission of environmental product declarations (EPDs) is required by the technical specifications, in addition to the individual EPD submittals, submit a list summarizing the materials/products covered by each EPD submittal and the estimated total quantities used/installed of such covered materials during the Work completed to date. As directed by the Consultant, the list shall be submitted/updated annually and at Substantial Completion. If the submitted EPDs do not show the kgCO₂ per the quantity unit used/installed for a covered material, provide such information upon request of the Consultant. Using the list and other information, the Consultant will calculate the estimated total kgCO₂ (kilograms of carbon dioxide) emission equivalent for each covered material/product used/installed.

29. Wage Rates and Supplements

The following are 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:

Wage Schedules can be accessed online using **PRC # 2024004433** at <https://labor.ny.gov/workerprotection/publicwork/OWSuccess.shtm>. If the Contractor is unable to access the prevailing wage schedule for the PRC# listed above, please contact the University for a copy of the wage rate schedule.

SECTION 014533 - SPECIAL INSPECTION AND TESTING

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Special Inspection and Testing shall be in accordance with Chapter 17 of the 2020 Building Code of New York State (BCNYS).
- B. The program of Special Inspection and Testing is a quality assurance program intended to ensure that the work is performed in accordance with the Contract Documents.
- C. This specification section is intended to inform the Contractor of the Owner's quality assurance program and the extent of the Contractor's responsibilities. This specification section is also intended to notify the Approved Special Inspection Agency, hereinafter referred to as the Special Inspector (SI), and other Agents of the SI, of their requirements and responsibilities.
- D. The SI shall be the individual in charge of the Special Inspection and Testing program. The SI shall supervise and review the work of the Inspection and Testing Agents for each inspection or test. As explained in BCNYS Section 1704.2.1, the SI, and all its Agents, shall demonstrate competence to the satisfaction of the Registered Design Professional in Responsible Charge (RDPIRC) and the Building Official (BO) for inspection or testing of the particular type of construction or operation requiring special inspection or testing. Unless otherwise noted or agreed upon by the RDPIRC and the BO, the minimum qualifications are as follows:
 1. Concrete Construction:
 - a. Inspection (excluding inspection of concrete restoration materials and procedures, and crack rehabilitation by injection grouting): ACI Concrete Construction Special Inspector, ICC Reinforced Concrete Special Inspector, NICET Level II, Engineer-in-Training (EIT) with relevant experience, or Professional Engineer (PE) with relevant experience.
 - b. Inspection of concrete restoration materials and procedures and crack rehabilitation by injection grouting: Either ACI Concrete Construction Special Inspector, ICC Reinforced Concrete Special Inspector, NICET Level II, Engineer-in-Training (EIT) or Professional Engineer (PE), but regardless of credentials the inspector shall have documented inspection experience on at least three previous successful projects with concrete rehabilitation / restoration and/or crack rehabilitation by injection grouting of similar work scope required for this project.
 - c. Field Testing (sampling, slump and temperature testing only): ACI Field Testing Technician – Grade 1, or NICET Level I.
 - d. Field Testing (other than sampling, slump and temperature testing): ACI Field Testing Technician – Grade 1, or NICET Level II.
 - e. Laboratory Testing: ACI Concrete Laboratory Testing Technician – Grade 1, or NICET Level II.
 2. Structural Steel Construction and Steel Construction other than Structural Steel (as defined by AISC 303-2016):
 - a. Inspection (excluding welded connections): ICC Structural Steel and Bolting Special Inspector, EIT with relevant experience, or PE with relevant experience.
 - b. Inspection of Welded Connections: ICC Structural Welding Special Inspector, AWS Welding Inspector (WI) or Senior Welding Inspector (SWI). An AWS Associate Welding Inspector (AWI) is permitted to be used if under the direct

- supervision of WI, who is on the premises and available when weld inspection is being conducted.
 - c. Non-Destructive Testing (NDT) of Welded Connections: ASNT NDT Level II.
3. Soils:
- a. Inspection: ICC Soils Special Inspector, EIT with relevant experience, PE with relevant experience.
 - b. Testing (sampling, sieve analysis, unit weight and moisture content tests only): NICET Level I.
 - c. Testing (other than sampling, sieve analysis, unit weight and moisture content testing): NICET Level II.
- E. Frequency of Special Inspection or Testing: The individual special inspections and tests shall be performed either continuously or on a periodic basis, as defined below, in accordance with the Statement of Special Inspection and Testing:
- 1. Inspection, Continuous: The full-time observation of work requiring special inspection by an approved Special Inspector, or Agent, who is continuously present in the work area where the work is being performed.
 - 2. Inspection, Periodic: The intermittent observation of work requiring special inspection by an approved Special Inspector, or Agent, who is present in the work area where the work has been or is being performed, and at the completion of the work.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. Statement of Special Inspection and Testing: See Section 014533a.

1.3 PAYMENT

- A. The Owner, or an Owner's Authorized Agent, shall engage and pay for the services of the SI and its Agents.
- B. The Contractor shall be responsible for the cost of any retesting or reinspection of work which fails to comply with the requirements of the Contract Documents, and any costs related to correcting the deficient work.

1.4 CONTRACTOR'S RESPONSIBILITIES

- A. The Statement of Special Inspection and Testing shall be submitted to the BO with the application for Building Permit.
- B. The Contractor shall cooperate with the SI and its Agents, so the special inspections and testing can be performed without hindrance.
- C. The Contractor shall provide adequate OSHA-compliant access for the Special Inspector and its Agents to perform their work. This includes access to pipe scaffolds, swing-stage scaffolds, and any other method of accessing the work areas that the Contractor or its agents use to perform the work of the Contract.
- D. The Contractor shall review the Statement of Special Inspection and Testing and shall, unless other agreed arrangements have been made, be responsible for coordinating and scheduling

inspections and tests. The Contractor shall notify the SI and/or the applicable Agents at least 24 hours in advance of a required test or inspection. Uninspected work requiring inspection may be rejected solely on that basis.

- E. The Contractor shall provide incidental labor and facilities to:
 - 1. Provide access to the work to be inspected or tested.
 - 2. Obtain and handle samples at the site or at the source of products to be tested.
 - 3. Facilitate tests and inspections.
 - 4. Store and cure test samples.
- F. The Contractor shall keep at the project site: the latest set of construction drawings, field sketches, approved shop drawings, and specifications for use by the Special Inspector and its Agents.
- G. The Special Inspection and Testing program shall in no way relieve the Contractor of his obligation to perform work in accordance with the requirements of the Contract Documents or from implementing an effective Quality Control program. All work subjected to special inspection and testing shall first be reviewed by the Contractor's Quality Control personnel.
- H. The Contractor shall acknowledge each item listed as a discrepancy by the Special Inspection and Testing program in writing to the RDPIRC and Owner. The acknowledgment shall identify whether or not the discrepancy has been corrected, is in compliance with the contract documents, and is ready for re-inspection.
- I. The Contractor shall ensure all products, materials or assemblies are properly labeled so the Special Inspector or its Agents can easily observe the label to confirm compliance with the approved construction documents.
- J. The Contractor shall be solely responsible for construction site safety.
- K. If the Contractor intends to utilize a fabricator that is not approved for fabricating components in their shop without shop special inspections and/or testing by the Special Inspector, the Contractor must request and receive approval from the DPIRC and BO prior to engaging the fabricator. Contractor shall reimburse Owner for any added costs for shop special inspections or testing that may be required.

1.5 LIMITS ON SPECIAL INSPECTOR AND TESTING AGENT AUTHORITY

- A. Neither the SI nor its Agents may release, revoke, alter, or expand on the requirements of the Contract Documents.
- B. The SI and its Agents will not have control over the Contractor's means and methods of construction.
- C. Neither the SI nor its Agents shall be responsible for construction site safety.
- D. Neither the SI nor its Agents shall have authority to stop the work.

1.6 RESPONSIBILITIES OF SPECIAL INSPECTOR AND INSPECTION AND TESTING AGENTS

- A. The SI shall submit to the RDPIRC and BO for review and approval a copy of their qualifications and qualifications of all Agents, which shall include the names and qualifications of each of the individual inspectors and technicians who will be performing inspections or tests.

- B. The SI, and all Agents, shall disclose any past or present business relationship or potential conflict of interest with the Contractor or any of the Subcontractors whose work will be inspected or tested.
- C. The SI and its Agents shall have adequate equipment to perform the required tasks. The equipment shall be periodically calibrated in accordance with equipment manufacturers' recommendations.
- D. The SI and its Agents shall notify the Contractor of their presence on the job site at the start of any required inspection or test.
- E. The SI and its Agents shall notify the Contractor of the results of any inspection or test upon completion of the inspection or testing task, including any discrepancies noted. The SI shall report any discrepancies from the Contract Documents found during an inspection. If the discrepancies are not corrected during the inspection, the SI shall notify the RDPIRC and BO prior to the completion of that phase of work. Reports shall document all discrepancies identified and the corrective action taken.
- F. The SI and its Agents shall prepare detailed reports of each inspection or test and submit the reports within three days of the inspection or test. Reports shall be in electronic format (legible handwritten reports may be submitted if final typed copies are not available) and include:
 - 1. Date and time of test or inspection.
 - 2. Name of inspector or technician and name of inspection or testing firm representing.
 - 3. Location of specific areas tested or inspected.
 - 4. Weather conditions (temperature, wind speed, humidity, cloud cover, etc.).
 - 5. Description of test or inspection, including applicable ASTM standards.
 - 6. Results of inspection and/or testing.
 - 7. Identification of discrepancies.
 - 8. Indication that contractor was made aware of discrepancies.
 - 9. Whether or not the discrepancies were corrected.
 - 10. Signature of inspector, or of the individual overseeing the inspection or testing.
- G. Inspection and testing reports shall be submitted to the RDPIRC, Owner or Owner's Authorized Agent, and BO, or as agreed upon at the Special Inspection and Testing pre-construction meeting.
- H. A Special Inspection and Testing pre-construction meeting shall be held by the SI. The meeting shall include any Inspection and Testing Agents, the Contractor and any applicable subcontractors, the Owner or Owner's Authorized Agent, and the RDPIRC. The purpose of the meeting shall be to identify the specifics of the Special Inspection and Testing program, including, but not limited to, the following:
 - 1. Identify the SI and Testing Agents.
 - 2. Review this specification section and Statement of Special Inspection and Testing.
 - 3. Determine the distribution list for inspection and testing reports.
 - 4. Provide contact information.
 - 5. Determine which party shall schedule inspections and testing.
- I. The SI and its Agents shall notify the RDPIRC by telephone or email of any test results which fail to comply with the requirements of the Contract Documents.
- J. At the completion of the work requiring special inspections or testing, each Inspection and Testing Agent shall provide a statement to the Special Inspector that all work was completed

in substantial conformance with the Contract Documents and that all appropriate inspections and tests were performed.

1.7 FINAL REPORT OF SPECIAL INSPECTION AND TESTING

- A. The Final Report of Special Inspection and Testing shall be completed by the SI and submitted to the RDPIRC, the Owner or Owner's Authorized Agent, and BO prior to the issuance of a Certificate of Use and Occupancy.
- B. The Final Report of Special Inspections and Testing will document that all required inspections have been performed and that all discrepancies have been resolved. Any unresolved discrepancies shall be clearly noted.

1.8 SUBMITTALS BY OWNER TO THE BUILDING OFFICIAL

- A. In addition to the submittal of the special inspection and testing reports in accordance with BCNYS Section 1704.2.4, reports and certificates shall be submitted by the Owner, or Owner's Authorized Agent, to the BO for each of the following:
 - 1. Certificates of Compliance for the fabrication of structural, load-bearing or lateral load-resisting members or assemblies on the premises of a registered and approved fabricator in accordance with BCNYS Section 1704.2.5.1.

PART 2 PRODUCTS (Not used)

PART 3 EXECUTION (Not used)

END OF SECTION 014533

SECTION 014533a – STATEMENT OF SPECIAL INSPECTION AND TESTING

Project: SUNY Cortland – Miller Administration Building – Stairs and Walk Replacement

Project Location: Cortland, NY

Code Enforcement Jurisdiction: City of Cortland, SUNY Cortland

Landscape Architect: Appel Osborne Landscape Architecture

Structural Engineer: King + King Architects

Special Inspector: To be determined

Governing Building Code: 2020 Uniform Code of New York State

Statement: As the Registered Design Professional in Responsible Charge of this project, I certify that this Statement of Special Inspection and Testing includes the materials, systems, components and work required to have special inspection or testing in accordance with Chapter 17 of the 2020 Building Code of New York State (BCNYS). Outlined herein are the type and extent of each special inspection and test; identification as to whether the special inspections are to be continuous or periodic special inspection; listing of applicable reference standards and Building Code references for each special inspection or test.



Signature: _____

Kelly M. Covert

Name: _____

Kelly M. Covert

Statement Date: _____

19 April 2024

It is a violation of New York State Education Law Article 145 for any person, unless acting under the direction of a licensed professional engineer, to alter this document in any way. If this document is altered, the altering engineer shall affix to this document their seal and the notation "altered by" followed by their signature and the date of such alteration, and a specific description of the alteration.

INSPECTION / TEST	Continuous	Periodic	REFERENCE STANDARD	BCNYS REFERENCE	COMMENTS
A. Structural Steel Construction			AISC 360-2016: Ch. N	1705.2	See Specification Section 051200
1. Shop inspections / testing of structural steel, as defined by AISC 303-2016			AISC 360-2016: Ch. N7	1704.2.5, 1705.2, 2205	Shop inspections required during fabrication if fabrication is performed by a fabricator not registered and approved to perform such work without special inspection. See 1704.2.5.1
2. Welding Inspections Prior to Welding			AISC 360-2016: Ch. N5.4, Table N5.4-1		Perform the following inspections prior to welding. NOTE: Letter "F" in "Continuous" column requires the welding inspector to perform continuous inspection for all PJP or CJP groove welds performed in the field.
a. Verify Weld Procedure Specification (WPS) available					Each WPS
b. Verify manufacturer certifications for welding consumables available					Each consumable used
c. Verify material identification (type, grade)	F	X			Each material
d. Verify welder identification system	F	X			
e. Verify fit-up of groove welds, including joint geometry	F	X			Joint preparation, dimensions (alignment, root opening, root face, bevel), cleanliness (condition of steel surfaces), tacking (tack weld quality and location), backing type and fit (if applicable).
f. Verify fit-up of fillet welds		X			Dimensions (alignment, gaps at root), cleanliness (condition of steel surfaces), tacking (tack weld quality and location)
3. Welding Inspections During Welding			AISC 360-2016: Ch. N5.4, Table N5.4-2		Perform the following inspections during welding. NOTE: Letter "F" in "Continuous" column requires the welding inspector to perform continuous inspection for all PJP or CJP groove welds performed in the field.
a. Verify use of qualified welders	F	X			Each welder
b. Verify control and handling of welding consumables	F	X			Verify packaging, exposure control. Verification required for all groove welds to be performed in field, periodic for other welds.
c. Verify no welding over cracked tack welds	F	X			Verification required for all groove welds to be performed in field, periodic for other welds.
d. Verify environmental conditions	F	X			Verify wind speed within limits, precipitation and temperature. Verification required for all groove welds to be performed in field, periodic for other welds.
e. Verify WPS followed	F	X			Settings on welding equipment, travel speed, selected welding materials, shielding gas type and flow rate, preheat applied, interpass temperature maintained, proper position (flat, vert., horiz., overhead). Verification required for all groove welds to be performed in field, periodic for other welds.

INSPECTION / TEST	Continuous	Periodic	REFERENCE STANDARD	BCNYS REFERENCE	COMMENTS
f. Verify welding techniques	F	X			Interpass and final cleaning, each pass within profile limitations, each pass meets quality requirements. Verification required for all groove welds to be performed in field, periodic for other welds.
g. Inspect welds at the base of cantilevered rail posts	F	X		1705.2.1	Verification required for all groove welds to be performed in field, periodic for other welds.
4. Welding Inspections After Welding			AISC 360-2016: Ch. N5.4, Table N5.4-3		Perform the following inspections after welding. NOTE: Letter "F" in "Continuous" column requires the welding inspector to perform continuous inspection for all PJP or CJP groove welds performed in the field.
a. Verify welds cleaned	F	X			
b. Verify size, length and location of welds					Each welded joint
c. Verify welds meet visual acceptance criteria			AWS D1.1-2015: Table 6.1		Each welded joint. Visual inspection of welds in all steels may begin immediately after completed welds have cooled to ambient temperature
1) Crack prohibition					Any crack is unacceptable, regardless of size and location
2) Weld/base-metal fusion					Thorough fusion shall exist between adjacent layers of weld metal and between weld metal and base metal
3) Crater cross-section					All craters shall be filled to provide the specified weld size, except for the ends of intermittent fillet welds outside of their effective length
4) Weld profiles					Profiles shall be in accordance with AWS D1.1-2015: Sect. 5.24
5) Weld size					Undersized welds: The size of a fillet weld in any continuous weld may be less than the specified nominal size (L) without correction by the following amounts (U): L=3/16" and smaller, U _{max} =1/16". 3/16"<L<1/4", U _{max} =3/32" L>1/4", U _{max} =1/8" In all cases, the undersized portion of weld shall not exceed 10 percent of the weld length.
6) Undercut					For all welds with material less than 1" thick, undercut shall not exceed 1/32", except that a max. 1/16" is permitted for an accumulated length of 2" in any 12" length of weld. For material > 1" thick, undercut shall not exceed 1/16" for any length of weld. For tubular connections and cyclically loaded non-tubular connections in primary members, undercut shall be no more than .01" deep when the weld is transverse to tensile stress under any design loading condition. Undercut shall be no more than 1/32" deep for all other cases
7) Porosity					For all CJP welds in butt joints transverse to the directed of tensile stress shall have no visible piping porosity. For all other groove welds and fillet welds, the sum of the visible piping porosity

INSPECTION / TEST	Continuous	Periodic	REFERENCE STANDARD	BCNYS REFERENCE	COMMENTS
					1/32" or greater in diameter shall not exceed 3/8" in any linear inch of weld and shall not exceed 3/4" in any 12" length of weld. For tubular connections and cyclically loaded non-tubular connections, the frequency of piping porosity in fillet welds shall not exceed one in each 4" of weld length and the max. diameter shall not exceed 3/32", except for fillet welds connecting stiffeners to webs, the sum of the diameters of piping porosity shall not exceed 3/8" in any linear inch of weld and shall not exceed 3/4" in any 12" length of weld. For all other groove welds and fillet welds, the frequency of piping porosity shall not exceed one in 4" length of weld and the max. diameter shall not exceed 3/32"
d. Verify arc strikes properly repaired			AWS D1.1-2015		Each arc strike
e. Verify repair activities					Each repair
5. Non-Destructive Testing (NDT) of Welded Joints			AISC 360-2016: Ch. N5.5a; AWS D1.1-2015		Perform Ultrasonic Testing (UT), Magnetic Particle Testing (MT), Penetrant Testing (PT) and Radiographic Testing (RT) where required
6. Other Inspection Tasks			AISC 360-2016: Ch. N5.7		
a. Verify fabricated or erected steel frame, as appropriate, complies with the details shown on the construction drawings for location and proper application of joint details for members, braces and stiffeners					Each structural element and connection
B. Concrete Construction			ACI 318-2014	1705.3, Table 1705.3	See Division 3 specification sections.
1. Inspect Reinforcement and Verify Placement		X	ACI 318-2014 Ch. 20, 25, 26	1908.4	Verify type, size, grade, placement, bend details, laps, splices, cover, spacing and corrosion protection
2. Reinforcing Bar Welding			AWS D1.4-2011, ACI 318-2014: 26.5.4	1705.3.1, 1908.4	
a. Verify weldability of reinforcing bars other than ASTM A706		X			
b. Inspect single-pass fillet welds, max. 5/16"		X			
c. Inspect all other welds	X				
3. Inspect Anchors Post-installed in Hardened Concrete Members		X			Verify type, size, grade, embedment, and placement location of anchors to be installed into hardened concrete members

INSPECTION / TEST	Continuous	Periodic	REFERENCE STANDARD	BCNYS REFERENCE	COMMENTS
a. Mechanical anchors and adhesive anchors not installed in horizontally or upwardly inclined orientations to resist sustained tension loads		X	ACI 318-2014: 17.8.2		
4. Inspect Formwork for Shape, Location and Dimensions of the Concrete Being Formed		X	ACI 318-2014: 26.11.1.2(b)		
5. Cast-in-Place Concrete					
a. Verify use of required design mix		X	ACI 318-2014: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2	
b. Inspect concrete placement for proper application techniques	X		ACI 318-2014: 26.5		
c. Sample fresh concrete			ASTM C172, ACI 318-2014: 26.4, 26.5, 26.12		
1) Perform slump tests		X	ASTM C143		One test at point of discharge for each day's placement of each class of concrete; additional tests when concrete consistency seems to have changed and each time a set of compression test specimens are made
2) Perform air-content tests		X	ASTM C173 (lightweight concrete), ASTM C231 (normal-weight concrete)		One test for each day's placement of each class of air-entrained concrete, and each time a set of compression test specimens are made
3) Determine the temperature of concrete		X	ASTM C1064		Test each time a set of compression test specimens are made; test hourly when air temperature is 40 deg. F and below and when 80 deg. F and above
4) Fabricate compression test specimens		X	ASTM C31		Obtain one set of six 6-inch x 12-inch cylinders for each day's placement under 25 CY, then 50 CY thereafter, for each class of concrete per day
6. Review Adequacy of Test Cylinder Curing Box(es)					Each project site
7. Perform Compression Testing on Test Cylinders in Laboratory		X	ASTM C39		For each set of six specimens, test two specimens at 7 days, two specimens at 28 days, and hold two specimens for later testing if required
8. Material Tests		X	ACI 318-2014: Ch. 19 & 20	1705.3.2	Material testing required only if sufficient data is not provided on submittals.
9. Verify Maintenance of Specified Curing Temperature and Techniques		X	ACI 318-2014: 26.4.7-26.4.9	1908.9	

INSPECTION / TEST	Continuous	Periodic	REFERENCE STANDARD	BCNYS REFERENCE	COMMENTS
10. Concrete Rehabilitation by Application of Restoration Materials					See specification section 030130.71
a. Verify use of approved concrete restoration materials prior to use					Each material
b. Verify proper surface preparation prior to application of restoration materials		X			
c. Verify proper mixing of restoration materials		X			
d. Verify proper application of restoration materials		X			
e. Verify proper curing procedures		X			
11. Crack Rehabilitation by Injection Grouting					See specification section 036423
a. Verify use of approved crack repair materials prior to use.					Each material. If there are two or more types of injection materials to be used, verify the proper injection material is used for each crack to be injected.
b. Verify proper surface preparation for cracks to be injected and concrete surfaces to receive cap sealing prior to injection					Each crack to receive repair
c. Verify proper mixing of cap seal and injection materials		X			
d. Verify proper installation of injection ports and cap seal		X			
e. Verify use of appropriate pressure injection equipment					Each equipment setup
f. Verify injection grouting process complies with specified requirements and product manufacturers application instructions		X			
g. Verify removal of injection ports and cap seal		X			
h. Take core samples of cracks receiving injection grouting					Obtain at least two 2-inch dia. core samples for first 100 LF then one sample for every 100 LF thereafter. Verify crack filled at least 90% with epoxy.

INSPECTION / TEST	Continuous	Periodic	REFERENCE STANDARD	BCNYS REFERENCE	COMMENTS
C. Soils				1705.6, Table 1705.6	See Division 31 specification sections. See Geotechnical Evaluation Report
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity		X			Verify at all footing bearing locations
2. Verify excavations are extended to proper depth and have reached proper material		X			Verify at all excavations. Verify all unsuitable materials have been removed
3. Perform classification and testing of compacted fill materials		X			Perform at all compacted fill locations
4. Verify use of proper materials, densities and lift thickness during placement and compaction of compacted fill	X		ASTM D1556, ASTM D2922, ASTM D3017		Verify at each compacted fill location. Perform one compaction test per lift below each isolated footing, every 30 LF below strip footings, and each 3000 SF below slabs, per lift
5. Prior to placement of compacted fill, inspect subgrade and verify the subgrade is not frozen and has been prepared properly		X			Verify at each compacted fill location
6. Observe proofrolling. Verify no unstable materials		X			Observe at each location requiring proofrolling

END OF SECTION 014533a

SECTION 030130.71 – REHABILITATION OF CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and General Provisions of Contract, including General and Supplementary General Conditions and Division 01 Specification Sections, apply to this section.

1.2 SUMMARY

- A. This Section specifies partial-depth concrete rehabilitation / restoration by application of a cementitious restoration mortar following proper removal of deteriorated concrete and surface preparation.
- B. Related Requirements:
 - 1. Division 01 Section "Special Inspection and Testing"
 - 2. Division 01 Section "Unit Prices"
 - 3. Division 03 Section "Crack Rehabilitation of Concrete by Injection Grouting"

1.3 SUBMITTALS

- A. Electronically submit product data sheets and Material Safety Data Sheets for each type of material required, including certification that each type complies with the specified requirements.

1.4 QUALITY ASSURANCE

- A. Quality Control procedures performed by the Manufacturer shall include, but not be limited to the following:
 - 1. The Manufacturer shall have a minimum five years' experience in manufacturing concrete restoration materials that meet or exceed the specified requirements herein.
 - 2. The Manufacturer shall have an ongoing quality assurance program independently audited on a regular basis, resulting in documented verification testing that can be presented to the specifier that indicates the manufactured materials perform as claimed in product literature.
- B. Quality Control procedures performed by the Contractor shall include, but not be limited to the following:
 - 1. The Contractor shall be experienced in all aspects of concrete restoration, including removal of deteriorated concrete, substrate preparation, and mixing/batching, application, finishing, and curing of restoration materials in conformance with specified requirements and product manufacturer's installation instructions. The minimum level of experience shall be three years with at least five successful installations on projects of similar size, complexity and scope that can be submitted as references for Engineer review.
 - 2. The Contractor shall maintain qualified personnel on site at all times during installation activities.
- C. Special Inspections: See Section 014533 - "Special Inspection and Testing" for a description of the special inspection and testing to be paid for by the Owner and for the extent of the Contractor's responsibilities with regard to the Special Inspection and Testing program.
- D. Pre-Installation Conference: Conduct at the Project site.

1. A minimum of two weeks prior to performing the restoration work, convene a preconstruction meeting with the Owner's representative, General Contractor, Installing Contractor, Special Inspector, Testing Laboratory, and the Architect and Engineer.
2. The meeting agenda shall include, but not be limited to, review of work schedule, extent of work, materials to be installed, installation equipment and procedures, material storage, staging and batching, installation and use of scaffolding, safety procedures, cleaning, and special inspection and testing requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Delivery and Storage:

1. All material shall be delivered, stored and handled so as to prevent damage to structures, inclusion of foreign materials and damage to materials by capillary action, rain, snow or breakage.
2. Deliver products in original factory packaging, bearing identification of product, manufacturer, batch number, and expiration date. Furnish Material Safety Data Sheets to the project superintendent and other applicable persons for each product.
3. Store products in a location protected from freezing, damage, construction activity, precipitation and direct sunlight in strict accordance with the manufacturer's recommendations.
4. Condition products to approximately 65 to 85 deg F prior to use, in accordance with the manufacturer's recommendations.
5. Continuity: Arrange deliveries to provide sufficient quantities for continuity of work.

B. Handle all products with appropriate precautions and care as stated on the Material Safety Data Sheets.

PART 2 - PRODUCTS

2.1 GENERAL

- ##### A. Bonding agent / anti-corrosion coating and restoration mortar must be compatible and from the same manufacturer.

2.2 MANUFACTURERS

- ##### A. Acceptable 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. Sika Corporation
 2. The Euclid Chemical Company
 3. BASF

2.3 BONDING AGENT / ANTI-CORROSION COATING

- ##### A. Three-component, moisture-tolerant, breathable, epoxy-modified cementitious bonding agent and anti-corrosion coating complying with the following requirements:
1. Pot life: At least 30 minutes
 2. Minimum bond strength (ASTM C 882): 2,480 psi at 14 days
 3. Minimum compressive strength (ASTM C109): 4,500 psi at 28 days (1 hr open time)
 4. Minimum splitting tensile strength (ASTM C 496): 600 psi at 28 days

- B. Acceptable Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:
 - 1. Sika Armatec 110 EpoCem, by Sika Corp.
 - 2. DuralPrep AC, by The Euclid Chemical Co.
 - 3. MasterEmaco P124, by BASF

2.4 RESTORATION MORTAR FOR VERTICAL OR OVERHEAD SURFACES

- A. Single or two-component, fast-setting, non-sag, corrosion-inhibiting, polymer-modified cementitious restoration mortar for vertical / overhead applications complying with the following requirements:
 - 1. Application (working) time: Approximately 15 minutes
 - 2. Minimum bond strength (ASTM C 882 modified): 2,000 psi at 28 days
 - 3. Minimum compressive strength (ASTM C 109): 6,000 psi at 28 days
 - 4. Minimum splitting tensile strength (ASTM C 496): 550 psi at 28 days
- B. Acceptable Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:
 - 1. SikaTop 123 PLUS, by Sika Corp.
 - 2. Speed Crete PM, by The Euclid Chemical Co.
 - 3. MasterEmaco N425, by BASF

2.5 RESTORATION MORTAR FOR HORIZONTAL SURFACES

- A. Single or two-component, extendable, fast-setting, corrosion-inhibiting, cementitious screed mortar for horizontal applications complying with the following properties:
 - 1. Application (working) time: Approximately 30 minutes
 - 2. Minimum bond strength (ASTM C 882 modified): 2,000 psi at 28 days
 - 3. Minimum compressive strength (ASTM C 109): 6,000 psi at 28 days
 - 4. Minimum splitting tensile strength (ASTM C 496): 600 psi at 28 days
- B. Acceptable Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:
 - 1. SikaTop 111 PLUS, by Sika Corp.
 - 2. Express Repair, by The Euclid Chemical Co.
 - 3. MasterEmaco T310CI, by BASF

PART 3 - EXECUTION

3.1 GENERAL

- A. Where possible, barricade area above to prevent vehicular traffic from loading and vibrating structural members being rehabilitated or restored. Maintain barricades for a minimum of 24 hours after completion of repair, unless noted otherwise.
- B. Provide temporary shoring where indicated on Drawings or as directed by Engineer. Means and method of temporary shoring is the responsibility of the Contractor.
- C. Strictly follow all application instructions from product manufacturers. Where product manufacturer's requirements conflict with requirements herein or on Drawings, the more stringent requirements shall apply.

- D. Base bid restoration quantities shown on Drawings are approximate and for contractor reference purposes only. Actual quantities shall be verified in field, and payment adjusted based on Unit Prices.

3.2 PREPARATION FOR CONCRETE RESTORATION AREAS

- A. See Drawings for approximate locations and extent of spalled or deteriorated concrete requiring restoration. Determine and mark the extent of the areas to be restored. Sound the concrete with a hammer to determine the extent of deteriorated concrete.
- B. Mark out perimeter of concrete repair area. Use a minimal number of straight lines. All corners shall be 90 degrees or greater. No re-entrant (inside) corners allowed. Determine and record repair area to nearest 0.1 square foot.
- C. Drill corners of restoration area perimeter with 1" diameter (minimum) bit to a depth of 1/2". Saw-cut 1/2" deep continuous between drilled corners for entire perimeter. Do not overcut at corners.
- D. Remove unsound concrete within restoration area using nothing more powerful than a small electric chipping hammer. Microcracking and/or microdelamination can occur if too powerful of removal methods are used. Do not damage adjacent elements. Chip out all concrete within the cut lines to a minimum depth of 1/2". At all reinforcing bars exposed for at least half of their circumference, chip out all concrete to provide a minimum clearance of 3/4" behind bar.
- E. Surface condition at restoration area shall have an exposed aggregate surface complying with ICRI CSP-6 or rougher. Carefully inspect cleaned concrete and remove aggregate particles that have been cracked or fractured.
- F. Using hand tools, remove all rust laminations from exposed reinforcing steel. If existing reinforcing steel exhibits significant section loss (greater than 15 percent), shore member and notify Engineer for review. Supplemental reinforcing steel shall be the same diameter as existing where not corroded. Extend concrete removals as needed to get to sound, weldable, uncorroded existing reinforcing steel to allow for welded splice of replacement reinforcing steel. See Typical Reinforcing Steel Welded Splice Detail. Drawings indicate base bid quantities of anticipated reinforcing steel size and lengths to be installed. Actual quantities shall be verified in field, and payment adjusted based on Unit Prices. Special Inspector shall inspect all field-welded splices of reinforcing steel. If complete-joint penetration welded splices are used the Special Inspector must observe all welds at the time of welding.
- G. Powerwash substrates with clean water at 1,500 to 3,000 psi and allow surfaces to dry to a saturated-surface-dry condition with no standing water just prior to applying restoration materials.
- H. Contact Engineer to review and approve each substrate area prior to application of any coating or restoration material.

3.3 APPLICATION OF BONDING AGENT / ANTI-CORROSION COATING

- A. Coat exposed reinforcing steel with two coats of bonding agent / anti-corrosion coating per manufacturer's application instructions and allow to dry.

3.4 APPLICATION OF RESTORATION MORTAR

- A. Perform concrete restoration work only at areas where Engineer has approved condition of prepared substrate.
- B. Prepare only as much material as can be used at one time.
- C. Rewet restoration area surfaces to a saturated-surface-dry condition with no standing water.

- D. Apply scrub coat of restoration mortar to substrate.
- E. While scrub coat is still wet, begin applying restoration mortar. Force mortar against edges of repair area and work towards center. Take care to fill all voids above and around reinforcing.
- F. Do not exceed maximum lift thickness. For restorations requiring two or more lifts of restoration material, score / roughen surface to key-in successive lift. Wait until material reaches final set before applying successive lift. Do not allow restoration material to dry between lifts.
- G. For deep horizontal restorations, extend restoration mortar with 3/8" coarse crushed stone aggregate as required in accordance with manufacturer's recommendations.
- H. Apply restoration mortar to reproduce the element's original profile.
- I. Finish exposed surfaces using a fine broom or bristles.

3.5 CURING

- A. Follow ACI recommendations and manufacturer's instructions for curing procedures.
- B. Begin curing procedures immediately after final finishing.
- C. Curing can be accomplished by moist or wet curing for a period of seven days. Alternatively, cure by application of a liquid membrane-forming curing compound.
 - 1. If a curing compound is used, it must be certified compatible with the repair mortar. Apply one uniform coat for overhead or vertical surfaces and two uniform coats for horizontal surfaces. Do not apply curing compound between lifts of restoration material.

3.6 PROTECTION AND CLEANUP

- A. Protect existing conditions during construction. Repair any damage to the system at the Contractor's expense.
- B. Clean all work areas of debris, stains, and splatter. Repair damaged, spotted, or smeared areas. If adjacent painted surfaces are affected, apply new, compatible paint to match.

3.7 FIELD QUALITY CONTROL

- A. Special Inspections: See Section 014533 - Special Inspections and Testing for a description of the special inspection and testing to be paid for by the Owner and the extent of the Contractor's responsibilities with regard to the Special Inspections and Testing program.

END OF SECTION 030130.71

SECTION 033000 - CAST-IN-PLACE CONCRETE

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. Extent of cast-in-place concrete work is shown on drawings.
- B. Related Requirements:
 - 1. Division 01 Section "Special Inspection and Testing"
 - 2. Division 03 Section "Rehabilitation of Cast-in-Place Concrete"
 - 3. Division 03 Section "Crack Rehabilitation of Concrete by Injection Grouting"
 - 4. Division 31 Section "Site Earthwork"
 - 5. Division 32 Sections for non-building-related concrete pavements and walks

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, other pozzolans, and silica fume; materials subject to compliance with requirements.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
 - 1. Cementitious materials
 - 2. Admixtures
 - 3. Form materials and form-release agents
 - 4. Steel reinforcement and accessories
 - 5. Grout
 - 6. Adhesives
 - 7. Semi-rigid joint filler
 - 8. Joint-filler strips
 - 9. Repair materials
 - 10. Evaporation retarder
 - 11. Post-installed anchors
 - 12. Related materials
- B. Design Mixtures: For each concrete mixture submit field or trial mixture test records used to document that proposed mixture will achieve the average compressive strength and other specified properties in PART 2. Mix design submitted for review shall conform to the requirements of ACI 301.
 - 1. Submit list of ingredients used for the composition of the design mixtures, and their proportions.
 - 2. Indicate amounts of mixing water to be withheld for later addition at Project site.
 - 3. Material Test Reports: For the following, from a qualified testing agency:

- a. Aggregates
 - b. Cementitious Materials
4. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments. Mix design submitted for review shall be representative of the concrete materials currently being used.
- C. Steel Reinforcement Shop Drawings: Placing Drawings that detail fabrication, bending, and placement. Comply with CRSI – Manual of Standard Practice showing bar schedules, stirrup spacing, diagrams of bent bars, arrangement of concrete reinforcement, mechanical connections, tie spacing, hoop spacing. Include special reinforcement required for openings through concrete structures.
1. Reproduction of contract drawings for use as shop drawings is not permitted.
 2. Submit erection drawings in Portable Document Format (pdf) to plot a minimum size of 22 inches by 34 inches. Contractor is responsible for making hard copies of reviewed shop drawings and distributing them to subcontractors.
 3. AutoCAD and/or Revit Structure files of structural drawings will be available for use subject to acceptance of a Disclaimer.
 4. Contractor shall leave a 3-inch high by 4-inch wide blank space in the title block or on cover page in which the review stamp will be placed.
- D. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
1. Location of construction joints is subject to approval of the Structural Engineer of Record.
- E. Qualification Data: For manufacturer and testing agency.
- F. Welding certificates.
- G. Minutes of preinstallation conference.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94 and ASTM C 685 requirements for production facilities and equipment.
1. Batch tickets are required to be provided for each batch of concrete produced and delivered.
- B. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- C. Welding Qualifications: Qualify procedures and personnel according to AWS D1.4 "Structural Welding Code – Reinforcing Steel."
- D. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents.
1. ACI 117 – 2010, "Specifications for Tolerances for Concrete Construction and Materials."

2. ACI 301 – 2016, “Specifications for Structural Concrete for Buildings.”
3. ACI 302.1 – 2004, “Guide for Concrete Floor and Slab Construction.”
4. ACI 305R – 2020, “Guide to Hot Weather Concreting.”
5. ACI 306 – 2016, “Guide to Cold Weather Concreting.”
6. ACI 306.1 – 1990, “Standard Specification for Cold Weather Concreting.”
7. ACI 308.1 – 2011, “Specification for Curing Concrete.”
8. ACI 318 – 2014, “Building Code Requirements for Structural Concrete.”
9. ACI 347 – 2021, “Guide to Formwork for Concrete.”

E. Reference Standards:

1. Concrete Reinforcing Steel Institute (CRSI) “Manual of Standard Practice,” 2009.
2. Uniform Code of New York State, 2020.
3. New York State Department of Transportation (NYSDOT) Standard Specifications, 2018.

F. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.

1. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated for concrete mixture design and material test reports.
 - a. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician, Grade I.
 - b. Testing agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician, Grade II.

G. Preinstallation Conference: Conduct conference at Project site.

1. A minimum of two weeks prior to concrete placement, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Convene a preconstruction meeting with the Owner’s representative, Contractor’s Superintendent, Contractor’s concrete supplier, flatwork installer, Special Inspector, testing laboratory, and the Architect and Engineer.
2. Review special inspection and testing and inspecting agency procedures for field quality control, concrete mixes, concrete finishes and finishing, cold and hot weather concreting procedures, curing procedures, construction, contraction and isolation joints, and joint filler strips, semi-rigid joint fillers, forms and form removal limitations, shoring and reshoring procedures, anchor rod and anchorage device installation tolerances, steel reinforcement installation, concrete repair procedures, and concrete protection.

H. Special Inspections: See Section 014533 – “Special Inspection and Testing” for a description of the special inspection and testing to be paid for by the Owner and for the extent of the Contractor’s responsibilities with regard to the Special Inspection and Testing program.

1.6 FIELD CONDITIONS

- A. Protection of Footings Against Freezing: Cover completed work at footing level with sufficient temporary or permanent cover as required to protect footings and adjacent subgrade against possibility of freezing; maintain cover for time period as necessary.
- B. Protection of Slab Subgrade Against Heaving: Sequence work, provide temporary heat, or provide sufficient cover as required to prevent subgrade under slabs on grade from heaving or settling due to freezing.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Plywood, metal, or other suitable form-facing panels that provide continuous, true, and smooth as-cast concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
- B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.
- C. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.
- D. Rustication Strips: Wood, metal, PVC, or rubber strips, kerfed for ease of form removal.
- E. Form-Release Agent: Commercially formulated form-release agent that does not bond with, stain, or adversely affect concrete surfaces and does not impair subsequent treatments of concrete surfaces.
 - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- F. Form Ties: Factory-fabricated, removable or snap-off glass-fiber-reinforced plastic or metal form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
 - 1. Furnish units that leave no corrodible metal closer than 1 inch to the plane of exposed concrete surface.
 - 2. Furnish ties that, when removed, leave holes no larger than 1 inch in diameter in concrete surface.

2.2 STEEL REINFORCEMENT

- A. Steel Reinforcing Bars: ASTM A 615, Grade 60, deformed.

2.3 SLIP DOWELS BETWEEN FOUNDATIONS AND SIDEWALKS

- A. Stainless Steel Slip Dowels: Type 304 stainless steel rod, smooth surface, diameter and length as indicated on Drawings.

2.4 REINFORCEMENT ACCESSORIES

- A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:
 - 1. For concrete surfaces exposed to view, where legs of wire bar support contact forms, use CRSI Class 1 plastic-protected steel wire, CRSI Class 2 stainless-steel, or other suitable non-ferrous supports.

2.5 CONCRETE MATERIALS

- A. Cementitious Materials: Use the following cementitious materials or the same type, brand, and source throughout Project:
1. Portland Cement: ASTM C 150, Type I/II.
 2. Fly Ash: ASTM C 618, Class F or C, with loss on ignition less than 6 percent.
 3. Slag Cement: ASTM C 989, Grade 100 or 120.
 4. Blended Hydraulic Cement: ASTM C 595 Type 1L.
- B. Aggregates:
1. General: Aggregates shall have hard, angular, strong, clean, uncoated, durable particles and shall be free of injurious amounts of thin elongated pieces, mica, clay, silt, or organic matter. Aggregates shall be from a single local source with prior record of acceptable use. Tests and analysis shall be no more than 90 days old.
 2. Normal-Weight Aggregates: Aggregates shall comply with ASTM C 33.
 - a. Fine aggregate shall be natural sand or stone screenings, free of materials with deleterious reactivity to alkali in cement. The fineness modulus shall not vary by more than 0.20 throughout the work.
 - b. Coarse aggregate shall be crushed stone or crushed gravel meeting gradation requirements for ASTM C 33.
 - 1) Provide the largest size of aggregates practical within the gradation limits referenced in paragraph "Concrete Mixtures for Building Elements" below.
 - 2) Crushed gravel shall comply with NYSDOT Standard Specifications Section 703-02.
 - c. ASTM C 33 Class Designation for Coarse Aggregates: Class 4S.
 3. Material Test Reports: Submit results from ASTM C 40, C 88, C 117, C 123, C 136, C 142, C 227, C 289, and C 1260 tests for the aggregates to be used in each concrete mix.
- C. Water: ASTM C 94 and potable.
- D. Admixtures:
1. Air-Entraining Admixture: ASTM C 260.
 2. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - a. Water-Reducing Admixture: ASTM C 494, Type A.
 - b. Retarding Admixture: ASTM C 494, Type B.
 - c. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.
 - d. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.
 - e. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494, Type G.
 - f. Plasticizing and Retarding Admixture: ASTM C 1017, Type II.
 3. Prohibited Admixtures: Calcium chloride thiocyanates or admixtures containing more than 0.1 percent chloride ions are not permitted.

2.6 GROUT

- A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, non-corrosive and non-staining, mixed with water to consistency suitable for application and a 30-minute working time.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated in the work include, but are not limited to, the following:
 - a. "Masterflow 928" by BASF Building Systems
 - b. "SikaGrout 328" by Sika
 - c. "High Strength Grout" by Five-Star Products
 - d. "NS Grout" by Euclid.

2.7 EPOXY ADHESIVE FOR ANCHORAGE TO CONCRETE

- A. Two-component, high solids, moisture-tolerant, load-bearing structural epoxy adhesive ICC-approved for seismic conditions and anchoring to both uncracked and cracked concrete, and compliant with ASTM C881 Type IV, Grade 3, Classes B and C. See Drawings for fastener materials and additional requirements.
 - 1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:
 - a. "HIT RE-500 V3" by Hilti
 - b. "SET-3G" by Simpson Strong-Tie
 - c. "AC200+" by DeWalt
 - d. "Epcon G5" by ITW Red-Head
 - e. "AnchorFix-3001" by Sika

2.8 CURING MATERIALS

- A. Evaporation Retarder: VOC-compliant, waterborne, monomolecular film forming, manufactured for application to fresh concrete.
 - 1. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:
 - a. "Aquafilm J74" by Dayton Superior
 - b. "Eucobar" by Euclid
 - c. "EVAPRE" by W.R. Meadows
 - d. "VaporAid" by Kaufman
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.
 - 1. As an alternative to burlap cloth, ASTM C 171-compliant, single-use, continuous-contact, moisture curing blankets, may be used. Acceptable products include, but are not limited to, the following:
 - a. "UltraCure" by McTech Group
 - 1) Use "UltraCure NCF" for interior conditions.
 - 2) Use "UltraCure SUN" for exterior conditions

- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.

2.9 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D1751, asphalt-saturated cellulosic fiber.

2.10 REPAIR MATERIALS

- A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.
 - 1. Cement Binder: ASTM C 150, Portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 - 2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
 - 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by underlayment manufacturer.
 - 4. Compressive Strength: Not less than 4000 psi at 28 days when tested according to ASTM C 109.
- B. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch and that can be filled in over a scarified surface to match adjacent floor elevations.
 - 1. Cement Binder: ASTM C 150, Portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 - 2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
 - 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by topping manufacturer.
 - 4. Compressive Strength: Not less than 5,000 psi at 28 days when tested according to ASTM C 109.

2.11 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both. Concrete mix designs shall conform to the requirements of ACI 301, including, but not limited to the following:
 - 1. Mix designs based on field strength test records:
 - a. If there are 15 or more consecutive field strength test records for the specified class of concrete, or within 1,000 psi of the specified class, within the time limits specified in ACI 301, the sample standard deviation shall be calculated and the "required average compression strength" shall be determined as specified in ACI 301. If the average of all test results is greater than the "required average compression strength", the concrete mix proportions can be determined from the proportions of the samples used for the field strength records.
 - 1) Tests must have been performed within the past 12 months and must span a period of at least 60 days.

- b. If there are 10 or more consecutive field strength test records using similar materials, within the time limits specified in ACI 301, the “required average compression strength” shall be determined from Table 4.2.3.3.b specified in ACI 301. If the average of all test results is greater than the “required average compression strength”, the concrete mix proportions can be determined from the proportions of the samples used for the field strength records.
 - 1) Tests must have been performed within the past 24 months and span a period of at least 60 days.
2. Mix designs based on laboratory trial mixture test data:
 - a. If a sufficient number of qualifying field strength test records are not available that meet the “required average compression strength”, the concrete mix proportions shall be determined by laboratory trial mixture test data, as specified in ACI 301. The “required average compression strength” shall be determined from Table 4.2.3.3.b specified in ACI 301.
 - b. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.
 - c. Tests must have been performed within the past 24 months.
- B. Cementitious Materials:
 1. Use cementitious materials of the same brand and type and from the same manufacturing plant as those used in establishing the concrete mix design.
 2. Fly ash or slag cement may be used as needed to reduce the total amount of Portland cement, which would otherwise be used, by not more than 15 percent. Notify concrete floor finishers of floor slab concrete containing fly ash or slag cement.
 - a. Exception: Do not use fly ash or slag cement in any concrete mixtures for exterior flatwork or infill slabs in existing buildings that will have moisture-sensitive floor finishes applied to the concrete.
- C. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.
- D. Use aggregates from the same source and of the same size range as those used in establishing the concrete mix design.
- E. Admixtures: Use admixtures of the same brand and type as those used in establishing the concrete mix design. Use admixtures according to manufacturer's written instructions.
 1. Use water-reducing, high-range water-reducing, or plasticizing admixture in concrete, as required, for placement and workability.
 2. Use water-reducing and -retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
 3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.
 4. Use air-entraining admixture in exterior exposed concrete and concrete exposed to freezing temperatures during construction. See “Concrete Mixtures for Building Elements” paragraph for air content requirements.
 5. At Contractor's option, a strength-accelerating admixture may be used to assist in complying with cold-weather concreting procedures.

2.12 CONCRETE MIXTURES FOR BUILDING ELEMENTS

- A. Design mixes to provide normal weight concrete with the following properties, as indicated on drawings and schedules:
1. Concrete containing fly ash or slag cement must achieve stated compressive strength by 56 days.

Mix Label	Use	Minimum 28-Day Compressive Strength, psi	Exposure Class	Maximum Aggregate Size	Maximum Water/Cement Ratio	Air Content $\pm 1.5\%$ at Delivery
STR301	Footings	3,000	F0	1-1/2"	0.55	-
STR452	Perimeter Foundation Walls and Piers	4,500	F2	1-1/2"	0.45	5.5
STR501	Exterior Reinforced Concrete Slabs and Stairs Exposed to De-icing Chemicals	5,000	F3 / C2	1-1/2"	0.40	5.5

- B. Shrinkage Control: Provide a concrete mix that minimizes shrinkage.
1. Aggregate Size: Provide the largest size of aggregates practical within the gradation limits referenced above.
 2. Provide a blended gradation to minimize the cementitious content.
- C. Adjustment to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant at no additional cost to Owner and as accepted by the Structural Engineer of Record. Laboratory test data for revised mix design and strength results must be submitted to and accepted by the Structural Engineer of Record before using in work.
- D. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement of 4" maximum, except that when a plasticizing or high-range water-reducing admixture is added to increase the slump of a concrete proportioned to a slump of 2" to 4" without the admixture the maximum slump shall be 8" at the point of placement.

2.13 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94 and furnish batch ticket information.
1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 90 minutes to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.
 2. Remove excess water and debris from trucks before batching. Account for wash water remaining in truck, per ASTM C 94, in measurement of water per batch or completely empty truck drum of wash water prior to adding batch materials to truck.
- B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94. Mix concrete materials in appropriate drum-type batch machine mixer.
1. For mixer capacity of 1 cu. yd. or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.

2. For mixer capacity larger than 1 cu. yd., increase mixing time by 15 seconds for each additional 1 cu. yd.
3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixture time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION

3.1 GENERAL

- A. Coordinate the installation of joint materials and vapor barriers with placement of forms and reinforcing steel.

3.2 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:
 1. Class A, 1/8 inch for smooth-formed finished surfaces.
 2. Class B, 1/4 inch for rough-formed finished surfaces.
- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Construct forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast-concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
 1. Install keyways, reglets, recesses, and the like, for easy removal.
 2. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Chamfer exterior corners and edges of permanently exposed concrete.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- J. Provisions for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses and chases from trades providing such items. Accurately place and securely support items built into forms.

- K. Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- L. Retighten forms and bracing after placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- M. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.3 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
- B. Edge Forms and Screed Strips for Slabs: Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in finished slab surface. Provide and secure units sufficiently strong to support types of screed strips by use of strike-off templates or accepted compacting type screeds.

3.4 REMOVING AND REUSING FORMS

- A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations, and curing and protection operations need to be maintained.
 - 1. Formwork supporting weight of concrete may not be removed in less than 14 days and until concrete has attained design minimum compressive strength at 28 days.
 - 2. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
- B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material are not acceptable for exposed surfaces. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

3.5 SHORING AND RESHORING

- A. Comply with ACI 318 and ACI 301 for design, installation, and removal of shoring and reshoring.
 - 1. Do not remove shoring or reshoring until measurement of slab tolerances is complete.
- B. Plan sequence of removal of shores and reshores to avoid damage to concrete. Locate and provide adequate reshoring to support construction without excessive stress or deflection.

3.6 STEEL REINFORCEMENT INSTALLATION

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

1. Do not cut or puncture vapor barrier during reinforcement placement and concreting operations. Repair damage and reseal vapor barrier before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
- D. Splices: Comply with ACI 318.
 1. Weld reinforcing bars according to AWS D1.4, where indicated.
 2. All splices shall be considered Class B unless noted otherwise.
 3. See Drawings for lap splice schedule.
- E. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

3.7 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
 1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
 2. Form keyed joints as indicated. Embed keys at least 1-1/2 inches into concrete; accepted bulkheads designed for this purpose may be used for slabs.
 3. Locate joints for beams, slabs, joists, and girders in the middle third of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
 4. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
 5. The maximum length of any section of slab placed monolithically, without formed construction joints or metal shear key bulkheads, shall be 75 feet in any direction. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
 6. Cast fresh concrete against hardened concrete only after the surface of the hardened concrete has been prepared as indicated and wetted to the saturated-surface-dry condition.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
 1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
 2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch-wide by 1/4 slab depth joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks. Complete sawing within 12 hours

- after placement. If an alternate method, timing, or depth is proposed for saw cutting, submit detailed procedure plans for review and acceptance.
3. At the Contractor's option, form contraction joints in unexposed floor slabs by saw cuts using the "Soff-Cut System" during the initial set stage at each joint location as soon as the slab will support the weight of saw and operator without disturbing the finish. Cut depth not less than the largest size aggregate with a 1-inch minimum. Protect cross cuts with Soff-Cut Joint Protector.
 4. If joint pattern is not shown on Drawings, space contraction joints in evenly spaced grid patterns as follows:
 - a. Slabs reinforced with bars or welded-wire-reinforcement: maximum 20 foot by 20 foot grid.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.
 2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface where joint sealants, specified in Division 07, are indicated.
 3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Contraction (Control) Joints in Walls: Construct contraction joints per detail on Drawings. Locate joints at a 30-foot maximum spacing. Coordinate with veneer control or expansion joints where possible.
- F. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

3.8 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work. Moisten wood forms immediately before placing concrete where form coatings are not used.
1. Apply temporary protective covering to lower 2 feet of finished walls adjacent to cast-in-place floor slabs and similar conditions and guard against spattering during placement.
- B. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
 2. Do not exceed specified water-cementitious materials ratio.
- C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
 - a. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- D. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
1. Use special precautions in placement of concrete slabs on metal deck and ground to prevent excessive shrinkage, cracking, and slab curl. Slump limitations, timing of concrete placement with regard to atmospheric conditions, and curing are several but not necessarily all of the requirements that shall be met. If curling and/or shrinkage cracks should develop, the contractor shall correct the condition, including grinding, at his own expense.
 2. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 3. Maintain reinforcement in position on chairs during concrete placement.
 4. Screed slab surfaces with a straightedge and strike off to correct elevations.
 5. Slope surfaces uniformly to drains where required.
 6. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
 7. Place sloped slabs beginning at the lowest elevation and proceed to the highest elevation.
- E. Cold-Weather Placement: Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures. Work shall conform to all requirements of ACI 306.1, except as modified by the requirements of these Contract Documents.
1. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F, and not more than 80 deg F at point of placement.
 2. Use only materials that are not frozen and do not contain ice or snow. Place concrete on unfrozen subgrade or on subgrade containing unfrozen materials.
 3. Calcium chloride, salt, and other materials containing antifreeze agents or chemical accelerators are not permitted unless otherwise accepted in mix designs.
- F. Hot-Weather Placement: Comply with ACI 301 and as follows:
1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 2. Cover reinforcing steel with water-soaked burlap if it becomes too hot so that steel temperature will not exceed the ambient air temperature immediately before embedment in concrete.

3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.9 FINISHING FORMED SURFACES

- A. General: Remove all ties and patch holes, including those below grade.
- B. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
 1. Apply to concrete surfaces not exposed to public view.
- C. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
 1. Apply to concrete surfaces exposed to public view, to receive a rubbed finish, or to be covered with a coating or covering material applied directly to concrete.
- D. Rubbed Finish: Apply the following to smooth-formed-finished as-cast concrete that will be exposed-to-view in the completed construction.
 1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process. Troweled on cement plaster coating prohibited.
- E. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.10 FINISHING FLOORS AND SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces. Bleedwater may be delayed in slabs containing fly ash or slag cement. Notify floor finishers of all concrete slabs containing fly ash or slag cement.
- B. Scratch Finish:
 1. Apply scratch finish to surfaces indicated and to receive concrete floor toppings to receive mortar setting beds for bonded cementitious floor finishes.
 2. While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes to produce a profile amplitude of 1/4 inch in one direction.
- C. Float Finish:
 1. Apply float finish to surfaces indicated to receive trowel finish and to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.

2. After screeding, consolidating, and leveling concrete slabs, work surface only after it is ready for floating. Begin floating when bleedwater sheen has disappeared or when concrete has stiffened sufficiently to permit operations of power-driven floats, or both. Consolidate surface with power-driven floats or by hand. Restraighten, cut down high spots, and fill low spots. Uniformly slope surfaces to drains. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.
3. Check and level surface plane to minimum local F number tolerances of $F_F 19 - F_L 13..$ Immediately after leveling, refloat surface to a uniform, smooth, granular texture.

D. Trowel Finish:

1. Apply a trowel finish to surfaces indicated exposed to view, to receive a fine-broom finish, or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.
2. After floating, begin first trowel finish operation by hand or using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
3. Finish and measure surface, so gap at any point between concrete surface and an unlevelled, freestanding, 10-ft straightedge resting on two high spots and placed anywhere on the surface does not exceed 3/16 inch. Meet and match existing slab surface where applicable.

E. Fine-Broom Finish:

1. Apply fine-broom finish to surfaces where ceramic or quarry tile is to be installed by either thickset or thinset method, and elsewhere where indicated.
2. While the concrete is still plastic after applying a trowel finish, slightly scarify surface with a fine broom, with broom lines perpendicular to the predominant direction of travel.
3. Comply with flatness and levelness tolerances for trowel-finished floor surfaces.

3.11 MISCELLANEOUS CONCRETE ITEM INSTALLATION

- A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

3.12 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.
- B. Install structural framing on concrete piers, columns, or walls only after concrete has achieved at least 75 percent of its 28-day design compressive strength.
- C. Prevent construction vehicle traffic from traveling on concrete slabs until curing is complete and concrete has achieved its 28-day design compressive strength.
- D. Begin curing procedures before concrete surface has dried. Continue curing for not less than 7 days. Avoid rapid drying at end of final curing period.

- E. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 pounds per square foot per hour before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- F. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for remainder of curing period with methods specified below, as applicable.
- G. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
 - 1. Moisture Curing: Do not use this curing method if a moisture-sensitive floor covering will be provided. Keep surfaces continuously moist for not less than 7 days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated, and kept continuously wet.
 - 1) Burlap cloth: Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
 - 2) Single-use, continuous-contact blankets: Apply and maintain in accordance with manufacturer's written instructions.
 - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than 7 days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.

3.13 JOINT FILLING

- A. Defer joint filling until concrete has aged at least 28 days. Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joints clean and dry.
- C. In areas to be covered with finish floor materials, fill all joints with 1:1 sand cement grout and trowel smooth. After grout has cured, grind surface flush with adjoining surfaces.

3.14 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part Portland cement to 2-1/2 parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Architect. Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other

projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete. Limit cut depth to 1/2 inch at perimeter of repair area. Use as few cuts as possible, keeping angles at least 90 degrees with no re-entrant (inside) corners. Make edges of cuts perpendicular to concrete surface. Chip concrete within perimeter to solid concrete and provide an exposed aggregate surface condition complying with ICRI CSP-6 or rougher. Flush repair area with clean water and allow to dry to saturated-surface-dry condition. Place, compact, and finish to blend with adjacent finished concrete. Cure patch area in accordance with procedures specified for unformed cast-in-place concrete.
 2. Fill form-tie voids with patching mortar or cone plugs secured in place with plug manufacturer's recommended bonding agent.
 3. Repair defects on surfaces exposed to view by blending white Portland cement and standard Portland cement so that, when dry, patching mortar matches surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
 4. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 2. After concrete has cured at least 14 days, correct high areas, whether caused by finishing process or slab curl, by grinding.
 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
 4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
 5. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Use as few cuts as possible, keeping angles at least 90 degrees with no re-entrant (inside) corners. Make edges of cuts perpendicular to concrete surface. Chip concrete within perimeter to solid concrete and provide an exposed aggregate surface condition complying with ICRI CSP-6 or rougher. Flush repair area with clean water and allow to dry to saturated-surface-dry condition. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 6. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Flush repair area with clean water and allow to dry to saturated-surface-dry condition. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.

- E. Perform structural repairs of concrete as directed by Structural Engineer of Record.
- F. Repair materials and installation not specified above may be used, subject to the Structural Engineer of Record's approval.

3.15 FIELD QUALITY CONTROL

- A. Correct deficiencies in Work that Section 014533 "Special Inspection and Testing" reports and inspections indicate do not comply with the Contract Documents. Costs for correcting Work and any re-testing that may be necessary shall be at the Contractor's expense.

END OF SECTION 033000

SECTION 036423 – CRACK REHABILITATION OF CONCRETE BY INJECTION GROUTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and General Provisions of Contract, including General and Supplementary General Conditions and Division 01 Specification Sections, apply to this section.

1.2 SUMMARY

- A. This Section specifies rehabilitation of cracks in concrete members by injection grouting.
- B. Related Requirements:
 - 1. Division 01 Section "Special Inspection and Testing"
 - 2. Division 01 Section "Unit Prices"
 - 3. Division 03 Section "Rehabilitation of Cast-in-Place Concrete"

1.3 SUBMITTALS

- A. Electronically submit product data sheets and Material Safety Data Sheets (MSDS) for each type of material required, including certification that each type complies with the specified requirements.
- B. Submit qualification data for the installing contractor.

1.4 QUALITY ASSURANCE

- A. Quality Control procedures performed by the Manufacturer shall include, but not be limited to the following:
 - 1. The Manufacturer shall have a minimum five years' experience in manufacturing of products and materials specified herein.
 - 2. The Manufacturer shall have an ongoing quality assurance program independently audited on a regular basis, resulting in documented verification testing that can be presented to the specifier that indicates the manufactured product and materials perform as claimed in product literature.
- B. Quality Control procedures performed by the Contractor shall include, but not be limited to the following:
 - 1. The Contractor shall be experienced in all aspects rehabilitation of concrete structures by injection grouting of cracks, including substrate preparation, installing ports and cap seal, mixing/batching of injection materials, and use of injection equipment in conformance with specified requirements and product manufacturer's installation instructions. The minimum level of experience shall be three years with at least five successful installations on projects of similar size, complexity and scope that can be submitted as references for Engineer review and approval.
 - 2. The Contractor shall maintain qualified personnel on site at all times during installation activities.
- C. Special Inspections: See Section 014533 - "Special Inspection and Testing" for a description of the special inspection and testing to be paid for by the Owner and for the extent of the Contractor's responsibilities with regard to the Special Inspection and Testing program.

- D. Pre-Installation Conference: Conduct at the Project site.
 - 1. A minimum of two weeks prior to performing injection grouting work, convene a preconstruction meeting with the Owner's representative, General Contractor, Installing Contractor, Special Inspector, Testing Laboratory, and the Architect and Engineer.
 - 2. The meeting agenda shall include, but not be limited to, review of work schedule, extent of work, materials to be installed, installation equipment and procedures, material storage, staging and batching, installation and use of scaffolding, safety procedures, cleaning, and special inspection and testing requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Storage:
 - 1. All materials shall be delivered, stored and handled so as to prevent damage to structures, inclusion of foreign materials and damage to materials by capillary action, rain, snow or breakage.
 - 2. Deliver products in original factory packaging, bearing identification of product, manufacturer, batch number, and expiration date. Furnish Material Safety Data Sheets to the project superintendent and other applicable persons for each product.
 - 3. Store products in a location protected from freezing, damage, construction activity, precipitation and direct sunlight in strict accordance with the manufacturer's recommendations.
 - 4. Condition products to approximately 65 to 85 deg F prior to use, in accordance with the manufacturer's recommendations.
 - 5. Continuity: Arrange deliveries to provide sufficient quantities for continuity of work.
- B. Handle all products with appropriate precautions and care as stated on the Material Safety Data Sheets.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. The contract documents have been prepared and based on concrete restoration systems utilizing information on products and installation procedures provided by Sika Corporation. Although alternative products or systems from other manufacturers may be submitted for review and approval, such submissions must occur prior to bidding. All products to be used must be certified compatible by the manufacturer(s). Any requests for proposed alternative products or systems shall include appropriate documentation demonstrating the proposed alternative products or systems meet or exceed both the quality and performance parameters of the specified products and systems.
 - 1. For the work areas identified on the Drawings, it is the design intent that the product materials, substrate preparation, and installation procedures be performed as a restoration system. The success of the application of the restoration system is depends on the inter-relationship and compatibility of the individual products, the substrate preparation, and the installation procedures.
 - 2. It is the contractor's responsibility to coordinate each element of the approved restoration system with all the requirements of the specific manufacturer's technical representative and shall implement all required recommendations from the manufacturer. Any and all deviations from the recommendations shown on the contract documents or from the manufacturer's recommendations shall be brought to the attention of the Architect, Engineer, and Owner's Representative immediately and prior to proceeding.

2.2 MATERIALS

- A. Epoxy Adhesive Injection Grout for Rehabilitation of Structural Cracks: Two-component, moisture-tolerant, 100% solids, very low viscosity, high modulus, high strength epoxy adhesive compliant with ASTM C 881, Types I and II, Grade 1, Class C, and AASHTO M-235 specifications. Component "A" shall be a modified epoxy resin of the diglycidether bisphenol A type containing suitable viscosity control agents. It shall not contain butyl glycidyl ether. Component "B" shall be primarily a reaction product of a selected amine blend with an epoxy resin of the diglycidether bisphenol A type containing suitable viscosity control agents, pigments, and accelerators. The ratio of Component "A" to Component "B" shall be 2 to 1, by volume.

1. Properties of the epoxy adhesive injection grout:
 - a. Viscosity (mixed): Approximately 200 cps
 - b. Pot Life: Approximately 30 minutes at 73 deg F (60 gram mass)
 - c. Tensile Properties at 14 Days (ASTM D 638):
 - 1) Tensile Strength: 7,900 psi
 - 2) Elongation at Break: 3.1 percent
 - 3) Modulus of Elasticity: 2,000,000 psi
 - d. Flexural Properties at 14 Days (ASTM D 790):
 - 1) Flexural Strength (Modulus of Rupture): 5,400 psi
 - 2) Tangent Modulus of Elasticity in Bending: 3,800,000 psi
 - e. Shear Strength at 14 Days (ASTM D 732): 4,300 psi
 - f. Bond Strength to Hardened Concrete (ASTM C 882):
 - 1) 2-Day (Dry Cure): 3,000 psi
 - 2) 14-Day (Moist Cure): 2,200 psi
 - g. Heat Deflection Temperature at 14 Days (ASTM D 648): 122 deg F
 - h. Water Absorption at 7 Days (ASTM D 570): 1.5 percent (2 hour boil)
 - i. Compressive Strength (ASTM D 695):
 - 1) At 1 Day and 73 deg F: 4,500 psi
 - 2) At 14 Days and 73 deg F: 11,700 psi
 - 3) At 28 Days and 73 deg F: 12,000 psi
 - j. Compressive Modulus at 28 Days (ASTM D 695): 350,000 psi
2. Acceptable Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:
 - a. Sikadur 52, by Sika Corporation

- B. Epoxy Paste Adhesive for Cap Sealing Cracks and Injection Ports: Two-component, moisture-tolerant, 100% solids, high strength non-sag epoxy paste adhesive compliant with ASTM C 881, Types I and IV, Grade 3, Class B/C, and AASHTO M-235 specifications. The ratio of Component "A" to Component "B" shall be 1 to 1, by volume.

1. Properties of the epoxy paste adhesive:
 - a. Pot Life: Approximately 60 minutes at 73 deg F (500 gram mass)
 - b. Compressive Strength (ASTM D 695):
 - 1) At 1 Day and 73 deg F: 11,000 psi
 - 2) At 14 Days and 73 deg F: 12,500 psi
 - 3) At 28 Days and 73 deg F: 13,000 psi
 - c. Modulus of Elasticity in Compression at 7 Days (ASTM D 695): 560,000 psi

- d. Flexural Strength at 7 Days (ASTM D 790): 6,100 psi
 - e. Modulus of Elasticity in Flexure at 7 Days (ASTM D 790): 1,500,000 psi
 - f. Tensile Strength at 7 Days (ASTM D 638): 3,300 psi
 - g. Elongation at Break at 7 Days (ASTM D 638): 0.9 percent
 - h. Tensile Adhesion Strength (ASTM C 882) Hardened Concrete to Hardened Concrete:
 - 1) At 2 Days (Dry Cure): 4,000 psi
 - 2) At 2 Days (Moist Cure): 3,800 psi
 - 3) At 14 Days (Moist Cure): 3,800 psi
 - i. Tensile Bond Strength at 2 Days (ASTM C 1583-04): 420 psi
 - j. Shear Strength (ASTM D 732): 4,600 psi
 - k. Heat Deflection Temperature at 7 Days (ASTM D 648): 135 deg F
2. Acceptable Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:
- a. Sikadur 31 Hi-Mod Gel, by Sika Corporation
- C. Automated Pressure Injection Equipment:
- 1. Capable of gauging and mixing two-component grout materials, with a mixing ratio accuracy of +/- 5%.
 - 2. Able to inject the material at high pressure (greater than 250 psi) into voids and cracks while maintaining the correct mix ratio.
 - 3. Portable with positive displacement pumps, calibrated to ensure precise ratios of both components, independent of source or internal pressures.
 - 4. Air-powered or electric driven, providing in-line mixing, meter measuring of materials, and containing back-drain plugs.
- D. Injection Ports / Packers: Compatible with injection grouts and pressure injection equipment.

PART 3 - EXECUTION

3.1 GENERAL

- A. Where possible, barricade area above to prevent pedestrian and vehicular traffic from loading and vibrating structural members being repaired. Maintain barricades for a minimum of 24 hours after completion of repair, unless noted otherwise.
- B. Provide temporary shoring where indicated on Drawings or as directed by Engineer.
- C. Strictly follow all application instructions from product manufacturers. Where product manufacturer's requirements conflict with requirements herein or on Drawings, the more stringent requirements shall apply.
- D. Inspect all areas involved in work to establish extent of work, access, and need for protection of surrounding construction. Install protective measures as necessary to avoid damage to existing surfaces and finishes.
- E. Base bid quantities of crack injection are indicated on the Drawings. Actual quantities shall be verified in field, and payment adjusted based on Unit Prices.

3.2 PREPARATION

- A. Prepare the cracks and adjacent substrates in accordance with the manufacturer's requirements. At a minimum, the cracks and adjacent substrates must be clean, sound, and free of calcium deposits. Remove dust, laitance, grease, coatings, foreign particles, efflorescence, and other bond inhibiting materials from the surfaces by mechanical means (i.e. sandblasting, high pressure waterblasting, etc. or as approved by the Engineer. Compressed air used for blowing dust or other dry materials out of cracks shall be oil-free.
- B. Drill holes for injection ports in accordance with the manufacturer's requirements. Install injection ports. On structures open on both faces, provide injection ports on opposite faces at staggered elevations. Size and spacing of injection ports shall be as required to allow the injection material to completely fill the crack along its entire length. Flush drill holes with clean water to remove drill dust.
 - 1. For cracks receiving epoxy adhesive injection, surfaces may be dry or damp, but free of standing water.

3.3 APPLICATION

- A. Mix the epoxy paste cap seal material and install over the cracks and around each injection port in accordance with the manufacturer's requirements. Cap seal must properly cure before injection work may commence.
- B. Set up, calibrate and flush pump prior to injecting in accordance with the pump manufacturer's requirements.
- C. Prepare and mix (if applicable) injection materials in accordance with the manufacturer's requirements.
- D. Dispense epoxy adhesive under constant steady pressure into injection ports in accordance with both pump and injection material manufacturer's requirements. Adjust pressure as needed to ensure maximum filling and penetration without inclusion of air pockets or voids. Begin the injection at the lowest port and continue until there is appearance of the injection material at an adjacent port, thus indicating travel. When travel is indicated, a decision to discontinue or continue injection from that port should be based on the experience of the contractor. Cap ports where injection is discontinued and continue injection at adjacent port. Repeat process along the length of the crack. If required, re-inject previous at previous ports to achieve maximum filling of the crack.
- E. Stop injection and notify Engineer if injection material penetration into crack is not occurring. If a modification of the proposed procedure is required to fill the cracks, submit said modification in writing to the Engineer for review and approval prior to proceeding.

3.4 CLEANUP

- A. After the injection work is complete, remove the injection ports and then cap seal material by mechanical means to bare concrete. Clean the substrate in a manner to produce a finished appearance acceptable to the Architect. Patch the injection port holes with an approved cementitious repair mortar.
- B. Clean all work areas of debris, stains, and splatter. Repair damaged, spotted, or smeared areas.
- C. Clean tools and pump equipment in a manner that will not produce objectionable odors within the building. Clean tools and equipment off-site if necessary.

- D. Remove all debris and excess materials from the job site and dispose of in accordance with all applicable regulations for waste disposal.

3.5 FIELD QUALITY CONTROL

- A. Special Inspections: See Section 014533 - Special Inspections and Testing for a description of the special inspection and testing to be paid for by the Owner and the extent of the Contractor's responsibilities with regard to the Special Inspections and Testing program.

END OF SECTION 036423

SECTION 045010 – BRICK REPOINTING

1.0 PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General, Supplementary, and Special Conditions and Division 1 Specification sections, apply to work of this Section.

1.2 DESCRIPTION OF WORK

- A. Work of this Section shall be governed by the Contract Documents. Provide materials, labor, equipment and services necessary to furnish, deliver and install all work of the Section as shown on the drawings, as specified herein and/or as required by job conditions.
- B. Section includes, but is not limited to, limited repointing of existing brick veneer.
- C. Related Work Specified Elsewhere:
 - 1. Division 07 Section "Joint Sealants"

1.3 QUALITY ASSURANCE

- A. Field-Constructed Mock-Ups: Prior to start of general masonry restoration, prepare the following sample panels on building where directed by Architect. Obtain Architect's acceptance of visual qualities before proceeding with the work.
 - 1. Repointing: Prepare 2 separate sample areas of approximately 1 ft high by 1 ft wide for each type of repointing required, one for demonstrating methods and quality of workmanship expected in removal of mortar from joints and the other for demonstrating quality of materials and workmanship expected in repointing mortar joints.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- B. Source of Materials: Obtain materials for masonry restoration from a single source (if possible) for each type material required (face brick, stone, cast stone, cement, sand, etc.) to ensure match of quality, color, pattern, and texture. Utilize salvaged brick and cast stone whenever possible.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturers' technical data for each product indicated including recommendations for their application and use. Include test reports, MSDS, and certifications substantiating that products comply with requirements.
- B. Submit samples, prior to creating sample areas, of each new exposed masonry or stone material to be used for replacing existing materials. Include in each set of samples the full range of colors and textures to be expected in completed work.

1. Mortar for pointing and masonry rebuilding and repair, in form of 6" long by 1/2" wide sample strips of mortar set in aluminum or plastic channels.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver other materials to site in manufacturer's original and unopened containers and packaging, bearing labels as to type and names of products and manufacturers.
- B. Protect masonry restoration materials during storage and construction from wetting by rain, snow or ground water, and from staining or intermixture with earth or other types of materials. Protect liquid components from freezing. Comply with manufacturer's recommendations for minimum and maximum temperature requirements for storage.

1.6 PROJECT CONDITIONS

- A. Verify quantities of work shown on Contract Documents.
- B. Track quantities of work scopes performed on a daily basis with field measurements shown on a set of designated As-Built Drawings maintained on the site.
- C. Clean masonry surfaces only when air temperatures are 40 deg. F (4 deg. C) and above and will remain so until masonry has dried out, but for not less than 7 days after completion of cleaning.
- D. Do not repoint mortar joints or repair masonry unless air temperatures are between 40 deg. F (4 deg. C) and 80 deg. F (27 deg. C) and will remain so for at least 48 hours after completion of work.
- E. Prevent grout or mortar used in repointing and repair work from staining face of surrounding masonry and other surfaces. Remove immediately grout and mortar in contact with exposed masonry and other surfaces.
- F. Protect sills, ledges, projections, roof membranes and flashings from mortar droppings and falling demolition materials.
- G. Protect adjoining surfaces, grounds, paving, etc. from damage caused by construction operations.
- H. Inspect steel exposed during masonry removal. If on inspection, the cross section of a steel member is found reduced from corrosion by more than 10 percent, notify Architect before proceeding.

1.7 SEQUENCING/SCHEDULING

- A. Perform masonry restoration work in the following sequence:
 1. Clean exposed masonry surfaces.
 2. Remove existing mortar from brick joints to be repointed.
 3. Repoint existing masonry joints.
 4. Perform final cleaning in areas of repointing work.

2.0 PART 2 – PRODUCTS

2.1 MORTAR MATERIALS

- A. Portland Cement: ASTM C 150, Type I, color as required to produce the color to match the existing.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Aggregate for Mortar: ASTM C 144, unless otherwise indicated.
 - 1. Colored Mortar Aggregate: Natural or manufactured sand selected to produce mortar color indicated.
 - 2. Match size, texture and gradation of existing mortar as closely as possible.
- D. Water: Clean, free of oils, acids, alkalis and organic matter.
- E. Color Pigments: High purity, finely ground, chemically inert, unfading, mineral pigment specially prepared for use in mortar.

2.2 MORTAR MIXES

- A. General:
 - 1. Measurement and Mixing: Measure cementitious and aggregate material in a dry condition by volume. Do not measure by shovel- use known measure. Mix materials in a clean mechanical batch mixer.
 - 2. Mixing Pointing Mortar: Thoroughly mix cementitious and aggregate materials together before adding any water. Then mix again adding only enough water to produce a damp, unworkable mix which will retain its form when pressed into a ball. Add remaining water in small portions until mortar of desired consistency is reached. Use mortar within 90 minutes of final mixing; do not retemper or use partially hardened material.
- B. General: Do not add admixtures including air-entraining agents, accelerators, retarders, water repellent agents, anti-freeze compounds or other admixtures, unless otherwise indicated. Do not use calcium chloride in mortar.
- C. Mortar: Comply with ASTM C 270 Type N, proportion specifications, except limit materials to those specified.
 - 1. Compliance with mortar compressive strength alone will not constitute acceptance of mortar mix.
 - 2. Colored Mortar: To the greatest extent possible, a color match should be achieved using natural sand. However, proportion color pigments with other ingredients may be used as necessary to match required color.
 - 3. Mortar Color Pigments shall be weighed and packaged at the factory into "Full Mixer Batch" packages, eliminating the need for job site measuring of pigments.

2.3 CLEANING MATERIALS AND EQUIPMENT

- A. Water for Cleaning: Clean, potable, free of oils, acids, alkalis, salts, and organic matter.
- B. Brushes: Fiber bristle only.
- C. Pressure Washer: Compressor / pump capable of developing and maintaining nozzle pressures between 100 and 600 psi at the rate of 4 to 6 GPM.

- D. Cleaning Materials: Non-ionic detergents suitable for exterior masonry cleaning shall be used. Acceptable products include, but are not limited to:

1. "Enviro-Klean 2010 All Surface Cleaner" by ProSoCo; Inc.

3.0 PART 3 – EXECUTION

3.1 PREPARATION FOR CLEANING

- A. General: Comply with recommendations of manufacturers of chemical cleaners for protecting building surfaces against damage from exposure to their products.
- B. Protect persons, motor vehicles, surrounding surfaces of building whose masonry surfaces are being restored, building site, and surrounding buildings from injury resulting from masonry restoration work.
1. Prevent chemical cleaning solutions from coming into contact with pedestrians, motor vehicles, landscaping, buildings and other surfaces which could be injured by such contact.
 2. Do not clean masonry during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
 3. Dispose of run-off from cleaning operations by legal means and in manner which prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors, and contamination of the water table.
- C. Protect adjacent surfaces from contact with cleaners by covering them with polyethylene film and waterproof masking tape.

3.2 CLEANING MASONRY

- A. Proceed with cleaning in an orderly manner, work from top to bottom of each scaffold width and from one end of each elevation to the other.
- B. Use only those cleaning methods indicated for each masonry material and location.
1. Use only natural fiber brushes only.
 2. Use spray equipment that provides controlled application at volume and pressure indicated, measured at spray tip. Adjust pressure and volume to ensure that cleaning methods do not damage masonry.
 3. Equip units with pressure gauges.
- C. Perform each cleaning method indicated in a manner that results in uniform coverage of all surfaces, including corners, moldings and reveals, and that produces an even effect without streaking or damaging masonry surfaces.
1. Water application methods: Where water application methods are indicated, comply with the following:
 - a. Spray applications: Spray apply water to masonry surfaces to comply with requirements indicated. Unless otherwise indicated, nozzle pressure shall not exceed 600 psi with flow rate 4 to 6 gpm and with spray nozzle held at least 6 inches from the surface of masonry and apply water from side to side in overlapping bands to produce uniform coverage and an even effect.
 - b. Clean masonry surfaces only when air temperature is 40 degrees

- Fahrenheit and above and will remain so for at least 7 days after completion of cleaning.
- c. Detergent cleaning: Clean brick masonry with an approved detergent solution applied as follows:
 - 1) Wet masonry with cold water applied by low-pressure spray.
 - 2) Scrub masonry with detergent solution using medium-soft brushes until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from mortar joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that masonry surface remains wet.
 - 3) Rinse to remove detergent solution and soiling.
 - 4) Repeat cleaning procedure above where required to produce the cleaning effect established by mockup samples.
 2. Removing plant growth: Completely remove plant, moss and shrub growth from masonry surfaces by cutting at roots and allowing to dry as long as possible before removal. Remove tendrils and debris from masonry to whatever depth they occur.

3.3 REPOINTING

A. Preparation

1. Repoint joints in areas indicated on Drawings.
 - a. In areas where a percentage of repointing area less than 100% is indicated, repoint all defective masonry mortar joints in the walls including all open, loose and severely deteriorated joints.
2. Remove mortar from joints according to procedures demonstrated in approved mockup:
 - a. Remove mortar from joints to depth of not less than 1 inch or more to expose sound, unweathered mortar.
 - b. Remove mortar from stone surfaces within joints to provide reveals with square backs and to expose stone for contact with pointing mortar.
 - c. Brush, vacuum, or flush joints with clean water to remove dirt and loose debris.
 - d. Do not spall edges of masonry or widen joints. Replace or patch damaged masonry as directed by Architect.
 - 1) Cut out center of mortar bed joints using angle grinders with diamond-impregnated metal blades. Remove remaining mortar by hand with chisel and resilient mallet. Strictly adhere to approved quality-control program.
 - 2) Power tools may be accepted, based upon the demonstrated skill and ability of the mason performing the work. Sawcuts in exposed masonry will not be tolerated.
3. Notify Architect of unforeseen detrimental conditions including voids in mortar joints, cracks, loose stone, rotted wood, rusted metal, and other deteriorated items.

B. Installation

1. Dampened masonry joint cavities shall be packed full with pointing mortar. Each joint shall be tooled to ensure maximum compaction and proper weathering surface. Mortar shall be placed in maximum ¼ inch lifts, allowing the mortar to become thumb print hard prior to subsequent mortar being applied.
2. Surface profile of new mortar shall match existing mortar appearance.
3. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.

C. Cleaning

1. During the progress of the work, wipe off excess mortar as the work progresses. Dry brush at the end of each day's work.
2. Final Cleaning:
 - a. After mortar is thoroughly set and cured, clean sample wall area of approximate 20 sq. ft. as follows to verify acceptability of the following cleaning procedures:
 - 1) Dry clean to remove large particles of mortar using wood paddles and scrappers. Use chisel or wire brush if required.
 - 2) Pre-soak wall by saturating with water and flush off loose mortar and dirt.
 - 3) Scrub down wall with stiff fiber brush
 - 4) Approved non-ionic detergents may be used where approved. DO NOT use any acid or other unapproved cleaning chemicals.
 - 5) Rinse walls by washing off all cleaning solution, dirt and mortar crumbs using clean, low pressurized water.

END OF SECTION 045010

SECTION 071416 – COLD FLUID-APPLIED WATERPROOFING

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section Includes:

- 1. Application of a cold fluid-applied waterproofing membrane system, where indicated on Drawings, consisting of preparation of existing and repaired concrete surfaces, sealing of cracks and joints, and application of a multi-lift 215-mil fluid-applied waterproofing membrane and accessory products.

- B. Related Requirements:

- 1. Division 03 Section "Cast-in-Place Concrete"
- 2. Division 07 Section "Sheet Waterproofing"
- 3. Division 07 Section "Self-Adhering Sheet Waterproofing"

1.03 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at location to be determined.

- 1. Review waterproofing requirements including surface preparation, substrate condition and pretreatment, minimum curing period, forecasted weather conditions, special details and sheet flashings, installation procedures, testing and inspection procedures, and protection and repairs.

1.04 SUBMITTALS

- A. Product Data: For each type of product.

- 1. Include construction details, material descriptions, and tested physical and performance properties of waterproofing.
- 2. Include manufacturer's written instructions for evaluating, preparing, and treating substrate.

- B. Shop Drawings: Show locations and extent of waterproofing and details of substrate joints and cracks, expansion joints, sheet flashings, penetrations, inside and outside corners, tie-ins with adjoining waterproofing, and other termination conditions.

- C. Samples: For each exposed product and for each color and texture specified, including the following products:

- 1. 4-by-4-inch square of protection course.
- 2. 4-by-4-inch square of drainage panel.

- D. Qualification Data: For Installer.

- E. Sample Warranties: For special warranties.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by waterproofing manufacturer.
- B. Mockups: Build mockups to verify selections made under Sample submittals and to set quality standards for installation.
 - 1. Build for each typical waterproofing installation including accessories to demonstrate surface preparation, crack and joint treatments, inside and outside corner treatments, and protection.
 - a. Size: 4 sq. ft. in area.
 - b. Description: Each type of installation.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.06 FIELD CONDITIONS

- A. Environmental Limitations:
 - 1. Apply waterproofing within the range of ambient and substrate temperatures recommended in writing by waterproofing manufacturer.
 - 2. Do not apply waterproofing to a frozen, damp or wet substrate.
 - 3. Do not apply waterproofing in snow, rain, fog, or mist.
- B. Maintain adequate ventilation during preparation and application of waterproofing materials.

1.07 WARRANTY

- A. Manufacturer's Warranty:
 - 1. Waterproofing Warranty: Manufacturer agrees to furnish replacement waterproofing material for waterproofing that does not comply with requirements or that fails to remain watertight within specified warranty period.
 - a. Warranty Period: Twenty years from date of Substantial Completion.
- B. Installer's Special Warranty: Installer shall provide warranty, signed by Installer, covering Work of this Section, for warranty period of two years.
 - 1. Warranty includes removing and reinstalling all materials to access and repair/replace waterproofing system.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Source Limitations for Waterproofing System: Obtain waterproofing materials, protection course, and molded-sheet drainage panels from single source from single manufacturer.
- B. Basis of Design: TREMproof 250 GC, by Tremco, Inc..
- C. Alternatives to Basis of Design Products: Alternative products produced by other manufacturers will be considered provided appropriate backup information is provided that demonstrates the alternative product meets or exceeds the performance data of the basis-of-design products, and similarly the warranty of the alternative product manufacturer meets or exceeds that of the basis-of-design product manufacturer.

2.02 COLD FLUID-APPLIED WATERPROOFING MEMBRANE

- A. Cold Fluid-Applied Waterproofing Membrane: Single component, reinforced, high solids, modified aliphatic polyurethane, ASTM C 836 and coal-tar free, formulated for application to damp and green concrete.
 - 1. VOC Content: Less than 100 g/L, roller and self-leveling grades.
 - 2. VOC Content: Less than 160 g/L, trowel detailing grade.
 - 3. Hardness, ASTM D 2240: 70 – 80.
 - 4. Low Temperature Flexibility and Crack Bridging, ASTM C 1305: Pass.
 - 5. Adhesion in Peel, ASTM C 794: 26 lbf/in.
 - 6. Color: Black.
 - 7. Tensile Strength, ASTM D 412: 200 psi.

2.03 AUXILIARY MATERIALS

- A. Furnish auxiliary materials recommended by waterproofing manufacturer for intended use and compatible with waterproofing material.
 - 1. Furnish liquid-type auxiliary materials that comply with VOC limits of authorities having jurisdiction.
- B. Concrete Substrate Patching Material / Repair Mortar
- C. Primer: Liquid primer meeting VOC limitations and recommended for substrate by waterproofing manufacturer.
- D. Elastomeric Detail Sheet: Blended thermoset elastomeric sheet reinforced with polyester woven scrim.
 - 1. Basis of Design Product: TRA Elastomeric Sheeting by Tremco, Inc..
- E. Joint Sealant: ASTM C 719, high performance, medium-modulus, low-VOC, UV-stable, non-sag polyurethane sealant approved by waterproofing manufacturer for adhesion and compatibility with waterproofing and accessories.
 - 1. Basis of Design Product: Dymonic 100 by Tremco, Inc..
- F. Metal Termination Bars: Waterproofing manufacturer's standard aluminum or stainless steel bars, approximately 1 by 1/8 inch, predrilled at 9-inch centers, with stainless steel fasteners.

- G. Protection Course: See Drawings and Section 072110 Foundation Insulation where protection course is indicated to be rigid insulation. Where no foundation insulation is indicated on Drawings, protection course shall be as follows:
 - 1. High-Density Polyethylene (PE) sheet, 40 mil thick.
 - a. Basis of Design Product: Polyethylene Protection/Barrier Course by Tremco, Inc.
- H. Drainage Mat: Composite mat with drainage core, filter fabric, and protective polymeric film, recommended by waterproofing manufacturer for application.
 - 1. Nonwoven-Geotextile-Faced, Molded-Sheet Drainage Panel: Manufactured composite subsurface drainage panels consisting of a nonwoven, spun-bonded polypropylene facing laminated to one side of a studded, non-biodegradable, polystyrene drainage core, with polymeric film attached to back of drainage core.
 - a. Basis of Design: Tremco, TREMDrain S.
 - b. Flow Capacity, per unit width, ASTM D 4716: 9 gpm/ft
 - c. Flow Rate, ASTM D 4491: 80 gpm/ft²
 - d. Apparent Opening Size: No. 80 sieve
 - e. Puncture Strength, ASTM D 4833: 50 lb
 - f. Core Compressive Strength, ASTM D 1621: 30,000 lb/ft²
 - g. Thickness: 0.25 inch

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of waterproofing.
 - 1. Verify that concrete has cured and aged for minimum time period recommended in writing by waterproofing manufacturer.
 - 2. Verify that substrate is visibly dry and within the moisture limits recommended in writing by manufacturer. Test for capillary moisture by plastic sheet method according to ASTM D 4263. Test for waterproofing adhesion per manufacturer's recommended method. Notify Architect of unsatisfactory conditions.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INTERFACE WITH OTHER WORK

- A. Sequencing of Work: Coordinate sequencing of waterproofing work with work of other sections that form portions of building envelope moisture control to ensure that expansion joints, flashings and transition materials can be properly installed and inspected.
- B. Subsequent Work: Coordinate waterproofing work with work of other sections installed subsequent to waterproofing to ensure complete inspection of installed waterproofing and sealing of waterproofing penetrations necessitated by subsequent work.

3.03 PREPARATION

- A. Clean, prepare, and treat substrates in accordance with waterproofing manufacturer's written instructions.

1. Clean and prepare concrete substrates to achieve a ICRI CSP-2 to CSP-4 condition.
 2. Mask adjacent finished surfaces.
 3. Remove contaminants and film-forming coatings from substrates.
 4. Remove projections and excess materials and fill voids with substrate patching material.
 5. Prepare and treat joints and cracks in substrate per ASTM D 4258 and waterproofing manufacturer's written instructions.
 6. For accessory materials, follow manufacturers application instructions.
- B. Detail Preparation: Prepare non-moving shrinkage cracks, large cracks, construction joints, expansion joints, projections and protrusions, penetrations, drains, and changes in plane in accordance with waterproofing manufacturer's written instructions and details, using accessory materials specified.
1. Adhere strips of elastomeric sheet to moving joints and large cracks by embedding in a layer of cold fluid-applied waterproofing and overlay with coat of cold fluid-applied waterproofing.
- C. Transitions to Adjacent Materials: Install elastomeric and composite reinforced flashing to form connect and seal waterproofing material to adjacent components of building waterproofing system, including, but not limited to, roofing system waterproofing, exterior fenestration systems, door framing, and other openings.
1. Seal top of through-wall flashings to waterproofing with continuous transition strips of type recommended by waterproofing manufacturer for application.
 2. Install elastomeric sheets at terminations of waterproofing membrane according to manufacturer's written instructions.
 3. Install termination bars and mechanically fasten to top of elastomeric flashing sheet at terminations and perimeter of waterproofing.

3.04 PRIMARY MEMBRANE APPLICATION

- A. General: Apply waterproofing material to form a seal with strips and transition strips and to achieve a continuous waterproofing according to waterproofing manufacturer's written instructions. Apply waterproofing material within manufacturer's recommended application temperature ranges.
- B. Primer: Apply primer to substrates at required rate, using roller, brush, or airless spray. Allow to dry. Reprime areas not covered within 24 hours.
- C. Start application with manufacturer's authorized representative present.
- D. Apply waterproofing in total wet film thickness and with methods recommended in writing by waterproofing manufacturer.
1. Multi-Lift 215 mil Horizontal Application:
 - a. Apply first coat to yield 90 wet mils.
 - b. Allow to cure to a firm rubber, 16-24 hours at 75 deg. F and 50% R.H.
 - c. Apply primer and allow to dry to a tack.
 - d. Apply second coat to yield 125 wet mils.
- E. Terminations: Install terminations of waterproofing membrane in accordance with ASTM C 898 and ASTM C 1471, as applicable to application, at not less than minimum height recommended by waterproofing manufacturer.

3.05 PROTECTION COURSE APPLICATION

- A. Install protection course over cured waterproofing membrane. Lap all seams a minimum of 6 inches, with uphill sheets laying over downhill sheets at seams. Continuously tape seams with manufacturer's recommended tape.

3.06 DRAINAGE MAT APPLICATION

- A. Install drainage mat over protection course. Tightly butt the seams running horizontally and vertically. The flange may be overlapped abutting the first row of dimples. Make sure the fabric overlaps in the next run and tape using underground rated tape. Do not overlap the core onto the fabric of the subsequent run of drainage mat. An approved adhesive may be used to secure the drainage mat.

3.07 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a site representative qualified by waterproofing membrane manufacturer to inspect substrate conditions, surface preparation, membrane application, flashings, protection, and drainage components; and to furnish daily reports to Architect.
- B. Coordination of Inspection:
 - 1. Allow access to work areas and staging. Notify testing agency in writing of schedule for Work of this Section to allow sufficient time for inspection.
 - 2. Do not cover waterproofing until it has been tested and reviewed by manufacturer's field service representative.
- C. Reporting: Forward written inspection reports to the Architect within 10 working days of the inspection and test being performed.
- D. Correct deficiencies in or remove waterproofing that does not comply with requirements; repair substrates and reapply waterproofing components.
- E. Flood Testing: Flood test each deck area for leaks, according to recommendations in ASTM D 5957, after completing waterproofing but before placing overlying construction. Install temporary containment assemblies, plug or dam drains, and flood with potable water.
 - 1. Flood to an average depth of 2-1/2 inches with a minimum depth of 1 inch and a maximum depth of 4 inches. Maintain 2 inches of clearance from top of sheet flashings.
 - 2. Flood each area for 24 to 72 hours.
 - 3. Testing agency shall observe flood testing and examine underside of decks and terminations for evidence of leaks during flood testing.
 - 4. After flood testing, repair leaks, repeat flood tests, and make further repairs until waterproofing installation is watertight.
 - a. Cost of retesting is Contractor's responsibility.
 - 5. Testing agency shall prepare survey report indicating locations of initial leaks, if any, and final survey report.
- F. Waterproofing will be considered defective if it does not pass tests and inspections.

3.08 PROTECTION, REPAIR, AND CLEANING

- A. Do not permit foot or vehicular traffic on unprotected membrane.
- B. Protect waterproofing from damage and wear during remainder of construction period. Protect waterproofing materials from exposure to UV light for periods in excess of that acceptable to waterproofing manufacturer. Replace overexposed materials and allow for reinspection.
- C. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended in writing by manufacturer of affected construction. Remove masking materials.

END OF SECTION 071416

SECTION 079200 – JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Related documents specified elsewhere are shown in the Table of Contents and on the drawings and are incorporated in this section as if specifically noted, without limit.

1.2 SUMMARY

- A. Work of this Section shall be governed by the Contract Documents. Provide materials, labor, equipment and services necessary to furnish, deliver and install all work of the Section as shown on the drawings, as specified herein and/or as required by job conditions.
- B. This Section includes joint sealants for the following applications, including those specified by reference to this Section:
 - 1. Exterior joints in the following roof-related surfaces:
 - a. Metal to concrete or masonry.
 - b. Metal to metal.
 - c. Masonry or concrete to stone.
 - d. Stone to stone.
 - e. Other joints as indicated.

1.3 PERFORMANCE REQUIREMENTS

- A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.
 - 1. Performance of sealant systems are defined to include the removal of existing sealants, joint preparation and cleaning, priming, bond breaker/backer rod, sealant application and tooling, all in accordance with product manufacturer's printed recommendations for use intended.

1.4 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Qualification Data: For Installer.
- D. Product Test Reports: Based on comprehensive testing of product formulations performed by a qualified testing agency, indicating that sealants comply with requirements.
- E. Warranties: Special warranties specified in this Section.
- F. Joint Sealant Schedule: Indicate joint sealant location, joint sealant type, manufacturer and product name, and color, for each application. Utilize joint sealant designations included in this Section.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized Installer who is approved or licensed for installation of elastomeric sealants required for this Project.
- B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration date, pot life, curing time, and mixing instructions for multi component materials.
- B. Store and handle materials in compliance with manufacturer's written instructions to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.7 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer, or are below 40 deg F or above 85 deg F.
 - 2. When joint substrates are wet.
 - 3. Where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.
 - 4. Contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.8 WARRANTY

- A. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which elastomeric sealant manufacturer agrees to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Design Professional from manufacturer's full range.

2.2 MANUFACTURERS

- A. Available Products: Provide joint sealant products by one of the following, or approved equal:
 - 1. Dow Corning
 - 2. Tremco
 - 3. Sika
 - 4. Pecora

2.3 JOINT SEALANTS, GENERAL

- A. VOC Content for Interior Applications: Provide sealants and sealant primers complying with the following VOC content limits per 40 CFR 59, Subpart D (EPA Method 24):
 - 1. Architectural Sealants: 250 g/L.
 - 2. Sealant Primers for Nonporous Substrates: 250 g/L.
 - 3. Sealant Primers for Porous Substrates: 775 g/L.
 - 4. Specifier: Paragraph and related subparagraphs below apply.
- B. In using specified sealants, strictly observe the printed instructions of sealant manufacturer regarding joint size, limitations, backer rod, mixing, cleaning, surface preparation, priming and application. A primer shall be used, unless printed instructions advise to the contrary, and sealant manufacturer certifies that the use thereof will reduce its performance.
- C. Care shall be exercised to insure against "Three Surface Adhesion." Bond breakers, or polyethylene tape, shall be provided where necessary and, where recommended, by sealant manufacturer.
- D. Contractor shall provide certification from sealant manufacturer that the sealant manufacturer has reviewed all sealant details and finds same suitable for the purpose intended, compatible with and will not stain the surfaces with which they are in contact. Statement as to compatibility, adhesion sufficiency and non-staining shall be accompanied by actual test results on production substrates performed in accordance with applicable ASTM procedures.
- E. Provide non-staining sealants on porous joint substrates in conformance with ASTM C 1248 testing procedures.
- F. Sealants within the systems should be compatible and adhere to joint substrates. Provide sealant type recommended by sealant manufacturer for joint size and movement, to remain permanently elastic, non-shrinking, and non-migrating, conforming to AAMA 803.3.
- G. Provide joint sealants and accessory materials that are compatible with one another, and with adjacent materials, as demonstrated by sealant manufacturer in accordance with ASTM C 1087 testing procedures.

2.4 SILICONE JOINT SEALANTS

- A. Single-Component, Non-sag, Non-Staining, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, Use NT.
 - 1. Color: As selected by Architect from manufacturer's standard line of not less than 5 colors.

2.5 URETHANE JOINT SEALANTS

- A. Single-Component, Non-sag, Moisture-Curing Polyurethane Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, Use NT.
 - 1. Color: As selected by Architect from manufacturer's standard line of not less than 20 colors.
- B. Immersible, Single-Component, Pourable, Traffic-Grade, Moisture-Curing Polyurethane Joint Sealant: ASTM C 920, Type S, Grade P, Class 35, Use T and I.
 - 1. Color: As selected by Architect from manufacturer's standard line of not less than 5 colors.

2.6 JOINT-SEALANT BACKING

- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type B (closed-cell material with a surface skin), polyethylene, non-gassing (when surface skin punctured) and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
 - 1. Acceptable Products:
 - a. Sonneborn "Sonofoam Soft Backer Rod".
 - b. Dow Corning Corp. "Sof Rod".
 - c. No substitutions permitted.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.7 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
 - 1. Provide cleaner conditioner required for glass and glazed surfaces as recommended by sealant manufacturer.
- C. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.
- D. Materials shall be delivered to the job in sealed containers with manufacturer's original labels attached. Materials shall be used per manufacturer's printed instructions.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected. Beginning of installation means acceptance of all existing conditions making the Contractor responsible for correcting all unsatisfactory and defective work encountered at their expense.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Masonry.
 - c. Stone.
 - d. Similar porous joint substrate surfaces.
 - 3. Remove laitance and form-release agents from concrete.
 - 4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.
- B. Joint Priming: Prime joint substrates, where indicated or where recommended in writing by joint-sealant manufacturer, based on preconstruction joint sealant substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply. Surfaces and air temperature shall be greater than 40 degrees F and less than 85 degrees F.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Install free of air pockets, foreign embedded matter, ridges, and sags.
 - 2. Do not leave gaps between ends of sealant backings.
 - 3. Do not stretch, twist, puncture, or tear sealant backings.
 - 4. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Masking: Mask adjacent surfaces to prevent staining or damage.
- F. Joint Priming: Prime joint substrates when recommended by sealant manufacturer or when indicated by preconstruction testing or experience. Apply recommended primer using sealant manufacturer's recommended application techniques.
- G. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- H. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint per Figure 5A in ASTM C 1193, unless otherwise indicated.
- I. Cure sealant in compliance with manufacturer's instructions and recommendations.

3.4 FIELD QUALITY CONTROL

- A. Field-Adhesion Testing: Perform adhesion tests in accordance with manufacturer's instructions and with ASTM C 1193, Method A.

1. Perform 5 tests for the first 1000 feet of joint length for each kind of sealant and joint substrate, and one test for each 1000 feet of joint length thereafter or 1 test per each floor per building elevation, minimum.
 2. For sealant applied between dissimilar materials, test both sides of joint.
- B. Evaluation of Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants failing adhesion test, clean substrates, reapply sealants, and re-test. Test adjacent sealants to failed sealants.
- C. Submit report of field adhesion testing to Architect indicating tests, locations, dates, results, and remedial actions taken.
- D. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.

3.5 JOINT SEALANT SCHEDULE

- A. Exterior Movement Joints in Concrete or Masonry:
1. Joint Sealant: Single-Component, Non-sag, Moisture-Curing Polyurethane Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, Use NT.
- B. Exterior Movement Joints in Stone Masonry:
1. Joint Sealant: Immersible, Single-Component, Pourable, Traffic-Grade, Moisture-Curing Polyurethane Joint Sealant: ASTM C 920, Type S, Grade P, Class 35, Use T and I.
- C. Exterior Movement Joints Between Different Materials:
1. Joint Sealant: Single-Component, Non-sag, Moisture-Curing Polyurethane Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, Use NT.
- D. Exterior Movement Joints Within Storefront or Curtainwall Systems:
1. Single-Component, Non-sag, Non-Staining, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, Use NT.

3.6 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur. Remove masking material immediately following sealant application.

3.7 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealant so installations with repaired areas are indistinguishable from original work.

END OF SECTION 079200

SECTION 311201 - SITE PREPARATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

The general provisions of the Contract, including General and Supplementary Conditions and General Requirements (if any), apply to the work specified in Division 31, 32 and 33.

1.2 DESCRIPTION OF WORK

- A. The extent of site preparation is shown on the drawings.
- B. Site preparation work includes, but is not limited to, the following:
 - 1. Site investigation and underground utility identification
 - 2. Protection of existing trees, shrubs, and lawns to remain
 - 3. Topsoil stripping and stockpiling on site (See Section 329201)
 - 4. Site clearing and removals
 - 5. Temporary construction fences and gates
 - 6. Saw cutting
 - 7. Relocations/salvaged materials
 - 8. Clean up
- C. Provide materials, labor, equipment, and services required to accomplish related work in accordance with the drawings and specifications.

1.3 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 312201 - Site Earthwork
- B. Section 329201 – Sodded Lawns
- C. Section 334001 - Storm Drainage

1.4 SITE INVESTIGATION

- A. A site visit before bidding is recommended so the Contractor can inform and familiarize themselves of all site conditions, including but not limited to, site topsoil, sub-soil, subsurface and groundwater conditions affecting proposed work.
- B. Verify locations and protect utilities and structures, whether or not shown on the drawings. Existing utilities and structures shown on the drawings are for the Contractor's convenience and locations are not guaranteed.
- C. Verify survey information given on drawings. Walk the site with the Owner's Representative to discuss approximate locations of reputed utilities shown and not shown on the survey, prior to performing work. The Contractor shall provide and perform Ground Penetrating Radar (GPR) utility location prior to performing any excavation. Notify the Architect of any and all discrepancies prior to commencing any work. Commencement of any work will be construed as complete acceptance of survey information.
- D. Locate and protect from disturbance existing survey monuments, pins, markers, and benchmarks whether or not shown on drawings. When any disturbance or damage occurs, notify Architect in writing within 24 hours. Describe nature of disturbance or

damage and date first occurred. Provide copies to applicable government and municipal agencies. Pay costs for restoring monument to satisfaction of said agencies, at no additional expense to the Owner.

1.5 JOB CONDITIONS

- A. The terms "Architect" and "Landscape Architect" for Divisions 31, 32 and 33 work shall mean Appel Osborne Landscape Architecture, 102 West Division St., Suite 100, Syracuse, NY 13204, Tel. (315) 476-1022. or other representative(s) that SUNY Cortland may determine.
- B. Examine drawings and specifications for the entire project. Become familiar with the scope and sequencing of work required. Coordinate and cooperate with other Contractors and trades working in and adjacent to the project.
- C. Examine work prepared prior to this contract. Commencement of work will be construed as complete acceptance of all preparatory work by others.
- D. Obtain and pay for permits required by authorities. Perform the work in compliance with applicable standards, codes and requirements of governing authorities having jurisdiction.
- E. Safety is the sole responsibility of the Contractor.
- F. Burning on site and use of explosives are not permitted.
- G. Responsibility for existing utilities:
 - 1. Contact Dig Safely New York at least two (2) full working days, and not more than ten (10) working days, before digging begins or as required by latest state law. Locate by hand excavation and provide protection from damage to existing utilities to remain in the area. (Tel. 811)
 - 2. Existing utilities encountered within excavated areas shall be supported, blocked and/or braced in a manner approved by the owner of the utility. Leave supports in place to the extent required by the owner of the utility.
 - 3. Should uncharted or incorrectly charted utilities be encountered, notify the Architect immediately for directions as to procedure.
 - 4. Do not break utility connections without providing temporary services as acceptable to the Architect and the owner of the utility.
 - 5. Repair and pay for damages to existing utilities as directed by utility Owner at no additional cost to the Owner.
 - 6. Cap ends of utilities to be abandoned or removed in accordance with regulatory agencies and as directed by the Architect.
- H. Provide protections and conduct operations to prevent injury and damage to persons, work of other Contractors, existing items to remain, structures, pavements, lawns, and adjacent properties.
- I. Restore work damaged by this Contractor inside and outside the contract limits to the condition existing prior to the start of work, unless otherwise directed, to the satisfaction of the Architect at no additional cost to the Owner.

- J. Vehicular and pedestrian traffic control:
1. Maintain vehicular and pedestrian traffic during construction activities.
 2. Provide alternate routes and traffic control around closed and obstructed traffic ways as required by governing regulations or the Owner.
 3. Provide temporary fencing, flagpersons, barricades, warning signs, and warning lights or other measures to protect the public and cause the least interruption of work.
- K. Field Measurements: Take necessary field horizontal and vertical measurements required in order to perform the work and design intent shown on the drawings and outlined in the specifications. Assume complete responsibility for accuracy of such measurements and dimensions.
- L. Removal of spoils, dust control, debris, snow and clean up:
1. Control air pollution caused by dust and dirt; comply with governing regulations. Water to control dust when necessary and as directed by the Architect or Certified Erosion Control Specialist. Provide water sprinkling materials, equipment and labor to prevent the nuisance of dust to the surrounding areas.
 2. Legally dispose of removed and demolished items, including trash and debris, off the Owner's property, at a licensed disposal facility having adequate capacity to accept the project's waste.
 3. Burning of combustible materials on the site is not permitted.
 4. During the contract and at intervals as directed by the Architect, clear the site of extraneous materials, rubbish, construction waste, and debris. Leave the site in a clean, safe, neat, well-draining condition.
 5. Soil and Snow Removal: Sweep roads, access ways, paved areas, and parking areas where soil, mud and debris have dropped or tracked from construction and delivery vehicles on a daily basis and as directed by the Architect or Certified Erosion Control Specialist. Remove snow and ice from roads, access ways, paved areas and parking areas utilized for site construction purposes.
 6. Spoils: Remove from site and dispose when not required for fill or determined to be unsatisfactory soil material per Section 312201 - Site Earthwork.
- M. Construction Review - General: Site visits will be made by the Architect to observe construction conformance to drawings and specifications. The occasional site visits by the Architect shall not be construed as supervision of construction or make them responsible for the safety programs and precautions, including but not limited to: the safe access, visit, use, work travel, or occupancy of any person. Site visits shall not make the Architect responsible for means, methods, techniques, sequences or procedures of construction selected by the Construction Manager, Contractor or his Sub-contractors.
- N. Site Complexity: The existing site will be intensively developed. Because of the construction and resulting graphic complexity, it is impractical to show every detail. However, the general design intent is clearly shown and shall be applied to individual conditions not specifically shown as directed by the Architect and at no additional cost to the Owner.

- O. Asbestos, Toxic and Hazardous Materials: The Division 31, 32 and 33 site work contract does not include testing for, handling or removal of hazardous materials such as, but not limited to: asbestos, fuel, oil, PCB's, or other toxic or hazardous waste materials as identified by the EPA and/or NYSDEC. If any such materials are encountered during any part of the site work, the Contractor is responsible for identifying potential hazardous material and immediately notify all governing agencies having jurisdiction as required by law. Also, within one (1) hour of discovery notify the Architect, Landscape Architect, Consultants, and Owner. The Owner shall provide testing and removal by others, under separate contract. The Contractor shall recommence work under this contract when the Owner provides written certification that remediation is complete per governing agency. The Contractor shall not be penalized for any delays caused by the hazardous testing and removal, unless such hazardous material incident was a result of Contractor's operations. The Contractor shall indemnify and hold harmless the Architect, Landscape Architect, Consultants and Owner, agents, and employees from and against all claims, damages, losses and expenses, direct and indirect or consequential damages, including but not limited to fees and charges of attorneys and court and arbitration costs, arising out of or resulting from the performance of the work by the Architect, Landscape Architect, Consultants and Owner, or claims against the Architect, Landscape Architect, Consultants and Owner arising from the work of others, related to hazardous waste.

The above indemnification provision extends to claims against the Architect, Landscape Architect, Consultants and Owner which arise out of, are related to, or are based upon, the dispersal, discharge, escape, release or saturation of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, or pollutant in or into the atmosphere, or on, onto, upon, in or into the surface or subsurface soil, water or water courses, objects, or any tangible or intangible matter, whether sudden or not.

Should the hazardous material incident be the result of the Contractor's operations, the Contractor shall be responsible for all costs associated with the discovery and remediation of such hazardous material such as, but not limited to: testing, consultant fees, damage, loss, fees and charges of attorneys, court and arbitration costs, claims by other contractors, direct and indirect or consequential damages.

- P. Salvageable Items: Remove at any time after work starts. Storage or sale on site of salvageable and removed items is not permitted. Do not remove topsoil from site without written permission from the Owner.
- Q. SUBMITTALS/PROCEDURES: Submit Tests, Shop Drawings, Material Certificates (showing content/mechanical analysis) and Manufacturer's Product Data (MPD) to Architect for review a minimum of two (2) weeks prior to installation.
1. Provide a minimum of five (5) copies from material producer or laboratory, stamped as checked and approved by the Contractor before submittal to the Architect or as otherwise indicated in Division 1. (Note: Electronic submittal process may be acceptable when approved by the Owner and Architect.)
 2. Refer to individual specification sections for a list of required submittals.
 3. For each material certificate required, provide certification by an Architect approved independent testing laboratory which gives analysis results and states that the material complies with or is superior to the specified requirements.

1.6 SUBMITTALS: (See 1.5, above)

- A. Provide photographic documentation. Photographically document existing features which, may be affected by the construction, inside and outside the contract limit line. Existing features include, but are not limited to: structures, pavements, curbs, utilities, lawns and vegetation, especially individual trees which are over six (6") inches in diameter and noted to remain on the drawings. Also, particular attention shall be paid to the construction access, stockpile and haul road areas. Distribute a copy of the photographic documentation (digital format) to the Owner and Architect prior to the start of construction.
- B. Temporary Chain Link Fence and Gates Manufacturer's Product Data (MPD).

PART 2 - PRODUCTS

2.1 TEMPORARY CHAIN LINK FENCE AND GATES

- A. Shall be new or good quality 6'-0" height galvanized chain link fence and gates.
- B. Materials and layout shall be as detailed on the drawings and as directed by the Owner.

2.2 PLASTIC FENCE

- A. Shall be new or good quality used 4'-0" high heavy duty orange plastic fence NC450.
- B. Posts shall be new or good quality U-channel posts to hold plastic fence.

2.3 OTHER PROTECTIVE DEVICES

- A. Shall include, but not be limited to; wood planks, rubber mats, barriers, lights, barricades, coverings, traffic controls, steel plates, and other temporary protections.
- B. Contractor to provide all necessary protections required by Occupational Safety and Health Administration (OSHA).

PART 3 - EXECUTION

3.1 PROTECT EXISTING VEGETATION TO REMAIN

- A. Prior to commencing site preparation work, notify Architect, and meet on site to locate existing trees, lawns and vegetation which are to remain.
- B. Protect and keep existing vegetation to remain free from physical damage. Keep in a healthy, vigorous growing condition for the entire construction period as follows:
 - 1. Keep site disturbance and staging limits to a minimum. Obtain approval from Owner for material and equipment storage areas. Limit access points and routes to the project site. Coordinate site access with other trades and contractors on the work site.
 - 2. Groups of Trees and Vegetation: Place orange plastic construction fencing around drip line(s) of trees and plant beds as detailed or directed by the Architect. Do not store materials, run equipment, park vehicles, or otherwise disturb area within the drip line (full canopy of tree) or in plant beds.

3. Specimen and Individual Trees: Protect each as noted and detailed. Do not store materials, run equipment, park vehicles or otherwise disturb area within the drip line (full canopy of tree).
- C. Rejuvenate damaged vegetation by pruning watering, fertilizing, staking and other methods as directed by the Architect. Replace trees and other vegetation that cannot be restored to full growth with comparable size, quantity, quality and species as determined by the Architect.
- D. Repair lawns disturbed due to construction operations outside the grading limits, as specified and directed by the Architect. Provide screened topsoil, seed, and mulch over damaged lawn areas, access ways or where tire rutting occurred.

3.2 TOPSOIL STRIPPING AND STOCKPILING ON SITE

- A. Strip full depth of existing topsoil from areas to be regraded, paved, or otherwise built upon. When amount of available topsoil exceeds what is indicated in geo-tech/boring report, on site test pits, or Contractor assumed depth, continue to remove all topsoil and lower the paved or built element subgrade. Place additional satisfactory earth fill in uniform depths as indicated in the Site Earthwork Section 312201. Maintain finished grades as shown on the drawings. This work shall be done at no additional cost to the Owner.
- B. Minimum quantity of topsoil shall be as needed to provide five (5") inches settled depth on lawn areas. Verify quality and quantity. Supply imported topsoil when amount of available topsoil meeting above requirements is less than what is required for the proposed lawn areas. See Section 329201 for imported topsoil requirements.
- C. When amount of available topsoil meeting above requirements exceeds what is required for the proposed lawn areas, lower the lawn subgrade and place additional topsoil in a uniform depth as directed by the Architect. Maintain finish grades as shown on the drawings. This work shall be performed and supplied at no additional cost to the Owner.
- D. Topsoil shall be well drained, homogeneous texture soil of uniform grade, without the admixture of subsoil material. Topsoil shall be free of dense material, hardpan, and stone over three-quarters (3/4") inch in diameter, and other objectionable foreign material including, but not limited to, brick, concrete, asphalt, glass, nails, screws, toxins, hazardous wastes and chemicals (such as, but not limited to, atrazine and muriatic acid) that may be injurious to humans, animals and plant materials.
- E. Stockpile on site where shown on the drawings or as directed by the Owner. Provide all hauling as necessary. Do not mix topsoil stockpiles with other materials. Do not remove topsoil from site without written permission by the Owner. Stabilize and maintain all stockpiles as specified.

3.3 SITE CLEARING AND REMOVALS

- A. Items and materials noted to be removed shall become the property of the Contractor, unless otherwise noted. Obtain Owner's approval prior to removal off site or for relocation of salvaged material on site. Remove material off site and legally dispose of it. Backfill voids with imported granular backfill, placed in eight (8") inch layers compacted to 95% maximum density.
- B. Remove physical elements above and below grade as shown and which interfere with proposed construction. Physical elements include but are not limited to: trees, root systems, shrubs, vines, grass, vegetation, pavements, walks, curbs, gutters, foundations,

previous construction materials, glass, headwalls, flared end sections, catch basins, manholes, inlets, drywells, septic tanks, unused utilities, pipes, cisterns, walls, rocks, and other debris.

- C. Trees, shrubs and roots shall be completely removed and disposed of legally off site.
- D. Maintain existing utilities shown to remain and protect from damage during demolition and construction operations. Do not interrupt existing utilities; provide temporary services when required, as acceptable to the Architect.
- E. Research with Owner possible locations of existing subsurface utilities prior to excavating.

3.5 SAW CUTTING

- A. The Work consists of vertical saw cutting of the existing asphalt or concrete pavement structure to facilitate the removal of the asphalt or concrete bound material.
- B. The equipment shall be capable of producing a smooth vertical saw cut without causing damage to the adjacent pavements or related site features.
- C. The Contractor shall saw cut the asphalt/concrete pavement to a depth which will allow removal of the material without causing damage to the adjacent pavement. Rough, jagged or cracked edges will not be acceptable. Concrete pavement shall be removed at the nearest contraction joint.

3.6 RELOCATIONS

- A. Any item noted to be relocated shall be removed by the Contractor from its existing position without damaging it, stored, protected from theft, fire, vandalism and damage for the project duration. Reset in the location(s) and in the manner detailed, noted on the drawings or specified.
- B. Backfill voids with imported granular fill material, placed in eight (8") inch layers compacted to 95% maximum density when located in proposed pavement areas or 90% maximum density when located in proposed non-paved areas.
- C. Salvaged items shall be returned to the Owner as noted on the drawings. Move items to Owner designated areas.

3.7 CLEAN UP

During the contract and at intervals as directed by the Architect and as site preparation is completed, clear the site of extraneous materials, rubbish, and debris. Leave the site in a clean, safe, well draining, neat condition.

END OF SECTION 311201

SECTION 312201 - SITE EARTHWORK

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The extent of site earthwork and site grading is shown on the drawings.
- B. Site earthwork includes, but is not limited to, the following:
 - 1. Fill Materials
 - 2. Source Quality Control
 - 3. Shoring, Bracing and Supporting
 - 4. Horizontal and Vertical Layout
 - 5. Grading and Excavation
 - 6. Compacted Backfill and Fill
 - 7. Field Quality Control Testing and Inspection Services
 - 8. Guarantee
 - 9. Clean Up
- C. Provide materials, labor, equipment, and services required to accomplish related work in accordance with the drawings and specifications.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 311201 - Site Preparation
- B. Section 312501 - Erosion, Sediment and Pollution Control
- C. Section 334001 - Storm Drainage

1.3 DEFINITIONS

- A. Structure: Buildings, foundations, slabs, tanks, curbs, or other manmade stationary features.
- B. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase.
- C. Borrow: On or Off-site material used as a fill material. Any borrow material must meet the requirements for the specific fill material for which it is to be used.
- D. Fill Material: Material used to bring a subgrade elevation up to the required elevation.
- E. Structural Fill: Fill material placed in a controlled manner to be used below subbase material and to backfill foundation excavations.
- F. Subbase: A layer of well-compacting run-of-crusher stone material used below slabs and pavements.
- G. Drainage Fill: Well-draining crushed stone material used to facilitate drainage around or under a foundation structure.
- H. #2 Crushed Stone: Well-draining material to be placed below a foundation to create a working surface.

1.4 REFERENCES

- A. AASHTO T 180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54 kg (10-lb) Rammer and a 457 mm (18 in.) Drop; American Association of State Highway and Transportation Officials
- B. ASTM C 136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
- C. ASTM D 75 - Practice for Sampling Aggregates
- D. ASTM D 422 - Particle-Size Analysis of Soils (without Hydrometer Analysis)
- E. ASTM D 698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³)
- F. ASTM D 1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³)
- G. ASTM D 2434 - Standard Test Method for Permeability of Granular Soils (Constant Head)
- H. ASTM D 2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
- I. ASTM D 2922 - Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
- J. ASTM D 3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
- K. ASTM D 6938 - In Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods
- L. ASTM D 4318 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
- M. ASTM D 5084 - Standard Test Method for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter.
- N. Occupational Health and Safety Administration Regulations and Standards

1.5 SUBMITTALS (See Section 311201, 1.5)

- A. Furnish name of New York State licensed Land Surveyor to be employed and perform project layout. Obtain Architect's approval prior to performing work.
- B. Submit written report on NYS licensed Land Surveyor's letterhead verifying that professional's involvement with the project layout. The report shall briefly state the scope of services performed for the project, the dates work was accomplished, and an explanation of any adjustments required, specifically listing as-built and FIELD VERIFY requirements as noted in 3.2 of this specification section.
- C. Provide Earthwork Contractor's experience requirements as indicated in 1.5, "Quality Assurance". Obtain Architect's approval prior to performing work.

- D. Samples: 10 lb. samples of each type of fill; submit in airtight containers to testing laboratory.
- E. Materials Sources: Submit name of imported materials source for each type of fill material.
- F. Fill Composition Test Reports (Imported and Onsite): Provide results of laboratory tests (less than 2 months old) on proposed and actual materials used to determine acceptability. This shall include:
 - 1. One optimum moisture-maximum density curve (Modified Proctor) for each soil/imported fill type as determined by ASTM D1557, Method A, latest issue.
 - 2. Sieve Analysis - ASTM D422
 - 3. Moisture Density Relationship - ASTM D1557, Method C / ASTM D698
 - 4. Plasticity Index - ASTM D4318
 - 5. Soundness Test - ASTM C88
 - 6. Soil Classification - AASHTO and ASTM D2487
- G. Compaction Density Test Report(s) required in Field Quality Control of this specification.
- H. Contractor's NYS Licensed Professional Engineer's layout and design calculations of sheet piling and shoring required.

1.6 QUALITY ASSURANCE

- A. Perform all site earthwork, site grading and excavation in compliance with requirements of governing authorities having jurisdiction, OSHA Standards, and "References" in this project specification.
- B. The Owner will employ a licensed soil testing and inspection service for Field Quality Control Testing of materials. This Contractor will coordinate day to day scheduling with the Owner's testing agency for conformance with "Field Quality Control Testing and Inspection Services" in this project specification.
- C. Earthwork Contractor Experience Requirements: Submit business name, business Owner(s) name(s), business address, telephone number, website and/or email address signed by the Contractor/Subcontractor who meets the qualifications set forth in this specification and is proposed by the Contractor to perform the Earthwork for this Project. Provide a list of at least four (4) Earthwork projects of comparable size, scope and quality completed successfully by the proposed Contractor/Subcontractor within the past three (3) years that includes the date completed, project Owner's name and current contact information, including telephone numbers and email addresses.
- D. Layout Foreman Experience: The Earthwork Contractor must provide a competent layout foreman skilled in this specific type of layout/earthwork project. The layout/earthwork foreman shall have a minimum of four (4) similar projects completed within the last three (3) years. Provide a list of projects layout/earthwork foremen has completed including project name, address, Owner contact information and project scope of work.

1.7 JOB CONDITIONS

- A. Job conditions in Section 311201 apply.
- B. Provide sufficient quantities of fill materials to meet project schedule and requirements. When necessary, store materials on site in advance of need.

- C. When fill materials need to be stored on site, locate stockpiles where directed by Owner.
 - 1. Separate differing materials with dividers or stockpile separately to prevent intermixing.
 - 2. Prevent contamination of material types.
 - 3. Protect all stockpiles from erosion and deterioration of materials by covering with plastic sheets, tarps or as directed by the Architect.
- D. Moisten or dry, fill or backfill materials, to the proper moisture content as determined in accordance with ASTM D1557, Method C in order to obtain proper compaction as indicated.

1.8 SUB-SURFACE SOIL INFORMATION

- A. Geo-technical Report/Data has not been provided by the Owner. Test borings and other exploratory operations may be made by the Contractor at no additional cost to the Owner, provided such operations are acceptable to the Architect and Owner. Coordinate test locations with Owner prior to starting work. Backfill immediately when completed and repair to satisfactory conditions as determined by the Architect. It is expressly understood that the Owner, Architect, Landscape Architect, and Consulting Engineers are not responsible for interpretations or conclusions drawn therefrom by the Contractor.

1.9 UNUSUAL SUBSURFACE CONDITIONS

- A. Notify the Architect immediately in writing via email when unusual conditions are encountered during excavation, including, but not limited to: excessive flooding, miscellaneous structures, uncharted or unlocated utilities, foundations, bed rock, toxic and hazardous materials and chemicals (such as muriatic acid and atrizene), suspected archaeological artifacts, and unsatisfactory soil materials. Request clarification from the Owner's Representative or Architect before proceeding. Refer to paragraph 3.4 of this specification.

PART 2 -PRODUCTS

2.1 FILL MATERIALS

- A. **Satisfactory General Earth Fill:**
 - 1. To be used at least 5'-0" outside of structural elements.
 - 2. Satisfactory general earth fill shall be satisfactory on-site subsoil, or hauled in off-site subsoil free of toxics, hazardous wastes and chemicals (such as, but not limited to, atrizene and muriatic acid) that may be injurious to humans, animals and plant materials. Satisfactory earth fill shall also be free of rubbish, debris, wood, masonry, metal, frost, vegetation, organics or other deleterious material, which cannot be properly compacted. Use satisfactory general earth fill that is dry and free of clay. Rocks, gravel or soil shall not be larger than 3" in any dimension/direction.
 - 3. Satisfactory earth fill materials are also defined as those complying with the American Association of State Highway Transportation Officials (AASHTO), M-145 soil classification Groups A-1, A-2-4, A-2-5, A-3 and Unified Soil Classification System GW, GP, GM, GC, SW, SP, SM, and SC (or a combination of these group symbols) as determined by ASTM D2487.

B. Imported Granular Backfill / Subbase:

1. Imported granular backfill / Subbase to be used for asphalt pavement subbase, concrete subbase, storm structures, storm pipes, water pipes, sanitary manholes, sanitary pipes, other structures, and where indicated on the drawings.
2. Backfill shall be run of crusher limestone meeting the following gradation as determined by ASTM-C136:

<u>Standard Sieve Sizes</u>	<u>Percent Passing By Weight</u>
2" or 50 mm	100%
3/4" or 19 mm	75 - 90%
1/4" or 6.3 mm	25 - 60%
#40 or 0.425 mm	5 - 40%
#200 or 0.075 mm	0 - 8%

3. Backfill shall be free of debris and deleterious materials. In no case shall the plasticity index exceed 5.0 or the percentage passing the 200 mesh sieve exceed 8%. The quality of the imported granular backfill shall be determined by the magnesium sulfate soundness test, if considered suspect by the Architect or Geotechnical Engineer. The maximum percent loss at four cycles by weight shall be 20.

C. Imported Structural Fill:

1. Imported structural fill to be used in areas of structural elements, for top eight (8") inches of design subgrade elevation where noted on the drawings.
2. Shall be run-of-bank or run-of-crusher gravel free from organic matter or other deleterious materials, meeting the material gradation requirements of Item 304.05 Sub-base Course, Type 4, of the NYS DOT's Standard Specifications for Construction Materials, as determined by ASTM C136.

<u>Standard Sieve Sizes</u>	<u>Percent Passing By Weight</u>
2" or 50 mm	100%
1/4" or 6.3 mm	25 - 60%
#40 or 0.425 mm	5 - 40%
#200 or 0.075 mm	0 - 8%

3. Imported structural fill shall be accepted on the basis of gradation, soundness, plasticity index and a well-defined Moisture-Density Relationship Curve. Imported structural fill to be placed within 8" of final exterior subgrade shall be subject to Soundness requirements. Soundness shall be less than 30% loss based on a four-cycle magnesium sulfate soundness test. Plasticity Index of that portion of fill material passing the No. 40 mesh sieve shall not exceed 5.0.

D. Stormwater Management Trench (SMT) Backfill / Drainage Fill:

1. Shall be No. 1 clean, washed, crushed stone or crushed gravel meeting the following gradation as determined by ASTM C136:

<u>Standard Sieve Size</u>	<u>Percent Passing By Weight</u>
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1" or 25.0 mm	100%
1/2" or 12.5 mm	90-100%
1/4" or 6.3 mm	0-15%

E. #2 Crushed Stone:

1. Shall be No. 2 clean, washed, crushed stone or crushed gravel meeting the following gradation as determined by ASTM C136:

<u>Standard Sieve Size</u>	<u>Percent Passing By Weight</u>
1-1/2" or 38.0 mm	100%
1" or 25.0 mm	90-100%
1/2" or 12.5 mm	0-15%

2.2 UNSATISFACTORY SOIL MATERIALS

- A. Shall be defined as soil with high percentage of decomposed rock, sand, organic matter or moisture laden clay to prevent adequate compaction. Also, soil with toxics, hazardous wastes and chemicals (such as atrazine and muriatic acid) that may be injurious to humans, animals and plant materials. Also, soil with significant quantities of rubbish, debris, wood, masonry, metal, frost or other deleterious material which, in the opinion of the Geotechnical Engineer, Owner's Representative, and Architect, cannot be properly compacted shall be classified as unsatisfactory.
- B. Unsatisfactory soil materials are defined as those described in AASHTO M-145, soil classification, Groups A-2-6, A-2-7, A-4, A-5, A-6, and A-7 with CBR value less than 7.0. Also Unified Soil Classification System ML, CL, OL, MH, CH, OH as determined by ASTM D2487 (or a combination of these group symbols) with CBR value less than 7.0 in addition to peat (PT) and other highly organic soils, cobbles, boulders; and soil materials, of any classifications that have a moisture content at the time of compaction beyond the range of 1% below and 3% above the optimum moisture content of the soil material/backfill material, as determined by the Moisture Density Relationship test.
- C. When unsatisfactory soil materials are encountered at proposed subgrades and other design elevations, proceed as described in Part 3 (Execution) of this Section.
- D. When excavated materials become unsatisfactory as a direct result of the Contractor's work, this shall result in the rejection of the unsatisfactory soil materials by the Architect.
- E. The use of slag (a byproduct of metal processing) or recycled/crushed concrete is unacceptable for any use on this project site.

2.3 SOURCE QUALITY CONTROL

- A. See "Submittals" and "Quality Assurance" of this specification section for general requirements for testing and analysis of soil and fill materials.
- B. Where fill materials are specified by reference to a specific standard, Contractor is responsible to test and analyze all samples for compliance before delivery to site.
- C. If tests indicate materials do not meet specified requirements, change material and retest until approved.

2.4 SHORING, BRACING AND SUPPORTING

- A. Shoring and bracing shall conform to the requirements of the Occupational Health and Safety Act.
- B. Shoring and bracing shall be provided, placed and maintained at the locations and elevation that are necessary or required to: support and protect the sides and bottom of the excavation; prevent undue disturbance or weakening of the supporting materials below or beside the works; prevent movement of ground which may disturb or damage the work, adjacent pavements, property, structures or other works.
- C. Provide materials for shoring, bracing, and supporting, such as sheet piling, uprights, sheathing, stringers, and cross-braces, in good serviceable condition. Use timbers that are sound and free of large or loose knots.
- D. Provide design by Contractor's NYS Licensed Engineer, when shoring is required to perform work as shown on the drawings. Submit to Architect for approval.
- E. Installation: Shoring and bracing shall be driven and placed so that it can be removed as backfilling takes place without damage to the pipeline or its appurtenances, structures, and without settlement of or damage to adjacent pavements and structures.
- F. Removal: The Contractor shall remove all shoring and bracing as the excavation is backfilled, unless directed by the Architect to be left in place. The procedure for extracting shoring and bracing and placing backfill shall ensure the backfill load is applied gradually, and disturbance of the works or foundation material is avoided.
- G. Support all utilities as required by the municipality/utility owner.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify field conditions such as bench marks, monuments, topography, inverts, locations of utilities and property lines before proceeding. Notify the Architect immediately, in writing, of discrepancies prior to commencing work. Commencement of work will be construed as complete acceptance of survey and layout information. Additional costs resulting from failure to verify field conditions prior to commencing work shall be borne by this Contractor and at no additional cost to the Owner.

3.2 PROTECTION

- A. Provide planking at walks, pavements and curbs to be crossed by equipment and erect barricades at open excavations.
- B. Protect and maintain utility services and adjacent pavement and property. Inform the Owner and utility company immediately of any damage. Correct damage at the expense of the Contractor.
- C. Maintain open and unobstructed traffic on adjacent vehicular and pedestrian ways, except as provided by written approval of Owner.
- D. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations.

- E. Protect and maintain erosion and sedimentation controls during earth-moving operations.
- F. Cold Weather Protection: Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degrees F.

3.3 LAYOUT

- A. Stake layout up to and including those elevations and dimensions specifically noted on drawings as "FIELD VERIFY" (FV). Ensure that the field elevation and dimension agrees with the elevation and dimension on the drawings before continuing. Notify the Architect immediately, in writing, of any discrepancies prior to commencing work. Additional costs resulting from failure to verify dimensions as noted on drawings shall be borne by this Contractor and at no additional cost to the Owner.
 - 1. Assume sole responsibility for the accuracy of the layout work.
 - 2. Run from point(s) of beginning (POB), base lines, property monuments, benchmarks, iron survey pins, or other points given on the drawings.
 - 3. Roads, Parking Areas, and Walks: Accurately locate and stake curb lines, center line, swales, point of curve and tangency as necessary to accurately build.
 - 4. Buildings and Site Features: Accurately locate and stake corners, offset corners, slopes, and center lines as necessary to accurately build.
 - 5. Pipe Work: Accurately locate with laser.

3.4 GRADING

- A. Cut and Fill: Presume the earthwork does **NOT** balance on site. Meet the grades shown on the drawings. Haul in or haul away as may be necessary. Provide earthwork calculations and provide for imported or exported material as part of bid. No additional costs will be allowed.
- B. Grade areas as indicated, including transition areas, with uniform levels and slopes between finish elevations.
- C. Cut to grades and profiles indicated.
- D. Set grade stakes at fifty-foot (50') intervals, at corners, and breaks in grade.
- E. Conduct operations to avoid ponding of water. Provide all pumping equipment, sump pits, and temporary diversion swales where and when necessary to continue work performance on schedule and as specified.
- F. Shape subgrade surface of site elements to within 0.10' above or below required subgrade elevation, compacted as required and sloped to provide drainage as shown on the drawings. Notify Architect and Geo-Technical Engineer for subgrade review prior to continuing work.
- G. Refer to Section 311201 for topsoil requirements.

3.5 EXCAVATION

- A. Remove and legally dispose of material encountered to obtain required subgrade elevations, including pavement, obstructions visible on ground surface, underground structures and utilities indicated to be removed.
- B. Sloping and Benching: Follow OSHA recommendations based on soil type to determine slope configurations. Slope the sides of excavations five (5') feet deep and over to the

angle of repose of the material excavated; otherwise, shore, and brace where sloping is not possible either because of space restrictions or stability of material excavated.

- C. Bracing and Shoring:
1. Provide bracing and shoring as required in excavations, to maintain sides and to protect structures from settlement.
 2. Maintain shoring and bracing in excavations regardless of the time period excavations will be open. Carry down shoring and bracing as the excavation progresses.
 3. Remove shoring and bracing before completion of backfilling except where required for structural support or slope stability.
 4. The design, installation, and maintenance of such shoring and bracing required to accomplish the above purpose are the sole responsibility of the Contractor.
 5. Follow OSHA recommendations for bracing and shoring.
 6. Indemnify the Owner, the Landscape Architect, Architect, and the Consulting Engineers against any action arising from damage to existing structures, utilities or injury to persons resulting from the Contractor's actions or failure to act, in carrying out the intent of this section.
- D. Protections: Protect structures, vegetation, utilities, sidewalks, pavements, and other facilities in areas of work. Barricade and secure open excavations and provide warning lights/signage from dusk to dawn each day.
- E. Extent of Excavations: Excavate for structures to elevations and dimensions shown, extending excavation a sufficient distance to permit placing and removal of other work and for review. Trim bottom to required lines and grades to provide solid base to receive concrete or imported granular backfill material.
- F. Unsatisfactory Soil Materials: When unsatisfactory soil materials, as defined in this specification, are encountered at design elevations, immediately notify the Architect in writing by email or other equally expeditious means. Continue as directed by the Architect and Geo-Technical Engineer. When, in the sole opinion of the Architect, conditions are not a result of Contractor's negligence, additional excavation may be directed by the Architect and paid for as a Change Order on a unit price or negotiated price basis in accordance with Contract Documents. This additional excavation shall be measured each day and verified by the Owner's representative and the Contractor's Superintendent. A daily written accounting, attested by both parties, shall be maintained with copies daily to the Architect. No claim for extra compensation will be considered except through the procedure outlined above. Assume **50 cy** of undercutting and removals, placement of soil stabilization fabric (SSF) and providing and compacting to 95% density imported granular backfill material in Base Bid. Unit price provided shall be utilized to add to or delete from this assumed quantity to account for actual quantity encountered.
- G. Unauthorized and Over Excavation: Consists of removal of materials beyond required subgrade elevations or dimensions without specific direction of the Architect or Geotechnical Engineer. Unauthorized or over excavation, as well as remedial work directed by the Architect or Geotechnical Engineer, shall be at Contractor's expense. Fill of unauthorized excavations shall be as follows (all at no additional cost to the Owner):
1. Fill the voids created by the removal of materials beyond indicated subgrade elevations with lean concrete (2000 psi). Or;
 2. Extending the indicated bottom elevation of the concrete footing to the lower elevation. Or;

3. Adding imported granular backfill material compacted to 95% density to proper design elevation and layout as directed by the Architect. Testing agency to perform compaction testing prior to proceeding.
- H. Dewatering:
1. Contractor shall anticipate seasonal variations of soil moisture content and groundwater in the Base Bid as verified by site investigation indicated in Section 311201.
 2. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
 - a. Surface and ground water shall be intercepted and removed before entering excavations. All necessary measures shall be taken. Earth dikes, ditches, or other devices, if required, shall be constructed to prevent such flows.
 3. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
 - a. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
 - b. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations.
 - c. Provide and maintain pumps, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.
 4. The Contractor shall at all times provide and maintain proper and satisfactory means and devices (i.e. ditches, temporary pipes, pumps, and/or other temporary construction) for the removal of all water entering the excavations. Water shall be removed as fast as it may collect, in such manner that shall not interfere with the execution of the work or in the proper placing of pipe, structures or other work.
 5. Provide and operate sufficient pumping machinery to keep excavated parts free of water. Dig sump pits when necessary into which the excavation shall be drained. Take care and proper precautions in the use of pumps so that in no case will foundations, footings and utilities already in place or existing foundations, footings of adjacent structures or utilities be undermined or disturbed, and erosion occur due to pumping.
 6. Do not discharge pumped materials into any body of water, wetland, adjacent property, roadside swales, subsurface storm systems, or any infiltration practices as determined by the Architect. Provide temporary sediment basins, traps, and filter bags for pumped water.
 7. Adjust, repair, replace, or clean all work, surfaces, and property, which may have been affected as a result of any dewatering operation.
- I. Prepare subgrade and twelve (12") inches of existing sub-soils below subgrade elevations in excavated areas to minimum density of 95% in structure, pavement, utility areas, trenches, and 90% under lawn non-paved areas.
- J. Rock and Rock Excavation:

1. **Rock Definition:** Shall be defined as solid hard material located in ledges, bedded aggregate deposits and unstratified masses, and all-natural conglomerate deposits so firmly cemented as to present all the characteristics of solid rock, which must be removed by pneumatic hammers. Rock does not include shale, slate, soft sandstone, hardpan, masonry or concrete rubble, boulders less than three (3) cubic yards, such other rock material which is decomposed, stratified, weathered or shattered, or any material capable of being removed by a well maintained Caterpillar 225 power shovel, D8 Dozer with Ripper, or Architect approved equivalent.
2. **Rock Excavation Administrative Procedures:** When encountered, shall be stockpiled for measurement before removal and paid for on a unit price basis in accordance with Contract Documents. Notify Architect immediately of rock discovery prior to performing any rock removal or continued excavation. Rock excavations as defined shall be measured each day and verified by the Owner's designated representative and the Contractor's on-site Superintendent. A daily written accounting, attested to by both parties, shall be maintained with copies daily to the Architect. No claim for extra compensation will be considered except through the procedure outlined above. Contractor to assume **10 c.y.** of rock excavation and removal in Base Bid. Unit price provided shall be utilized to add to or deduct from this assumed quantity to account for actual quantity encountered.
3. **Rock Excavation Removal Procedures:** Includes removal and disposal of rock. Remove rock to lines and grades indicated to permit installation of permanent construction without exceeding the following dimensions.
 - a. 24 inches outside of concrete forms other than at footings.
 - b. 12 inches outside of concrete forms at footings.
 - c. 6 inches outside of minimum required dimensions of concrete cast against grade.
 - d. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
 - e. 8 inches beneath bottom of concrete slabs-on-grade.
 - f. 6 inches beneath pipe in trenches, and the greater of 24 inches wider than pipe or 42 inches wide.
4. Any over excavation due to rock excavation and removal shall be handled as directed under "Over Excavation" in this Section.
5. Contractor has the option to remove existing rock and dispose off-site or crush existing rock and use as satisfactory general earth fill when it meets gradation noted in 312201 for imported granular backfill material.

3.6 BACKFILL AND FILL

- A. **Preparation of Ground Surface to Receive Fill:** Remove vegetation, organic materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Break up and remove existing foundations, concrete slabs, abandoned utilities, and site features. Plow, strip, roughen, or break up slopes steeper than 1 vertical to 4 horizontal so that fill material will bond to existing surface.
- B. Execute these steps when the existing ground surface, after removal of the above unsatisfactory soil materials, has a density less than that specified under "Compaction" for the particular area classification: Break up the ground surface, pulverize, moisture-condition to the optimum moisture content, and compact to the required depth and percentage of maximum density.

- C. In no case shall fill be placed on a subgrade that is wet, muddy, rutted, spongy, frozen or that contains frost or that has not been tested and approved to achieve satisfactory results.
- D. Areas to receive any fill or backfill should be properly prepared, proof rolled, tested per "Field Quality Control" within this specification, inspected and approved by the Architect and Geo-Technical Engineer prior to the placement of fill.
- E. Following grade approval by the Architect and Geo-Technical Engineer, place imported granular backfill, imported structural fill and satisfactory general earth fill material in layers not more than eight (8") inches in loose depth in a manner to minimize segregation. The fill shall be placed in nearly horizontal lifts commencing at the lowest fill area elevation and proceeding with each lift upward and outward from the lower lift.
- F. Moisture Content: Contractor shall anticipate seasonal variations of all soils (on site or imported) and imported fills moisture content in the Base Bid and timing required for such shall be included in the project schedule. The moisture content of the materials shall be adjusted prior to application of compaction such that it is no more than 1% below or 3% above the optimum moisture content of the material. Apply water to surface, subgrade or layers of soil material when required to achieve compaction densities stated below. Remove and replace, or scarify and air dry, soils or imported materials that is too wet to permit compaction to specified density.
- G. Compaction:
 - 1. Compact each eight (8") inch layer of fill and backfill materials.
 - 2. Compact fill and backfill material below subgrade for structures, slabs, pavements, and utilities to minimum 95% of optimum in place density as determined by ASTM D1557, Modified Proctor.
 - 3. Compact fill material below subgrade for lawns or unpaved areas to minimum 90% of optimum in place density as determined by ASTM D1557, Modified Proctor.
- H. Equipment:
 - 1. Use sheepsfoot rollers, pneumatic tired rollers, drum rollers, vibrating tampers, and other compaction equipment capable of obtaining the required density throughout the entire layer being compacted.
 - 2. Use power-driven hand tampers for compacting materials adjacent to site structures.
 - 3. For utility trenches or other confined areas, small compaction equipment may be necessary such as a vibratory plate, jumping jack or walk-behind vibratory roller. In these cases, lift heights no greater than four (4") inches should be maintained.
- I. Reconditioning Compacted Areas: Where previously completed compacted areas are disturbed by subsequent construction operations (by any Contractor), traffic or adverse weather, scarify and dry out the surface, regrade, and recompact to the required density prior to further construction at no additional cost to the Owner. Use hand tamping for recompaction over underground utilities and trenches.

3.7 FIELD QUALITY CONTROL TESTING AND INSPECTION SERVICES

- A. Soil Testing Service/Geo-Technical Engineer must inspect and approve density tests, retesting, and proof rolling of subgrades, as described in this section, before further construction work is performed thereon.

- B. Perform compaction density testing on compacted fill and imported granular base course in accordance with ASTM D1556, ASTM D1557, ASTM D2922, and D3017.
- C. In place density testing should be performed at a frequency of one (1) test per 500 square feet per lift in smaller open areas, one (1) test per 2,500 square feet per lift in larger open areas, and one (1) test per 25 feet per lift in confined areas and utility trenches.
- D. When the test results indicate that insufficient compaction has been obtained in any layer, the Contractor shall take action to modify or alter the moisture content in the soil, to provide additional compaction and testing or otherwise to increase the in-place soil density. If the Contractor cannot obtain satisfactory compaction due to material properties, the Contractor shall remove the unsatisfactory material and replace with new material at no additional cost to the Owner.
- E. Materials contaminated by mud, debris, organics, frost, and/or other deleterious materials shall be removed and replaced with uncontaminated specified material.
- F. No fill or backfill shall be placed over an area or lift of fill that has not be tested and achieved satisfactory results.
- G. Proof Rolling: On pavement subgrades, in cut areas only, unless otherwise directed by the Architect, the only testing required will be the proof rolling as described below:
 - 1. Provide Soil Testing Service/Geo-Technical Engineer with 48-hour advance notification when subgrades are ready to proof roll.
 - 2. Proof Roll the prepared pavement subgrade surface with fully loaded ten (10 c.y.) cubic yard earth moving truck or, in the opinion of the Architect/Geo-Technical Engineer, using a 5-ton smooth drum roller making at least 3 overlapping passes, in each of 2 perpendicular directions, on static mode at a speed of 1 to 4 feet/second. Check for unstable areas. Subgrades that rut, pump or deflect under the truck's tires may be judged unstable by the Architect/Geo-Technical Engineer. These areas may require further compaction or undercutting as directed by the Soil Testing Service/Geo-Technical Engineer.

3.8 GUARANTEE

- A. Guarantee concrete slabs, pavements, curbs, trenches, utilities, structures, lawns, and plant materials free from settlement for a period of one (1) year from the date given on the certificate of substantial completion or final punch list when satisfactorily completed and accepted by the Architect, whichever is later.
- B. Repair to proper grade and alignment any and all settlement of concrete slabs, pavements, curbs, trenches, utilities, structures, lawns and plant materials adversely affected by settlement within one (1) year after date given on the certificate of substantial completion or final punch list when satisfactorily completed and accepted by the Architect, whichever is later, at no additional expense to the Owner. In damaged compacted areas, scarify the surface, re-shape, and compact to required density prior to further construction.
- C. All repairs/corrections shall be completed to the satisfaction of the Owner within seven (7) days of written notice by the Owner.

3.9 CLEAN UP

During the contract and at intervals as directed by the Architect and as earthwork is completed, clear the site of surplus earth, large surface stones, debris, tools and equipment. Leave the site in a clean, safe, well draining, and neat condition.

END OF SECTION 312201

SECTION 312501 - EROSION, SEDIMENT AND POLLUTION CONTROL

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Provide erosion, sediment and pollution controls as shown on the drawings and as directed by the Architect to significantly reduce runoff on downstream and neighboring properties. This includes temporary control measures to mitigate land disruption by other Contractors during construction of this project.
- B. Erosion, sediment, and pollution control includes, but is not limited to, the following:
 - 1. Storm structure protection
 - 2. Temporary mulching
 - 3. Permanent sodding
 - 4. Temporary sediment filter bag for pumped water
 - 5. Construction site dust control
 - 6. Spill prevention, reporting and documentation
 - 7. Clean up
- C. Provide materials, labor, equipment, and services required to accomplish related work in accordance with the drawings and specifications.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 311201 - Site Preparation
- B. Section 312201 - Site Earthwork
- C. Section 329201 –Sodded Lawns
- D. Section 334001 - Storm Drainage

1.3 REFERENCES

- A. Spill Guidelines Manual (SGM) New York State Dept. of Environmental Conservation.
- B. New York State Standards and Specifications for Erosion and Sediment Control, dated July 2016 or latest edition.

1.4 SUBMITTALS: (See Section 311201, 1.5)

- A. Manufacturer's Data (MPD) are required for:
 - 1. Storm Structure Protection
 - 2. Sediment Filter Bag
 - 3. Spill Response Equipment
- B. Material Certificates (MC) showing content/mechanical analysis and Samples are required for:
 - 1. Temporary Mulching: Submit seed mix species and mulch source
 - 2. Permanent Sodding: (See Section 329201)

- C. Per NYSDEC SPDES Regulations, all onsite contractors performing earth disturbing activities need to have current NYSDEC endorsed 4-hour erosion and sediment (E&SC) training.

1.5 QUALITY ASSURANCE

- A. Perform erosion, sediment and pollution control in compliance with applicable requirements of the New York Standards and Specifications Erosion and Sediment Control Manual, dated July 2016 (or latest edition) or other governing authorities having jurisdiction.
- B. In the event of a chemical or hazardous spill or release, the individual(s) who caused the spill is responsible for prompt and proper clean-up. If the spill requires cleanup procedures beyond the means of the Contractor, an emergency spill cleanup Subcontractor shall be hired by the Contractor. They shall be utilized when the Contractor does not have the appropriate training, equipment or materials to cleanup the area safely and effectively. This shall be done at no additional cost to the Owner. Any testing and cleanup required post cleanup shall be provided by the Contractor at no additional cost to the Owner.

1.6 JOB CONDITIONS

- A. Job conditions in Sections 311201, 312201, 329201 and 334001 apply.
- B. Contractor will take all necessary precautions to avoid allowing dust generation that violates NYSDEC regulations and compromises compliance with governing authorities air monitoring plan.

1.7 SPILL PREVENTION, REPORTING AND DOCUMENTATION

- A. To minimize the potential for discharge to the environment of oils, petroleum, or other hazardous substances, the following requirements shall apply:
 - 1. All oil, petroleum, or hazardous materials stored or temporarily relocated on site during the construction process shall be stored in a way to provide protection from vehicular damage and to provide containment of leaks or spills. Temporary berms, dikes, storage basins, or similar methods shall be employed as appropriate on site.
 - 2. Refer to Storm Water Pollution Prevention Plan Notes for additional spill prevention good housekeeping practices.
 - 3. Maintain file of Material Safety Data Sheets (MSDSs) or other references for recommended spill clean-up methods and materials.
 - 4. Keep spill response equipment readily accessible.
- B. In the event of a spill contact the Construction Manager, Owner (Operator), and Architect. The Contractor shall also notify all other Contractors working around the area of the spill.

- C. If spilled material has entered any sanitary/storm sewer system then contact the municipality or agency with jurisdiction over the system, in addition to those listed in this section.
- D. The contractor shall be responsible for the initiation of spill reporting and documentation procedures. All petroleum spills must be reported to NYSDEC Spill Hotline at 1-800-457-7362, less than two (2) hours following discovery. All petroleum spills must be reported to NYSDEC unless all of the following apply:

Criteria	Description
Quantity	Must be known to be less than 5 gallons.
Containment	Must be contained on an impervious surface or within an impervious structure. No access to the environment.
Control	Must be under control and not reach a drain or leave the impervious surface.
Cleanup	Must be cleaned-up within two (2) hours of occurrence.
Environment	Must not have already entered into soil or groundwater or onto surface water.

- E. A release of a “reportable quantity”¹ or unknown amount of a hazardous substance must also be immediately reported to the NYSDEC Spill Hotline. Spills of reportable quantities of chemicals or “harmful quantities”² of oil to navigable waters must be reported to the federal National Response Center, 1-800-424-8802 or 1-202-426-2675.
 - ¹ *Reportable Quantity*: Refers to the quantity of a hazardous substance or oil that triggers reporting requirements under the Comprehensive Emergency Response, Compensation, and Liability Act (CERCLA) (USEPA, September 1992).
 - ² *Harmful Quantity*: Includes discharges that violate applicable water quality standards, cause a film, sheen, or discoloration on a water surface or adjoining shoreline; or cause a sludge or emulsion to be deposited beneath the water surface or shoreline (40 CFR 110.3).

PART 2 - PRODUCTS

2.1 STORM STRUCTURE PROTECTION

- A. Shall be a pre-manufactured cylindrical log 12” – 32” in diameter, composed of degradable geotextile mesh tube filled with compost filter media to filter sediment and other pollutants. Filter socks may be filled after placement by blowing compost into the tube pneumatically or filled at a staging location and moved into its designated location. Both ends of the filter socks shall be secured to prevent opening.
- B. The flat dimension of the sock shall be at least 1.5 times the nominal diameter of the sock.
- C. Compost infill shall be a well decomposed (matured at least 3 months), weed-free, organic matter. Shall be aerobically composted, possess no objectionable odors, and contain less than 1% by dry weight, or manmade foreign matter.
- D. All biosolids compost must meet NYS DEC’s 6NYCRR Part 360 (Solid Waste Management Facilities) requirements.
- E. When using compost filter socks adjacent to surface water, the compost should have a low nutrient value.

- F. Wood stakes shall be a minimum of 2" x 2" in size. Shall be untreated fir, redwood, cedar or pine and shall be cut from sound timbers. Shall be straight and free of loose and unsound knots or other defects which would render them as unfit for the intended use. Metal stakes may not be used as an alternate. Tops of stakes shall not extend above the top of the fiber roll.
- G. Standard of quality shall be: Diamond SOCK® pre-filled compost filter sock as manufactured by MKB Stormwater Innovation, 888-578-0777; or Architect Approved Equal

2.2 TEMPORARY SEDIMENT FILTER BAG FOR PUMPED WATER

- A. Provide prefabricated bags/pouches with nonwoven geotextile fabric. The standard of quality shall be Dirtbag as manufactured by ACF Environmental, 800-448-3636 or Architect approved equal.
- B. Provide wooden pallet to set filter bag on for ease of disposal.

2.3 TEMPORARY MULCHING

- A. Dry mulch shall be clean straw bales.

2.4 PERMANENT SODDING

Sodding shall be as specified in Section 329201.

2.5 SPILL RESPONSE EQUIPMENT

- A. The following is a list of recommended spill control material. The contractor is responsible to have spill control and personnel protective equipment readily available for the materials being used. Acquire sufficient quantities and types of appropriate spill control materials needed to contain any spills that can be reasonably anticipated. The need for equipment to disperse, collect and contain spill control materials should be on site at all times.

1. Personal Protective Equipment
 - a. Chemical Splash Goggles
 - b. Gloves
 - c. Boot Covers
 - d. Tyvek Aprons or Suits
2. Absorption Materials
 - a. Spill Pillows and Socks
 - b. Absorbent Booms and Pads
 - c. Dikes for use on rough surfaces
 - d. Storm Structure Covers
 - e. "Loose" Absorbents
3. Tools
 - a. Shovel, Broom, Brush
 - b. Disposal Bags
 - c. Sealing Tape
 - d. Hazardous Waste Stickers
 - e. "Danger" and "Keep Away" Signs
 - f. Five gallon pails or 20 gallon drums with polyethylene liners

- B. Basis of Design shall be provided by: 3M, 888-364-3577; New Pig Corporation, 800-468-4647; SpillKits911, 800-474-5911; Dawg, Inc., 800-935-3294; or Architect approved equal.
- C. Place spill response equipment in a readily assessable location within or immediately adjacent to the project site.

PART 3 - EXECUTION

3.1 SIGNATURE REQUIREMENTS

- A. Between the Pre-Construction Meeting and starting site work, the Contractor shall:
 - 1. Sign the certification statements. Contractor shall prominently display the statements at the job site.
 - 2. Review inspection and maintenance procedures. Decide where journals will be temporarily stored for review by NYSDEC, S&WC, ACOE, Operator (Owner), the Landscape Architect and Architect.
 - 3. Designate specific Owner and Contractor personnel responsible for daily inspection and maintenance. Provide certification cards.

3.2 GENERAL EROSION CONTROL

- A. Install initial construction erosion control features, as indicated on drawings and specifications or as directed by the Architect, prior to topsoil stripping, earthwork, and removal of existing vegetation. Keep the disturbance to a minimum and shall not exceed five (5) acres, unless directed by the Architect. Install other features as described in the sequence of erosion, sediment and pollution control on the drawings.
- B. Start permanent seeding and mulching within seven (7) calendar days of rough grading. When this is not possible for any reason, provide temporary seeding on non-roof, non-paved areas with 100% perennial rye grass at the rate of six pounds (6#) seed per one thousand (1,000 sf) square feet and straw mulching for complete coverage. When adverse weather conditions prevent good germination, repeat seeding and mulching as directed by the Architect until the area is stabilized. Till under temporary grass and fine grade when preparing for final permanent lawn stabilization.
- C. Until a disturbed area is stabilized, trap runoff sediment by the use of sediment debris basins, diversion swales, sediment traps, or other methods acceptable to the Architect and governing authorities. Provide temporary dry mulch (straw) to stabilize exposed soils as directed by the Architect.
- D. Provide erosion controls on slopes and swales traversing, bordering, or leaving the site. Limit the water flow to a nonerosive velocity.
- E. Do not store fill materials within one hundred (100') feet of the banks of any streams or waterbodies, intermittent or perennial.
- F. Inspect erosion and sediment control measures immediately after each rainfall and at least daily during prolonged rainfall. Make required repairs immediately.
- G. Remove sediment deposits when they reach approximately one-half of the height of the barrier. Dispose sediment in a manner that does not result in additional erosion or pollution.

- H. Provide prompt (weekly) removal and disposal of rubbish and debris in accordance with the governing authorities, Owner policies, and good housekeeping measures.
- I. Traffic shall not be permitted to cross filter socks.

3.3 MUNICIPAL SEWER, SWALES AND WETLAND EROSION CONTROL

Control erosion, siltation and pollution to municipal sewers, swales and wetlands by taking appropriate measures such as, but not limited to, the following:

- A. Do not disturb the bed and banks of waterbodies unless specifically shown on drawings. When bed and bank work is shown, obtain permits and proceed with work creating the minimum disturbance necessary to complete the project.
- B. Prevent petroleum products and excessive amounts of silt, clay, and muck from entering municipal sewers, waters, swales or wetlands of New York State during construction.
- C. Prevent fresh concrete, concrete leachate, and washings from equipment and trucks, from entering municipal sewers, waters, swales or wetlands of New York State during construction.
- D. Place silt fence to control erosion at the downslope edge of disturbed areas. This barrier to sediments is to be put in place before disturbance of the ground occurs and is to be maintained in good condition until disturbed land is heavily vegetated or otherwise permanently stabilized.
- E. Seed areas of soil disturbance resulting from this project with appropriate perennial grass seed and mulched with straw within seven (7) calendar days as described in general erosion control. Mulch shall be maintained until a suitable vegetative ground cover is established and as directed by the Architect.

3.4 CONSTRUCTION SITE DUST CONTROL

- A. The Contractor shall prevent surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards, and traffic safety issues.
- B. Dust control applies to construction roads, access points, other disturbed areas and stockpiles subject to surface dust movement and dust blowing.
- C. Contractor may use any number and combination of dust control methods, as approved by the Architect. They include:
 - 1. Applying water to haul roads
 - 2. Restricting vehicle speeds to 10 mph
 - 3. Hauling materials in properly tarped or watertight containers.
 - 4. Covering stockpiles and materials
 - 5. Wetting equipment and work area
 - 6. Mulching
 - 7. Spray adhesives and polymer additives (MSDS sheets required)
 - 8. Barriers and wind breaks
- D. Contractor is responsible for any cleanup and site restoration associated with dust control measures, dust pollution on or off the project site property at no additional cost to the Owner.

3.5 STORM STRUCTURE PROTECTION

- A. Install fiber rolls as detailed around drainage structures and where shown on the plans to protect site elements from silt and sediment.
- B. Filter socks shall be anchored in earth with wooden stakes driven a minimum of 12" into the soil on 4-foot centers on the centerline of the sock. On uneven terrain, effective ground contact can be enhanced by the placement of a fillet of filter media on the disturbed area side of the compost sock.
- C. Wrapping the storm structure grate with fabric is NOT acceptable, however straw bales may be used.
- D. Upon stabilization of the area contributory to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed in accordance with the SWPPP. For removal, the mesh can be cut, and the compost spread as an additional mulch to act as a soil supplement.

3.6 TEMPORARY SEDIMENT FILTER BAG FOR PUMPED WATER

- A. Install prefabricated bags/pouches on top of straw bale base as recommended by the manufacturer. Replace system when full (discharge into bag/pouch is significantly reduced).
- B. Silt may be used as general site fill or hauled off site. Remove straw bales, fabric, and prefabricated bags/pouches off site. Regrade area and return to lawn as specified.

3.7 TEMPORARY MULCHING

- A. Provide temporary seeding of topsoil stockpile immediately.
- B. When necessary and as directed by the Architect, provide temporary seeding and mulching on disturbed areas at no additional cost to the Owner.

3.8 PERMANENT SODDING

- A. Install as described in Section 329201.

3.9 SPILL RESPONSE EQUIPMENT

Use per manufacturer's recommendations and as directed by the NYSDEC, or other governing agencies.

3.10 CLEAN UP

- A. During the contract and at intervals as directed by the Architect and as erosion, sediment and pollution control procedures are completed, clear the site of extraneous materials, rubbish, and debris. Leave the site in a clean, safe, well draining, and neat condition.
- B. Clean storm ponding areas, catch basins and detention basins: Clean out contaminants, sediment, rubbish, construction debris, foreign objects and accumulated floatables from chambers and ponding areas thoroughly, immediately prior to final acceptance.

END OF SECTION 312501

SECTION 321301 - SITE CONCRETE WORK

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The extent of site concrete work is shown on the drawings and includes formwork, reinforcement, accessories, cast in place concrete, installation of embedded items, finishing, curing, mix designs, testing and acceptance requirements for concrete.
- B. Site Concrete work includes, but is not limited to, the following:
 - 1. Concrete walks, pads, and ramps
 - 2. Concrete footings, bases, foundations
 - 3. Exterior anchoring cement non-shrink grout
 - 4. Concrete scheduling April 1 to October 15
 - 5. Clean up
- C. Provide materials, labor, equipment, and services required to accomplish related work in accordance with the drawings and specifications.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 312201 - Site Earthwork
- B. Section 321601 - Granite Curb
- C. Section 334001 - Storm Drainage

1.3 REFERENCES

- A. ACI 301-96 - Specifications of Structural Concrete for Buildings
- B. ASTM A615 - Deformed and Plain Billet-Steel for Concrete Reinforcement
- C. ASTM C31 - Standard Practice for Making and Curing Test Specimens in the Field
- D. ASTM C33 - Concrete Aggregate
- E. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
- F. ASTM C94 - Ready-Mixed Concrete
- G. ASTM C109 - Test Method for Compressive Strength of Hydraulic Cement Mortars
- H. ASTM C143 - Standard Test Method for Slump of Hydraulic Cement Concrete
- I. ASTM C1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Non-Shrink)
- J. ASTM C150 - Portland Cement
- K. ASTM C172 - Standard Practice for Sampling Freshly Mixed Concrete

- L. ASTM C173 - Standard Test Method for Air Content of Freshly Mixed Concrete by Volumetric Method
- M. ASTM C260 - Air Entraining Admixtures for Concrete
- N. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete
- O. ACI 315 - Details and Detailing Concrete Reinforcement

1.4 SUBMITTALS: (See Section 311201, 1.5)

- A. Manufacturers Product Data (MPD) and Samples where indicated are required for the following:
 - 1. Expansion Joint and Sealant (Vertical and Horizontal): MPD and Color Samples
 - 2. Water Based Curing and Sealing Compound
 - 3. Slip Dowel System
 - 4. Cold Weather Admixture
 - 5. Hot Weather Admixture
 - 6. Air Entrainment
 - 7. Exterior Anchoring Cement Non-Shrink Grout
 - 8. High Strength Anchoring Epoxy System
 - 9. Concrete Bonding Agent
- C. Submit proposed 4,500 psi concrete mix design and test data in accordance with ACI 301 to the Architect for review prior to commencement of the work.
 - 1. Indicate the locations and elements for which the mix will be used.
 - 2. Include in the concrete mix design all required or proposed admixtures necessary to facilitate the installation of the concrete by the means and methods selected by Contractor for this project.
- D. Mill test certificates and/or test reports for cement indicating compliance with these specifications.

1.5 QUALITY ASSURANCE

- A. Concrete Testing Services: The Owner shall employ an acceptable independent testing laboratory to perform materials evaluation, testing of concrete mixes, and quality control testing. Coordinate day to day scheduling with the testing agency. Field technician shall be ACI Certified Grade 1 Field Technician.
- B. Construct and erect concrete formwork in accordance with ACI 301 and 347.
- C. Perform concrete reinforcing work in accordance with ACI 301.
- D. Perform cast-in-place concrete work in accordance with ACI 301.
- E. Conform to New York State Building Code.
- F. Field quality control tests are specified in Part 3 - Execution.

1.6 JOB CONDITIONS

- A. Job conditions in Section 312201 apply. Provide ample and skilled manpower for concrete installation which is a recognized time sensitive procedure.
- B. All concrete work shall conform to American Concrete Institute (ACI) 304R-00 "Guide for Measuring, Mixing, Transporting and Placing Concrete".
- C. Do not install concrete work when the temperature of the outside air is below 50 degrees F. and falling unless suitable means acceptable to the Architect are provided to protect work from cold and frost and ensure that mortar and concrete will cure without freezing as indicated in "Cold Weather Concreting" below.
- D. Cold Weather Concreting: Provide non-chloride accelerating water reducing admixture in site concrete work placed at ambient air temperatures below 50 degrees F. (10 degrees C.). Comply with International Masonry Industry All-Weather Council cold weather construction and protecting recommendations and American Concrete Institute 306R-10 "Guide to Cold Weather Concreting."
- E. Hot Weather: Provide water reducing retarding admixture in site concrete work placed at ambient air temperatures above 80° F. Comply with American Concrete Institute 305R-10 "Guide to Hot Weather Concreting."
- F. Construction Review: Notify the Architect/Geotechnical Engineer when stairs, retaining walls, walks, ramps, curbs and pads are formed and ready to receive concrete. Radius form layout shall be inspected and approved by the Architect.
- G. Schedule: Unless otherwise directed in writing by the Architect, construct site concrete work from April 1 to October 15. This permits a minimum 30 day dry curing period prior to possible application of deicing chemicals by the Owner.
- H. Site concrete work performed between October 16 and March 30 will require an additional written one (1) year guarantee with the understanding that above average concrete deterioration and replacement by the Contractor is likely.

1.7 ADA REQUIREMENTS

- A. GENERAL: Concrete work shall comply with the Americans With Disabilities Act as described in the 2010 ADA Standards issued by the Department of Justice (DOJ) and the Department of Transportation (DOT) or latest edition, shall be used.
- B. Curb ramp and concrete walk surfaces shall meet the following tolerances:
 - 1. Transitions from ramps to walks, gutters, or streets shall be flush and free of abrupt changes.
 - 2. Thresholds at doorways shall not exceed 3/4" in height for exterior sliding doors or 1/2" for other types of doors. Raised thresholds and floor level changes at accessible doorways shall be beveled with a slope no greater than 1:2.
 - 3. Detectable warning system shall cast in place for the safety and convenience of the visually impaired. Contractor shall have a minimum of three (3) years experience with materials and installation.

PART 2 - PRODUCTS

2.1 FORM MATERIALS AND ACCESSORIES

- A. Forms: Either steel or wood, exterior type softwood, PS1, of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal. Use forms that are straight and free of distortion and defects, extending the full depth of concrete. Concrete walks which require radius form work shall be set with flexible forms, conforming to the shapes and dimensions as indicated.
- B. Lumber: PS 20.
- C. Form Ties: Snap-off, metal type of fixed length, cone type.
 - 1. Ties shall be left in place and equipped with swaged washers or other approved devices to prevent seepage of moisture along the tie.
 - 2. Depth of Breakback: Minimum one (1") inch.
 - 3. Unless otherwise noted, provide form ties, which will not leave holes larger than one (1") inch diameter in concrete surface.
- D. Dovetail Anchor Slot: Galvanized steel, form filled, release tape sealed slots; bend tab anchors.
- E. Form Release Agent: Shall be non-staining and non-residual. Increte Wall Form Release manufactured by Increte or Architect approved equal.

2.2 REINFORCEMENT MATERIALS

- A. Reinforcing Steel: ASTM A615, 60 ksi yield grade; deformed billet steel bars, plain finish, free of rust and/or oxidation. Reinforcing bars shall be bundled and tagged with grades and suitable identification markings, shall be waterproof, and shall not be removed until steel is placed.
- B. Steel Welded Wire Reinforcement ASTM A185, plain type:
 - 1. Flat Sheets
 - 2. Mesh size: 6 x 6 (standard W1.4 x W1.4, heavy duty W2.1 x W2.1)
 - 3. Free of rust and/or oxidation
- C. Reinforcement Accessories:
 - 1. Tie Wire: FS QQ- W-461 G, annealed steel, back, 16-gage minimum.
 - 2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement. They shall provide sufficient supports at close enough spacing so that the steel will carry the weight of the workmen and the fresh concrete without deformation from its specified location.
- D. Fabricate concrete reinforcing in accordance with ACI 315.
- E. Slip Dowels: Shall be a slip dowel system comprised of a round dowel sleeve and corresponding base. Standard of quality: shall be Speed Dowel as distributed by A.H. Harris, (860) 216-9500 or Architect approved equal.

2.3 CONCRETE MATERIALS

- A. Cement: ASTM C150, Normal-Type 1 or Type II, Portland type.
- B. Aggregates (ASTM C33):

1. Fine aggregates: clean, sharp, natural sand.
2. Coarse Aggregates: 3/4" maximum size stone meeting the requirements of New York State Department of Transportation Specification 703.02.

C. Water: Clean and not detrimental to concrete.

2.4 ADMIXTURES

- A. Calcium Chloride in concrete is prohibited.
- B. Air Entrainment Admixture: ASTM C260, Darex AEA ED or Architect approved equal.
- C. Water Reducing Admixture: ASTM C494, Type A; not containing more chloride ions than are present in municipal drinking water.
- D. High Range Water Reducing Admixture: ASTM C494, Type F or G; not containing more chloride ions than are present in municipal drinking water.
- E. Cold Weather Accelerating Admixture: (Ambient temperature below 50°F.) Non-chloride water reducing accelerating admixture, ASTM C494, Type C, PolarSet as manufactured by WR Grace & Co. or Architect approved equal. Mix at rates recommended by the manufacturer. No reduction in compression rating of the concrete is permitted.
- F. Hot Weather Water Reducing and Retarding Admixture: (Ambient temperature above 80° F.) Shall be Daratard series admixture, ASTM C494, Type D, as manufactured by WR Grace & Co. or Architect approved equal. Mix at a rate recommended by the manufacturer. No reduction in compression rating of the concrete is permitted.

2.5 RELATED MATERIALS

- A. Expansion Joints:
 1. For Radius Applications: Expansion joint filler shall be polyethylene closed cell backing with peel off strip, X-Foam as manufactured by W.R. Meadows or Architect approved equal.
 2. For Straight Applications: Expansion joint filler shall be fiber expansion joint with peel off snap-cap, as manufactured by W.R. Meadows or Architect approved equal.
- B. Caulking for flat slabs shall be one part elastomeric self leveling polyurethane gray sealant Pourthane SL or Architect approved equal. Caulking for vertical surfaces shall be one component elastomeric gun grade polyurethane sealant Pourthane NS, color as selected by the Owner to match wall stain or Architect approved equal.

2.6 COMPOUNDS, HARDENERS, AND SEALERS

- A. Water Based, Acrylic, Curing and Sealing Compound: ASTM C309, Type 1, Class A and B, clear or translucent. Standard of quality shall be VOCOMP-20 as manufactured by W.R. Meadows or Architect approved equal.

2.7 CONCRETE MIX

- A. Mix and deliver ready-mix concrete in accordance with ASTM C94.
- B. Concrete:

1. Compressive Strength (Minimum at 28 days): 4,500 psi
 2. Slump (Maximum): 4 inches +/-1"
 3. Air Entrainment: 6-8.5%
 4. Flexural Strength (ASTM C78): 650 psi at 28 days.
- C. Use water-reducing admixture in all concrete.
- D. Water/Cement Ratio: Maximum 0.42 for 4,500 psi concrete.
- E. Cement Factor Per Cubic yard: Minimum 560 lbs. for 4,500 psi concrete.
1. Substitution of fly ash for cement is prohibited.
- F. Maximum Size of Coarse Aggregate:
1. General Work: Per ACI 301, 3/4" maximum.
- G. Select admixture proportions for normal weight concrete in accordance with ACI 301.
- H. Add air-entraining agent to concrete mix for all concrete work exposed to exterior.

2.8 MIXING WATER CONTROL

- A. The quantity of mixing water used in the concrete mix shall be determined by the Contractor, except that the Architect/Geotechnical Engineer may direct that such quantity of water be reduced if the slump of the concrete exceeds the specified slump. The Contractor's determination of the quantity of mixing water shall conform to the various limits on water/cement ration and slump specified. Concrete consistency shall be uniform from batch to batch.
- B. During the course of the work, the batch plant will make quantitative measured moisture determinations of the aggregates utilized in each batch. Aggregate weights and batch water requirements shall be adjusted accordingly for measured aggregate moisture content.
- C. When concrete is transported in units approved for mixing, the addition of not more than 10% of the total design water will be permitted at the job site to obtain initial slump.
1. Any addition of water shall be followed by mixing of at least 30 revolutions in the mixing speed range.
 2. No more than two additions of water at the point of deposition before discharge shall be allowed.
 3. No retempering of the concrete will be permitted. Retempering is defined as the addition of water after the mix has attained its desired initial slump.

2.9 EXTERIOR ANCHORING CEMENT (NON-SHRINK GROUT)

- A. For Steel Posts, Fencing and Other Non-Aluminum Elements: Shall be an exterior grade anchoring cement (non-shrink grout) with a min. compressive strength (ASTM C-109) of 7,200 psi at 28 days. Standard of quality shall be Super Por-Rok as manufactured by CGM, Inc., www.cgmbuildingproducts.com, or Architect approved equal.

- B. For Aluminum Posts and Elements: Shall be an exterior grade anchoring cement (non-shrink grout) with a min. compressive strength (ASTM C-109) of 7,200 psi at 28 days. Standard of quality shall be Por-Rok as manufactured by CGM, Inc., www.cgmbuildingproducts.com, or Architect approved equal.

2.10 HIGH STRENGTH ANCHORING EPOXY SYSTEM

- A. A two-component vinylester adhesive anchoring system. The system includes injection adhesive in plastic cartridges, mixing nozzles, dispensing tools and hole cleaning equipment.
- B. Designed for bonding threaded rod and reinforcing bar elements into drilled holes in concrete and masonry base materials.
- C. Standard of quality shall be AC100+ GOLD Vinylester Injection Adhesive Anchoring System as distributed by A.H. Harris, (315) 414-0340, or Architect approved equal.

2.11 CONCRETE BONDING AGENT

- A. Shall be a concrete bonding adhesive specifically formulated for permanently bonding new concrete to old concrete in exterior applications.
- B. Concrete bonding adhesive applied to appropriate substrates will achieve tensile bond strengths typical of 150 psi in 28 days.
- C. Standard of quality shall be Quickrete Concrete Bonding Adhesive or Architect approved equal.

PART 3 - EXECUTION

3.1 CONCRETE WALKS, PADS, AND RAMPS

- A. Surface Preparation: Remove loose material from the compacted subgrade surface immediately before placing concrete. Remove any standing water, mud, debris, frost, snow, ice from surfaces upon or against which concrete is to be placed.
- B. Proof-roll prepared subgrade surface to check for unstable areas and the need for additional compaction. Do not begin concrete pour until such conditions have been corrected, subgrade is compacted to 95% and ready to receive concrete.
- C. Form Construction: Construct to required size and shape. Brace and secure to maintain alignment, elevation and position. Check completed formwork for grade and alignment, prior to installing concrete. Clean forms as needed to removed foreign matter.
- D. Install welded wire mesh on concrete brick or mesh chairs to proper level in maximum lengths possible. Offset end laps in both directions. Splice laps with tie wire. Lifting mesh after concrete pouring is not acceptable.
- E. Prepare concrete mixture including the following:
 - 1. Add hot weather or cold weather admixture to accommodate field weather conditions.
- F. Concrete Testing: Will be performed as described in Part 3, "Field Quality Control" of this specification section.

- G. Conveying:
1. Convey concrete by means that will prevent segregation and loss of mortar from the mix.
 2. Provide adequate manpower and equipment in the form of buckets, buggies, chutes, conveyors or other approved means to assure continuous operation.
 3. Convey concrete so that no equipment with aluminum parts comes in contact with fresh concrete.
- H. Concrete Placement: Do not place concrete until subgrade and forms have been checked for line and grade. Moisten granular base course as required to provide a uniform dampened condition at the time concrete is placed. Do not place concrete around manholes or other structures until they have been brought to the required finish grade, alignment, and expansion joints have been installed.
- I. Spread concrete as soon as it is deposited on the granular base course, using methods which prevent segregation of the mix, and with as little rehandling as possible. Consolidate concrete along the face of forms. Consolidate with care to prevent dislocation of mesh, reinforcing and joint materials.
- J. Install Concrete Walk Joints:
1. Construct expansion and contraction joints as detailed and as shown on plans. Concrete joints that do not follow the pattern(s) shown on the plans and/or changes that have been approved by the Architect will be removed and replaced at no additional cost to the Owner.
 2. When the walkway is abutting existing walks, place transverse joints to align with previously placed joints, unless otherwise shown.
 3. Contraction Joints: Approximately 5' on center. Break walk into individual slabs of not more than twenty-five (25 sf) square feet with jointing tool, round edges. Saw cut scoring pattern (contraction joints) to depth shown on details for each type of concrete work with new, sharp concrete sawblade one day (24 hours) after the pour. Joint cuts to be clean, sharp, uniformly made cuts to achieve scoring pattern as shown and detailed. Note: When tooled joints or saw cutting is not performed as described, an extended three (3 yr.) year written guarantee or credit for defective work will be required as determined by the Architect at no additional cost to the Owner.
 4. Expansion Joints: Provide where abutting building(s), columns, structures, concrete paving and curbs, catch basins, manholes, inlets, walks, walls, other fixed objects and as directed by the Architect.
 5. Locate expansion joints at thirty feet on center (30' o.c.) for each walkway lane, unless otherwise shown. Provide slip dowels as detailed and specified.
 6. Locate expansion joints with slip dowels at all flush building access points, whether specifically shown on drawings or not.
 7. Extend joint fillers full width and depth of the joint, flush with finished pavement grade, and not less than 1/4" or more than 1/2" below the finished pavement surface. Joint surfaces shall be clean and dry prior to installation of sealant as per manufacturer's recommendations. Remove excess sealant on surfaces adjacent to joint.
- K. Concrete Finishing:
1. Perform concrete finishing using machine or hand methods as required.

2. After striking off and consolidating concrete, smooth the surface by screeding and floating. Use hand methods only where mechanical floating is not possible. Adjust the floating to compact the surface and produce a uniform texture.
3. After floating, test surface for trueness with a ten (10') foot straightedge. Distribute concrete as required to remove surface irregularities, and refloat repaired areas to provide a continuous, smooth finish.
4. Work edges of slabs and joints with a 1/8" radius edging tool, two (2") wide, unless otherwise shown.
5. After completion of floating and when excess moisture or surface sheen has disappeared, complete surface finishing, as follows.
6. Broom finish, by drawing a medium hair broom across the concrete surface as detailed. Repeat operation when required to provide a medium texture acceptable to the Architect.
7. For handicap curb ramps, tool grooves along sloping surfaces in line with drainage flow as detailed.
8. Curing: Refer to schedule noted in 1.6, above.
 - a. Immediately after placement, protect concrete from premature drying.
 - b. Remove all dirt, dust, oil, grease, asphalt and foreign matter. Cleanse with caustics and detergents as required. Rinse thoroughly and allow to dry.
 - c. Stir curing compound thoroughly before using.
 - d. Apply a continuous, uniform film by solvent-resistant low pressure spray only, short-nap roller or lamb's wool applicator. For best results, use a canister curing compound sprayer. Use spray tip number 8004 or equivalent for water-based or waterborne products.
 - e. For curing, apply first coat evenly and uniformly as soon as possible after final finishing. Apply second coat when all construction is completed and structure is ready for occupancy.
 - f. When soil contamination occurs, notify the Architect immediately in writing. Remove contaminated soils and legally dispose of, provide soil test(s), replace soil, plantings and lawns at no additional cost to the Owner.

3.2 FOOTINGS, BASES, FOUNDATIONS

- A. Footings, Bases, Foundations: Locate and provide where shown on drawings and as detailed.

3.3 INTERRUPTION OF CONCRETING

- A. Should placing concrete be suspended or unavoidably interrupted, provide key ways and bulkheads to prevent feather-edging when work is resumed. Roughen horizontal surface for bond.

3.4 REPAIR AND PROTECTION FOR CONCRETE WORK

- A. Cut out and replace defective concrete work which has blisters, cracking, crazing, curling, discoloration, dusting, efflorescence, low spots, pop outs, scaling or mortar flaking, spalling, settling, or heaving as defined by Portland Cement Association 2001, "Concrete Slab Surface Defects" and as directed by the Architect.
- B. Modify or replace concrete not conforming to the required lines, details, elevations and specifications as directed by the Architect.

- C. Protect the work from damage until acceptance of the work. Exclude traffic from concrete work for at least fourteen (14) days after placement. When construction traffic is permitted, maintain concrete as clean as possible by removing surface stains and spillage of materials as they occur.

3.5 ANCHORING RAILINGS AND POSTS INTO CONCRETE

- A. Aluminum posts **must** be coated or treated with a good sealer or paint prior to anchoring.
- B. Drill the hole as detailed. Blow out all dust and loose particles.
- C. Fill the hole with water. Scrub the sides and bottom of the hole and with a stiff wire brush such as a bottlebrush. This is important.
- D. Remove excess water with rag or other absorbent materials. Leave the hole clean and uniformly damp.
- E. Mix the anchoring cement in a clean container to flowable consistency based on the following formula. For best results, measure accurately. The correct amount of water is as follows:

2.3 oz per lb
11.5 oz for 5 lbs
115 oz for 50 lbs
7 quarts for 100 lbs

Measure the amount of anchoring cement and water to be mixed. Add the measured amount of water to the appropriate amount of cement and mix until the desired consistency is achieved. (NEVER USE MORE WATER THAN PRESCRIBED). This will reduce the ultimate strength, increase the possibility of volume instability and may cause the product to become soft and less durable.)

- F. Fill the hole with the plastic cement first, and then tamp the bolt, post or rod with a twisting motion into place. If the material becomes too fluid during the tamping process and sags out of place, let it stand for a few minutes and it will stiffen. Smooth out the surface around the bolt with spatula or trowel.
- G. Let the cement harden for at least 60 minutes. For heavy equipment, allow 4 hours prior to use or loading.

3.6 ANCHORING BOLTS, DOWELS, AND REBAR INTO CONCRETE

- A. Anchor Hole Preparation: Prepare all anchor holes prior to placement of anchoring epoxy. Hole diameter is typically 1/8" (3 mm) greater than the anchor diameter. Hole depth is typically nine times anchor diameter. Required minimum anchor hole depth is 6". Consult project specifications and details. Drill hole to proper diameter and depth and blow all dust from the bottom of the hole, brush and blow (4x) repeatedly to remove all dust and debris. The anchor hole must be clean and free of standing water prior to placement of material.
- B. Application: Use only professional caulking gun. Remove plastic cap and plugs from cartridge. Save for closing cartridge. Attach mixing nozzle to cartridge. Discard small amount of gunned product until uniform color is achieved. Mixing nozzle will harden in approximately 20 min. if not in use.

- C. Hardened nozzle must be discarded. Dispense the epoxy at the bottom of the hole while withdrawing nozzle. Dispense epoxy (typically filling 5/8 of hole) so that once threaded rod or rebar is inserted, the hole is completely full. Insert threaded rod or rebar to the bottom of the hole while turning clockwise. Promptly remove any excess material. Leave anchor undisturbed for 6 hours (at 77°F /25°C), or longer for colder temperatures. Load can be applied 8 hours at 77°F (25°C).

3.7 CONCRETE BONDING AGENT

- A. Required at elements where new concrete is applied and joined to existing concrete.
- B. Surface Preparation:
 - 1. Apply only to clean, sound, dry surfaces.
 - 2. Remove dust, dirt, oil, grease, wax, unsound concrete and plaster, paint, and other foreign materials.
- C. Applications:
 - 1. Apply to a dry surface with brush, roller or spray to the thickness of a coat of paint.
 - 2. Place new concrete, topping mixes, Portland cement, or patches as soon as the adhesive is dry.
 - 3. Make sure basecoat is dry before applying adhesive.
 - 4. Tools, brushes and other application accessories should be immediately cleaned with soapy water. Use hot water to clean up any drippings.

3.8 FIELD QUALITY CONTROL

- A. Field inspection and testing shall be performed by ACI certified technicians; Grade 1. Certificates shall be submitted to the Architect for persons performing inspection and testing prior to the start of work.
- B. Field Inspection and testing shall be paid for as directed under 1.5 "Quality Assurance". Where retesting, additional inspection, lab tests or other professional services are required due to rejected work, any cost associated therewith will be solely at the Contractor's expense.
- C. The Contractor shall plan his operations to allow adequate time for all required testing and inspection.
- D. The Contractor shall provide facilities and equipment necessary to obtain and handle representative sample of materials to be tested.
- E. The testing laboratory shall be responsible to the Owner for the field control of all concrete and may reject batches because of high slump, uncontrolled air entrainment, delays or other conditions of non-compliance with these specifications.
- F. Sampling and Field testing will be performed during concrete placement per ASTM C31, C39, C143, C172 and C173.
- G. Five (5) Concrete Test Cylinders: Taken for every 30 or less cubic yards of concrete placed are required or a fraction thereof;

1. Two (2) Cylinders will be tested at 7 days, two (2) cylinders will be tested at 28 days and one (1) cylinder will be held for possible testing at a later time.
- H. One (1) Additional Test Cylinder: Taken during cold weather concreting, to be cured on the job site under the same conditions as placed concrete it represents, is required.
- I. Air Content Test: Taken for each set of test cylinders taken, is required.
- H. One (1) Slump Test: Taken for each set of test cylinders taken is required.
- K. Test results will be reported by telephone to the General Contractor and Architect on same day tests are made. Written report with copies will follow to the Owner, Architect, and Landscape Architect. Email copies of laboratory test, evaluation reports for concrete materials and mix designs will be submitted.

3.9 CLEAN UP

During the contract and at intervals as directed by the Architect and as concrete work is completed, clear the site of gravel, concrete, appurtenances and debris. Leave the site in a clean, safe, well draining, neat condition.

END OF SECTION 321301

SECTION 321601 - GRANITE CURB

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The extent of granite curb is shown on the drawings.
- B. Provide materials, labor, equipment, and services required to accomplish related work in accordance with the drawings and specifications.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 321201 - Asphalt Paving
- B. Section 321301 - Site Concrete Work

1.3 SUBMITTALS: (See Section 311201, 1.5)

- A. Provide material certificates showing granite curb source and that material meets product specification in Section 2.1 below.

1.4 JOB CONDITIONS

- A. Job conditions in Section 312201 apply.
- B. Construction Review: Mark location in field for review by Architect prior to setting granite curb.

PART 2 - PRODUCTS

2.1 GRANITE CURB

- A. Shall be hard, durable, light grey in color and free from seams which would impair its strength. The curb shall be sawed top and split face. No drill marks shall appear on the exposed face. Minimum length shall be 2 ft.; maximum 8 ft. Curbs set to a radius of less than 100 ft. shall be cut to the curve required. Maximum length on curves shall be four feet.
- B. Provide project specific granite types:
 - 1. Vertical Curbs:
 - a. Standard: 5" x 16"
- C. Standard of quality: As manufactured by Geneva Granite Co. (315) 789-8142 or Architect approved equal.

2.2 WET CONCRETE SETTING BED

Shall be 4,500 psi as specified in Section 321301, 2.3, 2.4.

2.3 GRANULAR BASE COURSE

As specified in Section 312201, 2.1, B.

2.4 MORTAR

Shall be one part Portland cement, one part lime and three parts mason's sand by volume.

2.5 DRY MIX CONCRETE

Shall be Portland cement dry, mixed in the proportions of, one part Portland cement to three parts of concrete sand and six parts of coarse aggregate (passing 1-1/2" screen).

PART 3 - EXECUTION

3.1 SETTING CURB

- A. Curbing shall be set leveled on a 6 inch dry mix concrete setting bed foundation.
- B. Set granite to line and grade as shown on the plan. Provide continuous wet concrete backing both sides of curb. Joints shall be a minimum of 1/4" and shall be fully mortared from face to back of curb. Bevel corners to 45 degrees with a mitered joint.
- C. Set curbs to the line and grade given in a smooth curve or straight line. When curbing ends, it shall transition from a six (6") inch reveal to no reveal meeting finished grade.
- D. Curbing shall be set, backfilled, and compacted to 1/2 the height on the sidewalk face to prevent movement when backfilling is placed. Once the paving has been rolled, the remaining fill shall be placed and compacted to avoid future settlement of the walk.
- E. Pointing: The joints between curb stones shall be carefully filled with cement mortar and neatly pointed on the top and front exposed curb portions. Remove excess mortar and clean curb.
- F. Backfill curbing with wet concrete each side of the curb stone and all spaces under the curb shall be filled with concrete so that the entire unit is completely supported.

3.2 CLEAN UP

During the contract and at intervals as directed by the Architect and as granite curb installation is completed, clear the site of extraneous granite curb, concrete, gravel, asphalt and debris. Leave the site in a clean, safe, well draining, neat condition.

END OF SECTION 321601

SECTION 323001 – POWDER COATED STEEL HANDRAILINGS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The extent of powder coated steel hand railing is shown on the drawings.
- B. Provide materials, labor, equipment, and services required to accomplish all related work in accordance with the drawings and specifications.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 321301 - Site Concrete Work

1.3 SUBMITTALS

- A. Shop Drawings, Samples, and Manufacturer's Data: Provide five copies stamped and approved by the Contractor before submittal to the Architect. Submit to the Architect for review a minimum of two weeks before delivery to site.
- B. Provide color samples for powder coating.

1.4 JOB CONDITIONS

- A. Job conditions in Section 312201 apply.
- B. Construction Review: Notify the Architect when steel hand railing is staked out.
- C. Materials and methods of construction shall comply with the following standards:

American Institute of Steel Construction (AISC)
American Welding Society (AWS)
National Association of Architectural Metal Manufacturers (NAAM)

PART 2 - PRODUCTS

2.1 POWDER COATED STEEL HAND RAILING(S)

- A. Posts and rails: ½" square, 1-5/8" o.d., and 2" square schedule 40 steel, meeting ASTM A-36. Powder coat color as directed by the Owner and/or Architect. Submit color samples for approval.
- B. Appurtenances: Metal accessories shall be first quality, galvanized, and painted same as post and rails.
- C. Sleeve: 3" square schedule 40 hot-dipped galvanized steel, meeting ASTM A-36.

PART 3 - EXECUTION

3.1 FABRICATION

- A. Take field measurements and coordinate work with others.

- B. Shop fabricate in accordance with field measurements, favorably reviewed shop drawings and standards referenced above in Job Conditions.
- C. Provide continuous weld shop connections, except as otherwise indicated. Grind smooth welds and surfaces exposed to touch.
- D. Provide metal fabrications work square, plumb, straight, and true to shop drawing dimensions.
- E. Bend or form pipe to continuous and true curves, with joints neatly welded and assembled.
- F. Provide for anchorage of type required, coordinated with supporting structure. Fabricate and space anchoring devices to provide adequate support for intended use.
- G. Fabricate, preassemble and powder coat assembly in shop to greatest extent possible to minimize field fitting and assembly.

3.2 FIELD INSTALLATION

- A. Do not install handrail posts until concrete has attained its full design strength (approximately 28 days).
- B. Transport safely and install as detailed.
- C. Field touch paint chipped and scratched spots. Protect adjacent surfaces from paint spill and overspray. Clean spills and overspray.

3.3 CLEAN UP

- A. During the contract and at intervals as directed by the Architect and as steel hand railing installation is completed, clear the site of all extraneous concrete, gravel, asphalt or debris. Leave the site in a clean, safe, well draining, neat condition.

END OF SECTION 323001

SECTION 323002 - PAVERS ON CONCRETE

1.0 PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The extent of pavers on concrete base is shown on the drawings.
- B. Provide materials, labor, equipment, and services required to accomplish related work in accordance with the drawings and specifications.

1.2 RELATED WORK SPECIFIED ELSEWHERE

Section 321301 - Site Concrete Work

1.3 SUBMITTALS: (See Section 311201, 1.5)

- A. Pavers: Manufacturer's Product Data (MPD) and color samples.
- B. Bedding Sand: Sample and mechanical analysis.
- C. Paver Sealer: Manufacturer's Product Data (MPD)

1.4 JOB CONDITIONS

- A. Job conditions in Section 312201 apply.
- B. Do not lay pavers over frozen materials or improperly prepared base.
- C. Protect work: At the end of each work period, protect unrestrained edges with plywood or similar material.
- D. Construction Review: Notify the Architect when paver area is staked out and again when granular base course is 95% compacted, prior to setting more than ten percent (10%) of the pavers.
- E. Brick Institute of America (B1A): Technical notes on brick construction.
- F. Test Panel: Construct a sample area to demonstrate aesthetic effects and patterns (solder course and main field) as well as qualities of materials and execution. Test panel shall be minimum of 5' x 5' and may be part of final work if approved by Architect and Owner. Once sample is approved, remaining pavers can be installed by the Contractor.
- G. Installation shall be by a contractor and crew with at least three (3) years of experience in placing interlocking pavers on projects similar in nature or dollar cost. The installing contractor shall submit the names of three (3) references or clients for whom similar work has been installed in the last two years.

2.0 PART 2 - PRODUCTS

2.1 PAVERS

- A. Pavers: Shall be 6"L x 6"W x 3"H concrete pavers, compatible with light vehicular traffic. Pavers shall have a minimum compressive strength of 8,000 psi and water absorption of 8% maximum. Shall comply with Pedestrian ASTM-L902, Class SX type 1 application PX.
- B. Standard of Quality: 6" x 6" Prest Brick concrete pavers as manufactured by Hanover and distributed by Paragon Supply 315-475-5191. Provide samples to Owner for color comparison. Provide additional color samples as needed for final approval by Owner.
 - 1. Color Type A to be Matrix #B93167 (Light Grey) with a Tudor finish.
 - 2. Color Type B to be Matrix #B91428 (Charcoal) with a Natural finish.

2.2 CONCRETE BASE: Shall be 4,500 psi as specified in Section 321301.

2.3 BEDDING SAND: For swept joints shall be mortar sand meeting the following gradation:

Sieve Size	% By Weight Passing
No. 4	100
No. 8	95-100
No. 50	10-40
No. 100	0-15

2.4 SAND JOINT STABILIZER AND PAVER SEALER:

- A. (Polymeric Sand) Graded jointing sand material with polymer binding agent that hardens and bonds to pavers providing protection against insect infestation, weed growth and joint sand erosion.
- B. Standard of quality shall be Alliance Designer Products, Inc., Supersand Bond, (866) 212-1611, www.supersandbond.com or Architect approved equal.
- C. Provide paver sealer as recommended by the manufacturer. Standard of quality shall be Glaze n Seal clear paver sealer.

3.0 PART 3 - EXECUTION

3.1 INSTALL PAVERS

- A. Provide concrete base for pavers as detailed. Clean concrete base to remove dirt and debris.
- B. Install sand setting bed as indicated. Compact and screed to the depth required.
- C. Do not use paving units with chips, cracks, voids, discolorations, or other visible defects.
- D. Cut brick paving units with masonry saws to provide clean, sharp unchipped edges. Cut units as required to provide pattern shown and to fit adjoining work neatly. Use full units without cutting wherever possible. Where cutting is required, use the largest size units possible. Avoid the use of small pieces of brick or large joint spaces.
- E. Set brick pavers in patterns indicated with level surface with hand tight joints.

- F. Protect newly laid brick pavers with plywood panels. Advance panels as work progresses. Maintain plywood protection in areas subject to continued movement of materials and equipment. Provide additional leveling if required.
- G. Install polymeric sand. Follow manufacturer's recommendations including temperature limitations. Spread polymeric sand over the paving stone, then work it into the joints by sweeping in all directions. Remove excess sand and work the remainder in by passing the vibrating plate over paver surface. Repeat steps, as necessary or as directed by the Architect.
- H. Fog paver surface with water until joints are full and tight.
- I. Install paver sealer in a small discrete area of pavers as approved by the Architect and Owner. After sealer has dried, obtain approval from Architect and Owner to continue with installation of remaining paver sealer.
- J. Protect pavers until final acceptance.

3.2 FIELD QUALITY CONTROL

- A. General: Test the in-place courses for compliance with requirements for thickness and surface smoothness. Repair or remove and replace unacceptable paving as directed by the Architect.
- B. Thickness: In-place compacted thickness will not be acceptable if it is less than 95% of the total thickness shown on the drawings.
- C. Surface Smoothness: Test finished surface of each course for smoothness. Surfaces will not be acceptable when they fail to meet the following tolerances for smoothness:
 - 1. For larger plaza and open areas: The finished surfaces shall have no depressions or ridges exceeding one (1/8") inch in ten (10') feet.
 - 2. For walkway areas: Meet the specified grades and cross pitches shown on drawings.
- D. Provide the Architect with water and hose to check the surface grades and drainage patterns. Small ponding areas (bird baths) larger than two (2') feet in any dimension are not acceptable. When this test proves that surface conditions are not acceptable, the Contractor shall remove and replace the problem areas.

3.3 CLEAN UP

During the contract and at intervals as directed by the Architect and as paver installation is completed, clear the site of extraneous pavers, gravel, paver edge and debris. Leave the site in a clean, safe, well draining, neat condition.

END OF SECTION 323002

SECTION 323003 - GRAVEL DRIP STRIP

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The extent of gravel drip strip is shown on the drawings.
- B. Provide all materials, labor, equipment, and services required to accomplish all related work in accordance with the drawings and specifications.

1.2 RELATED WORK SPECIFIED ELSEWHERE

Section 312201 - Site Earthwork

1.3 SUBMITTALS: (See Section 311201, 1.5)

Provide Material Certificate and sample of Gravel Drip Strip.

1.4 JOB CONDITIONS

- A. All job conditions in Section 312201 apply.
- B. Construction Review: Notify the Architect when gravel drip strips are staked out.

PART 2 - PRODUCTS

2.1 GRAVEL DRIP STRIP

- A. Gravel: Shall be gray-buff-tan color, River Rock blend of 1" to 3" rounded gravel.
- B. Edging: Shall be aluminum landscape edging, 3/16" x 4" depth, with black electrostatically applied baked on acrylic paint. Standard of quality shall be Permaloc Clean Line as manufactured by Permaloc and distributed by Northern Nurseries, Cicero, NY, 315-699-3999 or Architect approved equal.
- C. Weed Control Fabric: Standard of quality shall be Soil Check as manufactured by Brighton By-Products Co., Inc., New Brighton, Pennsylvania or Mirascape I or Architect approved equal.

PART 3 - EXECUTION

3.1 INSTALL GRAVEL DRIP STRIP

- A. Install as detailed per manufacturer's instructions. Place edging flush with finished grade. After compacting and smoothing subgrade to pitch positively away from the building, place weed control fabric.
- B. Place four (4") inches settled depth of gravel.

3.2 CLEAN UP

During the contract and at intervals as directed by the Architect and as gravel drip strip installation is completed, clear the site of all extraneous drip strip materials, concrete, gravel, asphalt and debris. Leave the site in a clean, safe, well draining, neat condition.

END OF SECTION 323003

SECTION 044001 - STONE WORK

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Granite architectural cut stone
 - a. Stair Treads
 - b. Landing Slabs / Pavers

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 260010 – General Electrical Provisions and Lighted Handrails
- B. Section 033000 – Cast-in-Place Concrete
- C. Section 079200 – Joint Sealants
- D. Section 321301 – Site Concrete Work

1.3 REFERENCES

- A. ASTM C 119-04: Terminology Relating to Dimension Stone
- B. ASTM C 170-90 (1999): Test Method for Compressive Strength of Dimension Stone
- C. ASTM C 615-03: Specification for Granite Dimension Stone
- D. ASTM C 880-98: Test Method for Flexural Strength of Dimensional Stone

1.4 DEFINITIONS

- A. Definitions contained in ASTM C 119 apply to this Section.

1.5 SUBMITTALS

- A. Product Data: For each stone type and each manufactured product shown on Drawings or specified.
 - 1. For each stone variety used on Project, include physical property data.
- B. Shop Drawings: Show fabrication and installation details for stone:
 - 1. Include dimensions and profiles of stone units.
 - 2. Finish(s)
 - 3. Anchoring Details
- C. Samples: Submit samples for each stone type required, exhibiting the full range of color characteristics expected.
 - 1. Submit a minimum of 2 each, 6 inches x 6 inches in size, in each color and finish specified.

2. In the case of more variegated stones, color photos shall be submitted in addition to the number of samples to show the full range of color and markings to be expected.
 3. Mortar Samples: Full range of exposed color and texture.
 4. Sealant Samples: For each type and color of joint sealant required.
- D. Certification: Submit a letter of certification from the stone fabricator, stating the material being furnished is the specified material and there are sufficient reserves available to supply the project and furnish replacements if needed.
1. Qualification Data: Submit qualification data indicated under Quality Assurance for the following:
 - a. Installer
 - b. Fabricator
- E. Material Test Reports: From a qualified independent testing agency, provide reports for each stone type.

1.6 QUALITY ASSURANCE

- A. Source Limitations for Stone: Obtain each stone variety from a single quarry. Also see paragraph 2.1 below.
- B. Installer Qualifications: Engage experienced installer that has completed stone installation similar in material, design, and extent to that indicated for the project.
- C. Fabricator Qualifications: Engage experienced fabricator that has completed stone fabrication similar in material, design, and extent to that indicated for the project.
- D. Preconstruction Stone Testing: Engage an independent testing agency to perform the following testing for each stone variety:
 1. Furnish test specimens that are representative of materials.
 2. Physical Property Tests: ASTM standards specified for stone type.
 3. Flexural Strength Tests: ASTM C 880
- E. Visual Mockup: Provide full sized mock-up of the approved stone or stones in the approved finishes, erected at a site agreed to by the Architect, Contractor, and the Fabricator. The approved mock-up shall become the standard for the project. Visual mockup may be incorporated into permanent work.

PART 2 - PRODUCTS

2.1 STONE SOURCE

- A. The project's intent is to utilize to the greatest extent possible granite slab and stair tread pieces that are in the Owner's stockyard. All of the stockpiled granite is "Berkshire Heavy Granite", purchased through Paragon Supply in Syracuse, NY.
- B. Coordination With Owner
 1. A list of sizes and approximate maximum quantities of stockpile granite pieces is provided on the Drawings.

2. It is the responsibility of the successful bidding contractor, immediately after a contract is in place, to verify dimensions and quantities of stockpiled granite materials, to determine the need for cutting stockpiled granite into usable pieces for the work indicated, and to determine sizes and quantities of additional granite pieces required to complete the work indicated.
 - a. Any additional granite pieces required to complete the work shall be purchased by the Owner and shall match the appearance and finish of the stockpiled granite materials.
 - b. The intent is for no required field cutting of stockpiled granite into usable pieces for the work indicated. Notify Owner of any required field cutting of stockpiled granite pieces prior to cutting.
3. Coordinate timeframe for delivery of additional purchased granite materials with the Owner and the overall project schedule.

2.2 STONE MATERIAL

- A. Granite: ASTM C 615.
- B. Cut stone from one block or contiguous, matched blocks in which natural markings occur.
- C. Appearance (Color, Veining, and Grain): Match appearance of Owner's stockpiled stone.

2.3 MORTAR MATERIALS

- A. Portland Cement: ASTM C 150, Type I or Type II, except Type III may be used for cold-weather construction.
- B. Hydrated Lime: ASTM C 207.
- C. Portland Cement-Lime Mix: ASTM C 150, Type I or Type III, and ASTM C 207.
- D. Aggregate: ASTM C 144.
- E. Mortar Pigments: Natural and synthetic iron oxides. Use only pigments with a record of satisfactory performance in mortar and containing no carbon black.
- F. Water: Potable.
- G. Non-shrink, Nonmetallic Grout: ASTM C 1107; recommended in writing by manufacturer, for exterior applications.

2.4 ANCHORS AND FASTENERS

- A. Anchor Material: Stainless steel, ASTM A 666, Type 304 ('J' - 'Z' - 'U' Strap Anchors).
- B. Dowels and Pins Material: Stainless steel, ASTM A 276, Type 304.
- C. Lead Shims: Sheet shims for stair tread leveling, Heckmann Anchors, No. 185, or equal. Plastic type shims for setting stones are not permitted.

2.5 FINISH

- A. Exposed surfaces shall have thermal finish to match Owner's stockpiled granite pieces.

2.6 STONE FABRICATION

- A. Fabricate stone per requirements, as shown on Drawings, and as follows:
 - 1. Granite Fabrication: Comply with NBGQA's "Specifications for Architectural Granite."
- B. Arrises: Remove the sharp edge from arrises to slightly blunt edge and to reduce chipping of the finished edge.
- C. Dress joints straight and at 90-degree angle to face. Shape beds to fit supports.
- D. Anchor Provision: Cut and drill sink provisions and holes in stone for anchors, fasteners, supports, and lifting devices as indicated or needed to set stone in place.
 - 1. Allow room for expansion of the anchoring devices where necessary.
 - 2. Verify locations.
- E. Finish exposed faces and edges of stone, (except sawed reveals), to comply with requirements indicated for finish and to match final samples and mockups.
- F. Joint Width: Cut stone to produce uniform joints 3/8 inch or as shown on Drawings.
- G. Provide reveals, reglets, openings, and similar features as required to accommodate adjacent work.
- H. Fabricate molded work, including washes and drips, to produce uniform stone shapes, with precisely formed arrises slightly eased, and matching profile at joints between units.
- I. Inspect finished stone units at fabrication plant. Replace defective units.
- J. Stone Fabrication Tolerances:
 - 1. Overall face size: Plus or minus 1/16 inch in both height and width
 - 2. Out of square: Plus or minus 1/16-inch difference of diagonals.

2.7 CLEANING

- A. Masonry cleaning Agent: Diedrich 202 New Masonry Detergent, by Hohmann & Barnard, Inc. or equal.
- B. Tools: Non-abrasive.
- C. Pressurized water: Low pressure-wide angle nozzle, not exceeding 3,000 psi.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine conditions for compliance with requirements for correct and level finished grade, mounting surfaces and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Comply with manufacturer's written installation instructions. Complete field assembly of site furnishings where required.
- B. Install site furnishings level, plumb, true, and located at locations shown on Drawings.

3.3 MASONRY CLEANING

- A. Verify mortar is fully set and cured.
- B. Clean surfaces and remove large particles with brass or nylon wire brushes.
- C. Cleaning Detergent: Apply in accordance with the manufacturer's instructions.
- D. Scrub all exposed surfaces with cleaning agent solution using a stiff brush. Thoroughly rinse and wash off cleaning solution, dirt, and mortar crumbs with clean, pressurized water. Protect areas below cleaning operations and keep masonry soaked with water and flush free of acid and dissolved mortar continuously for the duration of cleaning.
- E. Immediately remove stains, efflorescence, or other excess resulting from the cleaning and rinsing process.

3.4 CLEAN UP

- A. During the contract and at intervals as directed by the Landscape Architect and as stone work is completed, clear the site of extraneous materials, rubbish, and debris. Leave the site in a clean, safe, well-draining, and neat condition.

END OF SECTION 323004

SECTION 329001 - PLANTING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The extent of planting is shown on the drawings.
- B. Planting work includes, but is not limited to, the following:
 - 1. Soil preparation
 - 2. Planting commercially grown trees, shrubs, and perennials
 - 3. Transplanting trees and shrubs
 - 4. Planting accessories
 - 5. Maintenance: See watering, weed control and other specific requirements
 - 6. Guarantee
 - 7. Clean up
- C. The Contractor shall provide materials, labor, equipment, and services required to accomplish related work in accordance with the drawings and specifications.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 312201 - Site Earthwork
- B. Section 329201 - Lawns

1.3 SUBMITTALS (See Section 311201, 1.5)

- A. Furnish name of Landscape Contractor and/or Nurseryman to perform planting work and obtain Architect's approval.
- B. Provide Material Certificates, MPD, Test Reports or Samples as noted for:
 - 1. Mulch: Twelve (12 oz.) ounce sample
 - 2. Planting Soil Mixture: Material Certificate and Test Report. See 1.4 F.
 - 3. Plant Materials: Certificates of Inspection by regulatory agencies. Leave tags with botanical names and nursery source(s) on plants until reviewed by Architect.

1.4 QUALITY ASSURANCE

- A. Perform planting in compliance with applicable requirements of governing authorities having jurisdiction.
- B. Planting Contractor: Planting work by established Landscape Contractor and/or Nurseryman having sufficiently experienced crews, supervisor(s), specialized equipment and an excellent record of performance on completed planting projects of comparable size, scope, and quality. Provide expert plantsman to direct the work in the field on a regular, daily basis.
- C. Nomenclature: Plant names shall conform to the latest edition of "Standardized Plant Names" as adopted by the American Joint Committee of Horticultural Nomenclature. Plants shall be true to botanical name, tagged with a waterproof, legible tag showing botanical name, size, and nursery source of origin.

- D. Size and Grading: Plant sizes and grading shall conform to the latest edition of "American Standard for Nursery Stock" as sponsored by the American Association of Nurserymen, Incorporated (AAN), latest issue unless otherwise specified.
- E. Nursery Source: Obtain freshly dug, healthy, vigorous, plants nursery grown under climatic conditions similar to those in the locality of the project for a minimum of two (2) years. Plants shall have been lined out in rows, annually cultivated, sprayed, pruned, and fertilized in accordance with good horticultural practice. Plants shall have been transplanted or root pruned at least once in the past three years. Balled and burlapped plants must come from soil which will hold a firm root ball. Heeled in plants and plants from cold storage not accepted.
- F. Testing:
 - 1. Engage an independent, qualified State of New York soil testing service. Pay for soil testing and inspection services.
 - 2. Test representative material samples proposed for use as follows:
 - a. Planting Soil Mixture
 - (1) pH factor
 - (2) Mechanical analysis
 - (3) Percentage of organic content
 - (4) Recommendations on type and quantity of additives required to establish satisfactory pH factor and supply of nutrients to bring nutrients to satisfactory level for planting.
 - b. Peat Moss
 - (1) Loss of weight by ignition
 - (2) Moisture absorption capacity

1.5 JOB CONDITIONS

- A. Job conditions in Section 312201 apply.
- B. Planting seasons and timing conditions:
 - 1. Unless otherwise directed in writing by the Architect, the planting of trees, shrubs, and perennials shall be from in the Spring, March 15 to June 1, and in the Fall, from October 15 to December 15. Refer to 1.5 Fall Planting Hazard restrictions below.
 - 2. Proceed with and complete planting work as rapidly as portions of the site become available, working within the seasonal limitations for each kind of landscape work required.
 - 3. Do not conduct planting operations until fine grading in the work areas has been completed satisfactorily.
 - 4. Cooperate with other Contractors and trades working in and adjacent to planting locations. Examine drawings and specifications for the entire site and become familiar with the scope of other work required, especially underground utilities.

- C. Construction Review:
1. Plants must be reviewed by the Architect before planting, either at the site or at the nursery.
 2. Notify the Architect forty-eight (48) hours prior to delivery of plant materials to the site.
 3. Plants not meeting specifications or not installed according to drawings may be rejected at any time by the Architect.
- D. Provide plants of the species, size, and special characteristics noted on the Plant List. Substitutions not permitted unless approved in writing by the Architect. In the event that quantity discrepancies or material omissions occur in the Plant List, the planting drawings shall govern.
- E. Owner shall furnish water at the building face(s). Contractor shall provide labor, hoses, sprinklers and watering equipment.
- F. Fall Planting Hazard (FPH):
1. Notify the Architect in writing when any of the proposed plants are sensitive to fall planting in the experience of the Contractor. Plant materials noted as FPH in the PLANT LIST shall be planted in the Spring season. Assume sole responsibility of plant health related to materials noted FPH which are fall planted. Replace unhealthy or dead plants as described in the Guarantee.
 2. Plants considered very risky to transplant in the fall include, but are not limited to, the following; (based on information obtained from Princeton Nurseries, Fall 2001- Spring 2002 catalog and experience of the Landscape Architect)

Acer rubrum & vars.	Platanus acerifolia
Betula varieties	Prunus - Stone fruits
Carpinus varieties	Pyrus - Pears
Cornus florida & vars.	Quercus - Oaks
Crataegus varieties	Salix - weeping vars.
Halesia	Strax japonica
Koelreuteria	Tilia tomentosa
Liquidambar styraciflua	Zelkova varieties
Liriodendron tulipifera	Pinus nigra
 3. Evergreen plant materials are also considered a fall planting hazard.

PART 2 - PRODUCTS

2.1 PLANTS

- A. Plants shall be well formed without voids and open spaces, typical of their species or variety, with normal habit of growth. Plants shall be first quality, sound, healthy, vigorous, well branched and densely foliated. Plants shall have healthy, well developed fibrous root systems. They shall be free of defects, disfiguring knots, sun-scald injuries, frost cracks, abrasions, disease, insect pests, eggs, and larvae.
- B. Plants shall conform to the measurements specified in the Plant List. Measurements specified shall be minimum size acceptable for each variety. For each plant of minimum

size, provide a plant of maximum size. Plants that meet the requirements specified in the Plant List, but do not possess a normal balance between height and spread will not be accepted. Plants for use when symmetry is required, or in rows, shall be matched as nearly as possible. Plants shall not be pruned prior to delivery.

- C. Plants and tree trunks shall be measured when the branches are in their normal position. Dimensions for height and spread as contained herein refer to the main body of the plant and not from branch-tip to branch-tip. Shade trees shall be free of branches up to seven feet, with a single leader, well branched and reasonably straight stems. No trees which have had their leaders cut or damaged will be accepted. Trees must have straight trunks with single leader intact. There shall be no abrasion of the bark and no fresh cuts of limbs over one (1") inch which has not been completely calloused over.
- D. Balled and burlapped plants with firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Provide ball sizes complying with the latest edition of the "American Standard for Nursery Stock." Cracked or mushroomed balls are not acceptable.
- E. Container-grown stock: Grown in a container for sufficient length of time for the root system to have developed to hold its soil together, firm and whole.
 - 1. No plants shall be loose in the container.
 - 2. Container stock shall not be pot bound.
- F. Spade transplants: Shall be dug with Architect approved self propelled tree spade, Verimeer or Big John type equipment, capable of taking adequate size root ball to ensure the survival of transplants. Blades shall be sharp to ensure a clean cut of roots. Trees shall be sprayed prior to digging with an anti-desiccant and foliage tied and covered to reduce excessive moisture loss.
- G. Bare-root plants dug with adequate fibrous roots, covered with a uniformly thick coating of mud by being puddled immediately after they are dug, or packed in moist straw or peat moss.
- H. Evergreen trees shall be fully branched to the ground. (Park Standard)

2.2 PLANTING ACCESSORIES

- A. Planting soil mixture for trees, shrubs, perennials, annuals and plant beds shall be premixed in bulk, and contain the following by volume:
 - 20 parts clean on site soil
 - 10 parts topsoil
- B. Topsoil: 5-10% organic, 20-50% passing 200 mesh sieve. Fertile, friable, natural topsoil of leafy character, without admixture of subsoil material, obtained from a well-drained arable site, reasonably free from clay, lumps, coarse sand, stones, plants, roots, sticks, and other foreign materials, with acidity range of between pH 6.5 and 7.5, free of substances harmful to plants which will be grown in the soil.
- C. Starter Fertilizer: Water soluble fertilizer and plant food 10-52-17 containing no sulfate or chloride salts. Standard of quality shall be as manufactured by Fairlawn Chemical Co., Inc., 485 Holt Road, Webster, NY (585) 671-2400, and distributed by Organix, 569 Klem Road, Webster, NY (585) 787-2711 or Architect approved equal.

- D. Peat Moss: Brown to black in color, weed and seed free, dried sphagnum peat moss, containing not more than 9% mineral on a dry basis and conforming to NYSDOT 713-20.
- E. Bone Meal: Finely ground, raw, minimum 4% nitrogen and 20% phosphoric acid. It shall be delivered in sealed bags showing the manufacturer's guaranteed analysis.
- F. Stakes: Minimum eight (8') foot long, two (2") inch round or square sound wood stakes.
- G. Hose: New, two (2) ply garden hose not less than one-half (1/2") inch in diameter.
- H. Guy Wire: 10 gauge galvanized steel wire for guying plantings where specified.
- I. Tree Wrap: Standard of quality shall be four (4") inch wide waterproof 30-30-30 Krinklecraft, or Architect approved equal.
- J. Mulch:

Ground or shredded bark, medium size, from softwood trees. No pieces over two (2") inches in greatest dimension. Free from sawdust, stones, debris, and deleterious materials.
- K. Anti-desiccant: Standard of quality shall be "Wiltpruf" or Architect approved equal.
- L. Plant Bed Edging: Shall be polyvinyl commercially manufactured edge. Standard of quality shall be as manufactured by Oly-Ola Sales, Inc., Villa Park, IL (Tel. 1- 800-EDGINGS) or Architect approved equal.
- M. Weed Control Fabric: Non-Woven weed control fabric at plant beds.

PART 3 - EXECUTION

3.1 LAYOUT: Locate and stake in the field individual trees, shrubs, and plant beds for approval by the Architect prior to commencing planting operations.

3.2 GENERAL PLANTING OPERATIONS

- A. Transportation and Handling: Take precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected. Spray deciduous plant's foliage with an approved "Anti-Desiccant" immediately after digging to prevent dehydration. Dig, pack, transport, and handle plants with care to ensure protection against injury. Do not hold or move trees by stems. Support and protect root balls.
- B. Inspection certificates required by law shall accompany each shipment invoice or order to stock and on arrival, the certificate shall be filed with the Architect.
- C. Protect plants from drying out. When plants cannot be planted immediately upon delivery, properly protect them with soil, wet peat moss, or in a manner acceptable to the Architect. Water heeled-in plantings daily. No plant shall be bound with rope or wire in a manner that could damage or break the branches. Cover plants transported on open vehicles with protective covering to prevent wind burn. Do not hold or move trees by stems. Support and protect root balls.
- D. Provide dry, loose prepared planting soil for planting bed mixes. Frozen or muddy soil is not acceptable.

- E. Excavate tree pits, shrub and planting beds as dimensioned and located on drawings. When soils harmful to plant materials are encountered, immediately notify the Architect.
 - F. Plants shall be set plumb and straight and at such a level that after settlement, a normal or natural relationship of the crown of the plant with the ground surface will be established. Each plant shall be planted in the center of the pit. When balled, burlapped, and platformed plants are set, the platform shall first be removed from the pit and topsoil shall be carefully tamped under and around the base of each ball to fill voids. Burlap, ropes, and wires shall be removed from the sides and tops of balls, but no burlap shall be pulled out from under the balls.
 - G. Plants shall be planted in the planting soil mixture which shall be thoroughly watered and tamped. On level ground or slight slopes, a shallow basin a little larger than the diameter of the plant pit shall be left around each plant as shown on the drawings or as directed by the Architect. On steep slopes, the soil on the lower side of the plant shall be graded in such a manner that it will catch and hold water as shown on the drawings or as directed by the Architect.
 - H. Staking: Trees two (2") inch caliper or less shall be staked with two stakes. The trunks of trees larger than two (2") inches shall be staked with three stakes, equally spaced about the tree, set vertically and securely fastened. The trees shall be guyed with two or three strands of wire as specified, which shall run through the rubber hose and be securely tightened.
 - I. Install weed control fabric over the planting area to limits indicated or as directed by the Architect. Cut fabric as required to avoid shrubs.
 - J. Mulching: Spread continuous four (4") inches settled depth of mulch over finished surface of each plant, plant bed, or hedge trench as detailed. Water plants thoroughly after mulching. NOTE: The Architect may field check depth of mulch for proper weed control barrier since no weed control fabric is required.
 - K. Wrap deciduous trees with tree wrap to first branch and secure wrap.
 - L. Pruning: Each shrub or tree shall be pruned to preserve the natural character of the plant. Remove dead wood and crossing branches. Do not prune terminal leaders. Refer to drawings for additional tree pruning details.
 - M. Anti-Desiccant: Immediately after planting and staking, trees and shrubs shall be sprayed with anti-desiccant, using an approved power sprayer to apply an adequate film over trunks, branches, twigs, and/or foliage. Apply according to manufacturer's recommendations.
 - N. Replacements: Remove and immediately replace plants, as determined by the Architect, to be unsatisfactory during the initial planting installation.
- 3.3 INSTALL EDGE: When shown on drawings according to manufacturer's recommendations.
- 3.4 MAINTENANCE
- A. Maintenance by Contractor begins as soon as plants are installed. Protect plants from drought, washout and wind erosion. In general, maintain new plantings, including watering, weeding, pruning, applications of herbicides, fungicides, insecticides and pesticides, until healthy, vigorous plants are accepted by the Architect. Specifically:

1. Protect: Protect plantings against harsh weather, trespass and vandalism by wrapping, staking, temporary fencing or other means.
 2. Water: The Owner shall furnish water at the building face(s). The Contractor shall provide labor, hoses, sprinklers and watering equipment to maintain plants, prevent them from drying (browning) out, and keep plants in a healthy, growing condition until final acceptance.
 3. Cultivate: Cultivate plants by straightening any settled plant materials, restaking and guying, rewrapping, pruning dead and broken branches, weeding and re-applying anti-desiccant, herbicide, fungicide, insecticide and pesticide.
 4. Should the Contractor fail to protect and maintain the plantings, the Owner may issue a three (3) day notification to the Contractor, hire work done, and backcharge this Contractor.
- B. Maintenance by the Contractor continues until Certificate of Final Acceptance, or Final Punch List is satisfactorily completed and accepted by the Architect, whichever is later. Maintenance by Owner begins as soon as the Architect issues Certificate of Final Acceptance or Final Punch List is satisfactorily completed and accepted by the Architect, whichever is later.
- 3.5 STANDARDS FOR ACCEPTANCE: Review to determine acceptance of plantings will be made by the Architect upon request. Provide notification at least five (5) working days before requested review date.
- A. New plantings will be acceptable provided requirements, including maintenance, have been complied with. Healthy, well-formed, vigorous plants, true to species and size on Plant List, must be established, free of disease, broken branches and insects.
 - B. Any plant which is poorly formed, structurally unsound, not true to species and size on Plant List, diseased, contains broken branches, or is generally unhealthy (containing 25% or more browned out foliage), shall be rejected and replanted at no additional cost to the Owner.
- 3.6 GUARANTEE
- A. Contractor shall guarantee plant materials to be true to species and size on Plant List, and in vigorous growing condition, for a period of one (1 yr.) year from the date given on the Certificate of Substantial Completion or Final Punch List is satisfactorily completed and accepted by the Architect, whichever is later.
 - B. Any plant material that does not meet the Standards for Acceptance shall be replaced as soon as weather conditions permit. Replacement plantings shall be made in accordance with the specifications and drawings. Replacements shall be subject to inspection, acceptance, and guaranteed for one (1 yr.) year after date of replanting and acceptance by the Architect.
- 3.7 CLEAN UP
- During the contract and at intervals as directed by the Architect and as planting is completed, clear the site of extraneous materials, pots, flats, hose, wire, stakes, pruned branches, rubbish, and debris. Leave the site in a clean, safe, neat, well draining condition.

END OF SECTION 329001

SECTION 329201 - SODDED LAWNS

1.0 PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. The extent of the lawn work is shown on the drawings. The lawn work limits equal the Contract Limit Line except as noted on the drawings. Non-paved, non-roofed areas within the Contract Limit Line shall receive five (5") inches settled depth of topsoil and lawn seed or sod. Existing lawn areas that are not disturbed require no additional work. Lawn types as shown on the drawings are defined as follows:

1. Lawn: Strip and stockpile topsoil, remove debris, replace 5" topsoil and sod.

B. Lawn work includes, but is not limited to, the following:

1. Placing and spreading stockpiled topsoil
2. Importing, placing, and spreading topsoil
3. Providing mechanically screened topsoil for athletic fields
4. Sod bed preparation and placing
5. Temporary striping of athletic fields for planarity verification
6. Sodding lawns
7. Fertilizing
8. Maintenance: See watering, mowing, fertilizing, core aerating, weed control, grow in and other specific requirements.
9. Clean Up

C. Provide materials, labor, equipment, and services required to accomplish related work in accordance with the drawings and specifications.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Section 311201 - Site Preparation (Topsoil Stripping)

B. Section 312201 - Site Earthwork

1.3 REFERENCES

A. ASTM D4972 - Standard Test Method for pH of Soils

B. ASTM D5268 - Standard Specification for Topsoil Used for Landscaping Purposes

C. ASTM D422 and D1140 - Standard Test Method for Particle Size Analysis of Soils

D. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effect

E. ASTM F1647 - Standard Test Method for Organic Material Content of Athletic Field Rootzone Mixes.

F. ASTM F1632 - Standard Test Method for Particle Size Analysis and Sand Shape Grading of Golf Course Putting Green and Sportsfield Rootzone Mixes

G. ASTM F2060 - Standard Guide for Maintaining Cool Season Turfgrasses on Athletic Fields

- H. National Turfgrass Federation, Inc.
- I. National Turfgrass Evaluation Program (NTEP).
- J. Cornell Universities: Sportsfield Management Guidelines
- K. Turfgrass Producers International: Guideline Specifications to Turfgrass Sodding, latest edition.

1.4 SUBMITTALS: (See Section 311201, 1.5)

- A. Furnish name of Landscape Contractor or Nurseryman to perform lawn work and a list of completed projects including contact information for each project demonstrating compliance with applicable qualification requirements outlined in 1.5 "Quality Assurance" of this specification section.
- B. Provide Material Certificates and MPD for:
 - 1. Sod species and source, location for sod producer
 - 2. Limestone
 - 3. Fertilizers
 - 4. Compost
- C. Provide Topsoil Test Report (for Onsite and Imported Topsoil): Submit test results from Architect approved independent testing laboratory on their letterhead. Report shall:
 - 1. Certify soil texture, organic content, and particle size analysis.
 - 2. Chemical analysis testing nitrogen, phosphorus, potassium, calcium, magnesium, cation exchange capacity, base saturation percentages, micronutrients, and acidity (pH).
 - 3. Provide timing and rates of soil additives, liming and fertilizers. (Materials and procedures regarding soil amendments and fertilizers specified in this section are approximate.) Adjust all soil amendments to comply with test results based on actual soil tests and as directed by the Architect at no additional cost to the Owner.
- D. Provide letter on Contractor's letterhead certifying that only topsoil from the above tested source was used on the project.
- E. Provide schedule for review and approval as outlined under "Sequence and Scheduling" of this specification section.

1.5 QUALITY ASSURANCE

- A. General and Athletic Field Lawn Contractor: Work shall be contracted to a single, established Landscape Contracting or Nursery firm having sufficiently experienced crews, supervisor(s), specialized equipment, and an excellent record of performance on completed lawn and athletic field projects of comparable size, scope, and quality. Provide expert turfman to direct the work in the field on a regular, daily basis. The expert turfman shall be employed by the same company engaged in the installation of the lawn and athletic field work for a minimum of five (5) years.
- B. Sod Standards: Comply with the Turfgrass Producers International: Guideline Specifications to Turfgrass Sodding, latest edition.

- C. Testing: If required by the Architect for poor lawn grow in, engage an Architect approved independent, qualified New York State testing service and turfgrass specialist to evaluate Contractor grow in practices and materials used. Pay for all testing/inspection services, materials, and manpower to correct lawn areas as approved by the Architect.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Sod:

1. Cut, deliver, and install sod within a 24-hour period. Sod cutting and shipping shall be coordinated with the sod installers.
2. Do not harvest or transport sod when moisture content may adversely affect sod survival.
3. Protect sod from sun, wind, and dehydration prior to installation.
4. Do not tear, stretch or drop sod during handling and installation.
5. Store sod materials at site in an orderly manner at location(s) acceptable to the Architect.

B. Fertilizer:

1. Deliver fertilizer in the manufacturer's standard sized bags showing the weight, analysis, and manufacturer's name. Store all fertilizer under a waterproof cover or in a dry place as approved by the Architect.

1.7 JOB CONDITIONS

- A. Job conditions in Section 312201 apply.

B. Lawn Work:

1. Perform lawn work after planting, fine grading and other work affecting the ground surfaces in the lawn work areas has been completed satisfactorily.
2. Where practical, the Owner will provide a connection to the water system such as, but not limited to, existing yard hydrants, building hose bibs, etc. If this source is insufficient, not available or practical to provide a source of sufficient water to meet the requirements herein, the Contractor shall secure a water source sufficient to meet the water requirements herein such as, but not limited to, municipal hydrants, water truck, etc. at no additional cost to the Owner.
3. Contractor shall provide all watering equipment and appurtenances such as, but not limited to, meters, backflow preventer, labor, hoses, sprinklers, irrigation, and watering equipment.
4. Calendar dates for sodding under "Sequence and Scheduling" of this specification section shall apply.
5. Place sod only when ground surface is free of mud, frost, snow and ice.
6. Protect newly sodded lawns from vehicles, vandalism, or trespass. Provide temporary fencing or barriers as required.

C. Construction Review:

1. Upon completion of topsoil spreading and sod bed preparation, notify Architect to review work.
2. The Architect may review fine graded areas by the Contractor to check for surface smoothness and general compliance with grading requirements. Fill or cut by hand raking or other acceptable means to achieve smooth, even well-draining lawn surfaces free of "bird baths" and breaks in grade as directed by the Architect at no additional expense to the Owner.
3. On athletic fields the Architect shall review planarity of the field by string grading and/or by visual inspection of the temporary line markings installed by the Contractor prior to seeding/sodding as indicated in Part 3 - Execution.
4. Review of any fine graded lawn and athletic field areas by Architect shall not alleviate the Contractor of his responsibility for conforming to the required grades as shown on the drawings, nor be misconstrued as final acceptance of lawn work.

1.8 SEQUENCING AND SCHEDULING

A. Schedule: Prior to construction, provide a schedule which addresses the following lawn thresholds involving erosion control stabilization and competitive use of playfields:

1. Seeding and Sodding Installation: The Contractor may invoice for 50% of the approved schedule of value breakdown at the time of acceptable installation.
 - a. Unless otherwise directed in writing by the Architect, sod lawns from April 1 to May 15, and from August 15 to October 1. Seeding and sodding between May 16 and August 14 is not acceptable unless adequate water supply is available and applied to the turfgrass as required herein and approved by the Architect.
 - b. Proceed with and complete sodding as rapidly as portions of the site become available, working within the seasonal limitations for each kind of landscape work required.
2. Substantial Completion: The Contractor may invoice for 25% of the approved schedule of value breakdown at the time of substantial completion as described in Part 3, "Standards For Substantial Completion Of Lawns" of this specification section. At this time, the Architect may issue the Notice of Termination to satisfy the NYS DEC stabilization requirements. The date of substantial completion is anticipated approximately 60 days after lawn installation presuming all Contractor maintenance operations have been vigorously performed.
3. Final Acceptance: The Contractor may invoice for the final 25% of the approved schedule of value breakdown at the time of final acceptance as described in Part 3, "Standards For Final Acceptance Of Lawns" of this specification section. The date of final acceptance is anticipated approximately 30 days after substantial completion presuming all Contractor maintenance operations have been vigorously performed.
4. Owner Maintenance: After final acceptance of the lawns, the Owner will maintain for 1 to 3 growing seasons to reach competitive maturity and beyond per ASTM F2060.

2.0 PART 2 - PRODUCTS

2.1 TOPSOIL

- A. Source: Provide from off site, Architect approved source, when stripped, stockpiled, and amended quantity is inadequate to provide five (5") inches settled depth of topsoil for all lawn areas at no additional cost to the Owner.
- B. Texture and Content: Provide topsoil conforming to the following:
1. Soil texture and content:
 - a. Sandy loam topsoil, well drained homogeneous texture and of uniform grade, without the admixture of subsoil material. Topsoil shall be entirely free of dense material, hardpan, clay, stones over 3/4" in diameter, sod, or any other objectionable foreign material, including but not limited to, glass, debris, toxins, hazardous wastes and chemicals (such as atrazine or muriatic acid within the past seven (7) years) that may be injurious to humans, animals and plant materials.
 - b. Organic Matter: Containing not less than 5% or more than 10% organic matter in that portion of a sample passing a 1/4" sieve when determined by the wet combustion method on a sample dried at 105 degrees F.
 2. pH Value: Containing a pH value within the range of 6.0 to 7.0 on that portion of the sample which passes a 1/4" sieve.
 3. Soluble salt content: Not higher than 500 parts per million.
 4. Sieve Analysis for general lawn work: Shall be screened or rock picked to meet the following gradation:

Sieve Designation	% Passing
3/4"	100
1/4"	97-100
No. 200	20-50 (of the 1/4" sieve)
 5. Sieve Analysis for Athletic Field lawn work: Shall be mechanically screened by an onsite screening facility provided by the Contractor prior to placing and spreading. Athletic field topsoil shall meet the above sieve requirements.
- C. No lawn shall be sodded on topsoil that has been chemically treated until sufficient time has elapsed to permit dissipation of all toxic materials. The Contractor shall assume full responsibility for any loss or damage to turfgrass sod or the inability to grow a sufficient stand of grass from sod, as indicated herein, arising from improper use of chemicals or due to failure to allow sufficient time to permit dissipation of toxic residues, whether or not such materials are specified herein.

2.2 SOD

- A. Sod shall conform to NYSDOT Item 713-14 and be approved nursery grown mineral soil sod with 60% Kentucky Bluegrass and 40% Fine Fescue blend with a minimum (4) varieties. Muck grown sod is NOT acceptable. Installation of plastic netting is NOT acceptable.

- B. Provide well-rooted, healthy sod, free of diseases, nematodes and soil borne insects. Provide sod uniform in color, leaf texture, density, and free of weeds, undesirable grasses, stones, roots, thatch and extraneous material viable and capable of growth and development when planted. Sod is considered free of weeds when less than five (5) weeds are found per one hundred (100 s.f.) square feet.
- C. Thickness of Cut: Furnish sod machine cut at a uniform soil thickness of 0.60 inch at the time of cutting and of supplier's standard width, length, and thickness: uniformly 1" to 1-1/2" thick with clean cut edges. Measurement of thickness shall exclude top growth and thatch. Mow sod before stripping.
- D. Mowing Height: Before stripping, sod shall be mowed uniformly at a height of 1 to 1-1/2 inches.
- E. Thatch: Sod shall be relatively free of thatch, up to 1/2 inch allowable (un-compressed).
- F. Pad Size:
 - 1. For General Lawn: Individual pieces of sod shall be cut to the supplier's standard width and length. Maximum allowable deviation from standard widths and lengths shall be plus or minus 1/2 inch on width and plus or minus 5% on length. Broken pads and torn or uneven ends will not be acceptable.
 - 2. For Athletic Fields and Other Such Large Areas: Sod shall be thick-cut "big" rolls of 250 s.f. Maximum allowable deviation from standard width and lengths shall be plus or minus 1/8" on width and plus or minus 1/2% on length. Broken and torn or uneven rolls will not be acceptable.
- G. Strength of Sod Sections: Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically from a firm grasp on the upper 10% of the section.
- H. Standard of Quality: Shall be Premium Sod supplied by Batavia Turf (585) 548-2552, Sky High Turf Farms (315) 687-6510, Saratoga Sod Farm (518) 664-5038, Lakeside Sod (716) 741-2877 or Architect approved equal.

2.3 LIMESTONE

- A. Shall be ground limestone in the producer's standard bags containing not less than 85% total carbonates and conforming to the following gradations:

Sieve Designation	% Passing
No. 100	50-100
No. 20	100
- B. The lime shall be uniform in composition, dry and free flowing and shall be delivered to the site in the original, unopened containers, each bearing the manufacturer's guaranteed analysis. Any lime which becomes caked or otherwise damaged making it unsuitable for use will be rejected.

2.4 FERTILIZER

- A. For Starter Fertilization: Immediately prior to seeding, fertilize with a commercial starter fertilizer, granular, non-burning product, with not less than 90% organic slow acting, micro

nutrients and 1% iron, guaranteed analysis commercial fertilizer. Fertilizer ratio shall be: (1-2-1). Apply at a rate of 0.33 - 0.66 lbs of nitrogen (N) per 1,000 sf.

- B. For Subsequent and Final Fertilizations: Apply commercial fertilizer, poly coated granular non-burning product with not less than 90% organic slow acting, guaranteed analysis
 - 1. For Spring and Fall Lawn Work: Fertilizer ratio shall be: (3-0-1). Apply at rate of 1.5 - 2 lbs nitrogen (N)/1,000 s.f.

3.0 PART 3 - EXECUTION

3.1 INSPECTION

- A. Verify limits of lawn and other types of ground cover materials in the field with drawings. Also, any imported and screened topsoil areas. Notify Architect of discrepancies prior to proceeding with lawn work.
- B. Examine finish surfaces, grade, topsoil quality, and depth.
- C. Do not start lawn work until unsatisfactory conditions are corrected to the satisfaction of the Architect.

3.2 SPREAD TOPSOIL

- A. Limit preparation to areas which will be immediately seeded or sodded.
- B. Perform topsoil spreading operations only during dry weather.
- C. To ensure a proper bond with the topsoil, disc, harrow, decompact, or otherwise scarify and loosen the lawn subgrade to a depth of five (5") inches before spreading topsoil.
- D. Spread topsoil to ensure a minimum settled depth of five (5") inches in lawn areas.

3.3 PREPARE GENERAL LAWN AREAS

- A. Perform a pH test, sieve, and nutrient analysis of the topsoil and advise the results to the Architect prior to adding limestone or other soil amendments. Soil amendments shall be uniformly incorporated into the top four (4") inches of topsoil by discing, harrowing or other approved methods.
- B. Remove debris and stones 3/4" or larger by handpicking, fine tooth aluminum grading rakes, and mechanized stone picker. When topsoil has hardened, cultivate soil to a four (4") inch depth by plowing, discing, harrowing, or otherwise scarifying and loosening the topsoil.
- C. Grade lawn areas to a smooth, free draining even surface with a loose, moderately coarse texture. Scarify, rake, level, and roll with a light static roller as necessary to obtain true, even lawn surfaces and fill depressions as required to drain. Correct irregularities in the surface resulting from tillage operations to prevent formation of depressions or water pockets.
- D. Cultivate soil to provide a firm bed of minimum of four (4") inches deep, free of clods, stones, or foreign matter over 3/4" in diameter from the top of soil. Do not move heavy objects except necessary lawn making equipment over the lawn areas after the soil is prepared unless it is again loosened and graded. Remove stones and all debris greater

than one 3/4" in diameter during cultivation. Level undulations and irregularities in the surface.

- E. For pH correction provide adjusted rate of application as recommended in Topsoil Test Report submittal. For low pH correction: Add ground limestone at the rate indicated by the soil test. For high pH correction: Materials and application rates shall be determined by appropriate soil tests.
- F. Place starter fertilizer at the rate of 0.33 - 0.66 lbs. of nitrogen (N) per 1,000 sf. and mix into full depth of topsoil.
- G. Rake area with fine toothed aluminum grading rake before placing seed to obtain a smooth surface at the proper elevation. Drag area with a wood float to level out minor humps and hollows. Beds shall have a smooth friable uniform surface, free of areas ponding water.

3.4 SODDING

- A. Notify Architect that sod bed is ready for review as specified in Job Conditions. Obtain Architect's approval prior to sodding.
- B. Moistening the Soil: During periods of higher than optimal temperature for species being specified and after unevenness in the soil surface has been corrected, the soil shall be lightly moistened immediately prior to laying the sod.
- C. Sod immediately after preparation of bed and Architect's approval.
- D. Lay sod to form a solid mass with tightly-fitted joints in strips parallel to contours. Butt ends and sides of sod strips. Do not overlap edges. Stagger strips to offset joints in adjacent courses. Remove excess sod to avoid smothering of adjacent grass. Provide sod pad top flush with finish grade of adjacent curbs, pavements, drainage structures and seeded areas.
- E. Do not lay dormant sod or install sod on soil surfaces that are hot, dry, saturated or frozen.
- F. When sodding slopes, install initial row of sod in a straight line, beginning at bottom of slope. Place subsequent rows parallel to and lightly against previously installed row.
- G. Sod strips laid in drainageways must meet the finished grades shown on the drawings.
- H. Sod abutting existing lawn or seeded lawns shall meet flush with top of sod pad (soil and thatch). Remove excess topsoil as necessary to meet flush.
- I. Stake sod in lawn swales and on lawn slopes 3H to 1V (horizontal to vertical) and steeper to prevent slippage. Use two (2) biodegradable stakes per square yard of sod. Stakes are to have their flat sides against the slope and be driven flush with sod surface.
- J. Roll with light static lawn roller to ensure contact with subgrade.
- K. As sodding is completed in anyone section, water sod thoroughly to a depth sufficient to ensure the underside of the new sod pad and topsoil immediately below the pad is thoroughly wet. Contractor is responsible to ensure there is an adequate water supply available prior to installation. Do not allow sod to dry out.

3.5 MAINTENANCE

- A. Maintenance by Contractor begins as soon as lawns are sodded or seeded. Protect lawns from drought, washout and wind erosion. In general, maintain new installed lawn areas, including watering, fertilizing, core aerating, spot weeding, overseeding, mowing, applications of herbicides, fungicides, insecticides, and re-sodding until a full, uniform, healthy, vigorous stand of grass free of weed, undesirable grass species, disease, and insects is achieved and accepted by the Architect. Specifically:
1. Watering Sodded Lawns:
 - a. First Week: Soil on sod pads shall be kept moist. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of at least four (4") inches.
 2. Second and Subsequent Weeks: Contractor shall provide water to the lawns as required to maintain adequate moisture, in the upper four (4") inches of soil, necessary for the promotion of deep root growth until final acceptance. After 2nd mowing, water two (2) times weekly until thoroughly established.
 3. Protect: Protect lawn areas against trespass, vandalism and routine pedestrian traffic and Owner maintenance traffic by temporary fencing or other means.
 4. Repair: Repair, rework, resod and overseed (as originally specified for that area) areas that have washed out, eroded, do not germinate and are vandalized or otherwise damaged. Overseeding rates are to be adjusted to 6 lbs. of seed per 1,000 s.f.
 5. Mow: Initial mowing shall begin when the blade height reaches 2" and the soil will bear the weight of the lawn mower. Use mowers with low impact tires. For the first 3 mowings cut the grass blades to 1.5 inches. After that mow the grass when it reaches a height of about 3.5" to a height of about 2.5". Never remove more than 1/3 of the grass blade at any one mowing. A minimum of three (3) to five (5) mowings are required (approximately once per week after the initial germination period to final acceptance). Notify the Architect of dates in writing as mowing is performed. Excess clippings shall be carefully raked so as not to remove healthy grasses, and removed.
 7. Core Aerating: Between mowings three (3) and four (4), core aerate lawns about three (3") inches on center minimum three (3") inches deep to ensure aggressive root growth. This will require multiple passes at different directions to achieve 16 to 20 holes 3/4" to 1" diameter per square foot. Sweep scattered plugs off paved areas onto adjacent lawn areas. Pulverize plugs during subsequent mowing operations. Provide additional core aerating after the 10th mowing as directed by the Architect to expedite the lawn maturation process. Moisten field by thoroughly watering the topsoil profile, several days in advance of coring to facilitate proper penetration of the topsoil.
 8. Fertilizer: Immediately after core aerating, between mowings three (3) and four(4), apply subsequent fertilizer at the rate of 1.5-2 lbs./1,000 s.f. Apply a final fertilizer just prior to final acceptance at the same application rate.
 9. Weed Control: When infestation of weeds or crabgrass develops, treat infestation by hand weeding or herbicides control appropriate to the area. Furnish and install weed chemical control as recommended by manufacturer.

Herbicides controls must be acceptable to the Owner. Obtain and pay for permits. Use as directed by the manufacturer and applicable laws, codes, ordinances and regulatory requirements. Under NO circumstances is it acceptable to seed or overseed over Nutsedge, Crabgrass or other grassy/broadleaf weeds.

- B. Maintenance by the Contractor continues through the certificate of substantial completion to final acceptance by the Architect as described below. Maintenance by Owner begins after final acceptance of the lawn.
- 3.6 STANDARDS FOR SUBSTANTIAL COMPLETION OF LAWNS: Review to determine substantial completion of lawns will be made by the Architect, upon request. Provide notification at least five (5) working days before requested review date.
- A. Lawn areas will be substantially complete provided requirements, including maintenance, have been complied with. A healthy, vigorous, uniform, partially mature stand of lawn is established free of weeds, undesirable grass species, disease, and insects. With proper watering and maintenance as indicated herein, this should culminate after an approximate 60-72 day period for initial germination with average temperatures above 40°F. Grass roots shall have matured to a minimum of 1½" depth as determined by the Architect when core samples are taken.
 - B. Lawn areas shall not have more than 10% dead/bare spots.
 - C. Contractor shall provide a written copy of all maintenance activities performed up to this date.
 - D. The architect will prepare a written punch list of items which need correction prior to final acceptance.
- 3.7 STANDARDS FOR FINAL ACCEPTANCE OF LAWNS: Review to determine final acceptance of lawns will be made by the Architect, upon request. Provide notification at least five (5) working days before requested review date.
- A. Lawn areas will be acceptable provided requirements, including maintenance, have been complied with. A healthy, vigorous, uniform, full stand of lawn is established free of weeds, undesirable grass species, disease, and insects. Grass roots shall have matured to a minimum of 2" depth as determined by the Architect when core samples are taken.
 - B. Any lawn which contains disease, more than 1% dead/bare spots, or any dead/bare area greater than one (1) square foot shall be rejected and the unacceptable area(s) repaired as originally specified at no additional cost to the Owner.
 - C. In the event the Contractor fails to complete the punch list items within a 30 day period with average temperatures of 40°F after the time of Substantial Completion, the Contractor shall be liable to the Owner for any additional costs including those charged by the Architect.
 - D. Contractor shall provide a written copy of all maintenance activities performed during the contract up to final acceptance of lawns.
- 3.8 CLEAN UP
- During the contract and at intervals as directed by the Architect and as lawn work is completed, clear the site of extraneous materials, rubbish, and debris. Leave the site in a clean, safe, neat, well-draining condition.

END OF SECTION 329201

SECTION 334001 - STORM DRAINAGE

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The extent of the storm drainage is shown on the drawings.
- B. Storm drainage work includes, but is not limited to:
 - 1. Trenching, backfilling and compaction
 - 2. Storm structures, castings, and appurtenances
 - 3. Drainage fabric and molded sheet drainage panels
 - 4. Piping, jointing and fittings
 - 5. Connection(s) to other storm system(s)
 - 6. Adjusting existing storm structures and other utilities
 - 7. Storm Water Management Trench (SMT)
 - 8. Quality Control Testing and Submittals
 - 9. Clean Up
- C. Provide materials, labor, equipment, and services required to accomplish related work in accordance with the drawings and specifications.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 033000 – Cast-in-Place Concrete
- B. Section 311201 - Site Preparation
- C. Section 312501 - Erosion, Sediment and Pollution Control
- D. Section 312201 - Site Earthwork: For Elaboration of Shoring and Bracing, Dewatering, Backfilling, Compaction and Field Quality Control Testing.
- E. Section 321201 - Asphalt Paving
- F. Section 321301 - Site Concrete

1.3 REFERENCES

- A. ASTM D2321 Standard Practice for Underground Installation of Thermoplastic Pipe for Sewer and Other Gravity Flow Applications.

1.4 SUBMITTALS: (See Section 311201, 1.5)

- A. Shop Drawings (SD) required for:
 - 1. Precast concrete drainage structures showing sizes, elevations for openings and, HS20 loading certification.
- B. Manufacturer's Product Data (MPD) required for:
 - 1. Drainage structures and castings
 - 2. Pipe, joints, and fittings
 - 3. Stormwater Management Trench for Pipes, Molded Sheet Drainage Panels and Geotextiles

- C. Quality Control Submittals:
 - 1. Provide a list of completed projects including Owner's contact information for each project, demonstrating compliance with applicable "Experience Requirements" specified in "Quality Assurance" of this specification section.

1.5 QUALITY ASSURANCE

- A. Drainage Contractor Experience Requirements:
 - 1. Submit business name, business owner(s) name(s), business address, telephone number, website and/or email address signed by the Contractor/Subcontractor who meets the qualifications set forth in this specification and is proposed by the Contractor to perform the Drainage for this Project.
 - 2. Provide a list of at least four (4) Drainage work projects of comparable size, scope and quality completed successfully by the proposed Contractor/Subcontractor within the past three (3) years that includes the date completed, project Owner's name and current contact information, including telephone numbers and email addresses.

1.6 JOB CONDITIONS

- A. Job conditions in Section 312201 apply.
- B. Plan and execute piping work so that trenches are not opened for more than two hundred (200') feet in advance or left unfilled more than one hundred (100') feet behind. No overnight open excavation is permitted.
- C. CERTIFICATION OF STORM SYSTEM: The storm system must be installed and certified by a licensed County Plumber when required by municipal code or state law.
- D. CONSTRUCTION REVIEW: Notify the Architect when the storm system is approximately 25%, 50% and 95% complete.

1.7 SUBSTITUTIONS

- A. Contractor is responsible for design of any substituted structures, systems or units in Section 334001 by a NYS licensed engineer. Submit to Architect for approval.
- B. If a product is being submitted as a substitution to the specified product; the the Prime Contractor shall submit and request a product material substitution with his/her bid. The Prime Contractor shall at a minimum provide the following for review by the Architect and Owner:
 - 1. All submittals as specified herein
 - 2. Product comparison
 - 3. Cost Information (including proposal of change in Contract Sum)
 - 4. Contractor's certification that proposed substitution complies with requirements in the Contract Documents
 - 5. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

PART 2 - PRODUCTS

2.1 BACKFILL

- A. Backfill for pipes, Stormwater Management Trenches (SMT), drainage structures, and area drains shall be as specified in Section 312201.

2.2 STORM STRUCTURES AND CASTINGS

- A. Area Drain(s): Shall be a watertight PVC, HS-20 loaded drain basin with drop-in integral grates. Structures shall be able to accommodate all connecting pipes watertight. Refer to drawings for sizes and grate styles.
 - 1. 10" Standard light-duty drop-in grate.
 - 2. Standard of quality shall be Nyloplast as distributed by Advanced Drainage Systems, Inc., 800-821 6710, or Architect approved equal.

2.3 STORM STRUCTURE APPURTENANCES

- A. Precast Concrete Adjustment Rings: Shall be square or round depending on structure. Built in accordance to ASTM C478, and made of 5,000 psi concrete and reinforced steel, meeting ASTM A615 Grade 60, as manufactured by Fort Miller, Zeiser Wilbert, Jefferson Concrete or Architect approved equal.
- B. Mortar: Shall be lime, cement, and clean sand, 1:1:3 measured by volume, meeting ASTM C1107.

2.4 PIPING

- A. High Density Polyethylene Pipe (HDPE): Shall be heavy duty dual wall, high density polyethylene (HDPE) pipe conforming to ASTM F2648 for 4" to 60" pipe with a smooth inner wall, annular corrugations, "n" flow rating of 0.012, and HS-20 loading capability with minimum one (1') foot cover for 4" to 48" pipe and two (2') foot cover for 6"- pipe. Joint couplings for pipe shall be connected using a bell & spigot joint, meeting AASHTO M252, AASHTO M294, or ASTM F2306. The joint shall be soil tight and gaskets, when applicable, shall meet the requirements of ASTM F477. Standard of quality shall be N-12 Mega Green ST IB pipe as manufactured by Advanced Drainage Systems, Inc., 800-821 6710, or Architect approved equal.

2.5 STORM WATER MANAGEMENT TRENCH

- A. 4" to 10" Pipe: Shall be flexible, heavy duty, corrugated interior and exterior, perforated (or slotted) polyethylene pipe meeting requirements ASTM F-667 for 4" to 10" diameters. Standard of quality shall be ADS with prefabricated snap fittings as manufactured by Advanced Drainage Systems, Inc., (614) 457-3051 or Architect approved equal. Size pipe(s) as noted on drawings.
- B. 12" to 24" Pipe and Fittings: Shall be heavy duty polyethylene (HDPE), corrugated interior and exterior, perforated pipe meeting requirements AASHTO M252, AASHTO M294, Type C. Standard of quality shall be ADS with prefabricated fittings as manufactured by Advanced Drainage Systems, Inc., (614) 457-3051 or Architect approved equal. Size pipe(s) as noted on drawings.
- C. 4" to 12" Fittings: Shall be injection molded fittings with a smooth interior and exterior meeting requirements AASHTO M252 for 4" to 10" diameters, and ASTM M294 or ASTM F2306 for 12" diameter. Standard of quality as manufactured by Advanced Drainage

Systems, Inc., (614) 457-3051 or Architect approved equal. Size pipe(s) as noted on drawings.

- D. Backfill: Shall be clean, washed No. 1 stone as indicated in Section 312201.
- E. Soil Separation Fabric: Shall be a commercially manufactured non-woven polypropylene filter fabric. Standard of quality shall be Mirafi 140N as manufactured by TenCate or Architect approved equal.

2.6 MOLDED SHEET DRAINAGE PANELS

- A. Vertical Applications and Horizontal Applications Where Drainage Panel is not in Contact with Membrane Waterproofing: Nonwoven-Geotextile-Faced, Molded-Sheet Drainage Panel without Polymeric Film: Composite subsurface drainage panel acceptable to waterproofing manufacturer and consisting of a studded, nonbiodegradable, molded-plastic-sheet drainage core; with a nonwoven, needle-punched geotextile facing with an apparent opening size not exceeding No. 70 sieve laminated to one side of the core, without a polymeric film bonded to the other side; and with a vertical flow rate through the core of 15 gpm per foot.
- B. Vertical Applications and Horizontal Applications Where Drainage Panel is in Contact with Membrane Waterproofing: Nonwoven-Geotextile-Faced, Molded-Sheet Drainage Panel with Polymeric Film: Composite subsurface drainage panel acceptable to waterproofing manufacturer and consisting of a studded, nonbiodegradable, molded-plastic-sheet drainage core; with a nonwoven, needle-punched geotextile facing with an apparent opening size not exceeding No. 70 sieve laminated to one side of the core, without a polymeric film bonded to the other side; and with a vertical flow rate through the core of 15 gpm per foot.

PART 3 - EXECUTION

3.1 CONNECTIONS TO OTHER STORM SYSTEM

- A. Connections at Building(s):
 1. Locate accurately per site and plumbing drawings. Verify invert and sizes. Notify Architect of any discrepancies immediately, prior to installation.
 2. Install pipe and jointing to within five (5') feet of each building exterior. Install temporary plugs, cap end, mark above grade, and protect. Coordinate with Plumbing Contractor. Connection will be made by Plumbing Contractor.
 3. The Plumbing Contractor shall be responsible for connecting the building drains and leaders to the site storm system.
 4. Make connections securely, watertight and as detailed. Provide all necessary couplers and fittings to make connections.
- B. Connections to existing Storm Systems:
 1. Coordinate with the Municipality and other agencies having jurisdiction. Notify governing agency in writing a minimum of two (2) weeks prior to anticipated date of connection so that field procedures and installation can be reviewed by a representative of the Municipality. Copy letter to Architect.

2. Locate accurately per drawings. Verify inverts and sizes. Notify Architect of any discrepancies immediately, prior to installation.
3. Make connections securely, watertight and as detailed. Provide all necessary couplers and fittings to make connections.

3.2 TRENCHING AND BACKFILL

- A. Reference: Refer to Section 312201 for elaboration of shoring and bracing, supporting, rock, dewatering, and backfilling.
- B. Trenching:
 1. Remove material encountered to the depth shown on drawings and with a maximum width of fourteen (14") inches and a minimum of nine (9") inches each side of conduit springline as detailed. Provide safe shoring, sheeting, and bracing. Remove before backfilling. Backfill excess or over excavation as described in Section 312201 to proper line and grade. Compact to 95% density.
 2. When unsatisfactory soil materials are encountered at design elevations, immediately notify the Architect in writing via email. Continue as directed by the Architect. When conditions are not a result of Contractor's negligence, additional excavation may be directed by the Architect and paid for as a Change Order on a unit price basis in accordance with specification Section 312201.
- C. Water: Remove from trenches; drain trenches and/or provide sump pits and pumping equipment as necessary to keep trenches stable and dry at no additional cost to the Owner.
- D. Soft Material in Trench Bottom: Dry out and stabilize or remove and replace with imported granular backfill material to achieve firm, stable foundation at no additional cost to the Owner.
- E. Rock: Remove boulders and rock within one (1'-0") foot of pipe. Provide one (1'-0") foot of granular backfill between rock and conduits at no additional cost to the Owner.
- F. Backfill: Conform to details on drawings and as specified. Compact backfill to a minimum 95% of optimum density.

3.3 STORM STRUCTURES INSTALLATION

- A. Pre-Cast Structures:
 1. Install with corresponding extended precast base section. Precast base units shall be modified in the factory to have the correct size openings for piping.
 2. Provide drainage structures as detailed, built to finished grades given. Backfill with imported granular backfill material around drainage structure and compact to 95% density to avoid settlement.
 3. Mortaring: Thoroughly wet concrete risers before laying. Mortar joints. Joints shall be completely full and struck flush.
 4. Install any required steps in a continuous flight, avoiding any conflict with piping.
 5. Construct channels in base of storm structures for positive flow from inlet to outlet piping where detailed.
 6. Build completed structure to avoid any infiltration or exfiltration of water except at underdrains or storm water management trenches.

- B. Dry Well Units: Install as detailed, built to finished grades given. See masonry details for installation of casting. Build drywells to facilitate exfiltration of water. Line drywells with soil separation fabric and backfill with No. 1 stone as specified.

3.4 CASTINGS

- A. Provide the type specified and shown on drawings. Build to the finish grade as shown on drawings.
- B. Set castings firmly. Loose or rocking castings shall be rejected by the Architect.
- C. Paint all installed castings (inside and outside) with two (2) coats of black rust inhibitive paint as directed by the Architect.

3.5 ADJUSTING EXISTING UTILITIES

Adjust existing utilities as necessary to maintain utility service and meet finished grade conditions. Existing utilities include but are not limited to; hydrants, water valves, gas valves, electric pull boxes and manholes, storm drainage structures, cable and telephone markers, fiber optic cables, sanitary cleanouts and manholes, and guy wires.

3.6 PIPE LAYING

- A. Shall be in accordance with ASTM D2321 and pipe manufacturer requirements.
- B. Bed pipe in granular backfill or concrete as shown on drawings, compact under springline of pipe to assure firm support. Align pipe to line and grade given in plan and profile. Set batter boards or set by laser level.
- C. Pipe joints shall be made using the flexible gaskets specified. Clean bell end of any debris and lubricate. Remove protective wrap from gasket. Do not allow lubricated section to touch dirt or backfill. Foreign matter could adhere to surface and compromise joint integrity. Push together pipes so that the gasket is firmly seated in the socket. Always push spigot end into bell, not bell end into spigot.
- D. Place backfill around pipes to equal depths on both sides as work progresses.
- E. "Lamp" pipes to check for misalignment and breakage after backfilling has been completed. Replace pipes deviating more than 1/2" from line or grade at no additional cost to the Owner.

3.7 STORM WATER MANAGEMENT TRENCH

- A. Use only pipe which is undamaged and flexible (have not been exposed to direct sunlight for more than six (6) months causing brittleness, cracking or splitting prior to placement). Pipe shall be stored for at least twenty-four (24 hrs.) hours in an area having a minimum temperature of fifty (50) degrees F.
- B. Trenching: Remove material encountered to the depth shown on the drawings. Provide shoring, sheeting, and bracing as necessary for safety; remove before backfilling.
- C. Install continuous envelope of soil separation fabric around the backfill up to subgrade of finish material. Fill stone to proper elevation and wrap top. Overlap fabric minimum twenty-four (24") inches at top and joints. Secure fabric joints to prevent separation and infiltration of adjacent materials and separation of fabric.

- D. Install pipe sloped as shown on drawings.
- E. Compact backfill to maximum density of adjacent materials.

3.8 INSTALLATION OF MOLDED-SHEET DRAINAGE PANELS

- A. Place and secure molded-sheet drainage panels, with geotextile facing away from wall or deck substrate, according to manufacturer's written instructions. Use adhesive or another method that does not penetrate waterproofing, if present. Lap edges and ends of geotextile to maintain continuity. Protect installed molded-sheet drainage panels during subsequent construction.
 - 1. Where applicable, install board insulation / protection course before installing drainage panels.

3.9 FIELD QUALITY CONTROL

- A. Density Testing: Perform all density testing for piping trenches and structure backfill as indicated in Section 312201.

3.10 CLEAN UP

- A. During the contract and at intervals as directed by the Architect and as storm drainage is completed, clear the site of pipe, trench and backfill material, stone, concrete and debris. Leave the site in a clean, safe, well draining, neat condition.
- B. Clean drainage structures, storm water management trenches and pipes: Clean out sediment, rubbish, construction debris, and foreign objects thoroughly, immediately prior to final acceptance.

END OF SECTION 334001

UNIT PRICES

A. UNIT PRICE NO. L-1 UNDERCUTTING:

1. Description: Undercutting where unsatisfactory soils are discovered. This includes excavation, removal and haul away of unsuitable material, backfill and compaction with imported granular material as specified in Section 311201. Note: 50 cubic yards to be included in Base Bid.
2. Unit of Measurement: Five (5) Cubic yards, installed.

B. UNIT PRICE NO. L-2 SOIL STABILIZATION FABRIC:

1. Description: Woven soil stabilization fabric furnished and installed as described in Section 321201.
2. Unit of Measurement: Five (5) Square yards, installed.

C. UNIT PRICE NO. L-3 STANDARD DUTY CONCRETE SIDEWALK:

1. Description: Furnish and install new standard duty concrete sidewalk as described in Section 321301 and as detailed. This includes excavation and removals for placement of standard concrete walks.
2. Unit of Measurement: Five (5) Square feet, installed.

D. UNIT PRICE NO. L-4 SODDED LAWN:

1. Description: Sodded lawn as described in Section 329201. This includes fine grading, sodding, and maintenance.
2. Unit of Measurement: Five (5) Square yards, installed.

E. UNIT PRICE NO. L-5 6" STORM WATER MANAGEMENT TRENCH (SMT):

1. Description: 6" storm water management trench (SMT) piping, filter fabric and drainage stone, furnished and placed as described in Section 334001. This includes trenching and removals.
2. Unit of Measurement: Ten (10) Linear feet, installed.

F. UNIT PRICE NO. L-6 ROCK EXCAVATION(S):

1. Description: Rock excavation (trench or open) and removal off site as described in Section 312201. Note: 10 cubic yards to be included in Base Bid.
2. Unit of Measurement: Three (3) Cubic yards, removed.

G. UNIT PRICE NO. S-1 PARTIAL-DEPTH CONCRETE RESTORATION: VERTICAL SURFACES

1. Description: Partial-depth restoration of existing steel-reinforced cast-in-place structural concrete vertical surfaces (such as walls, faces of beams, slab edges) as described in Section 030130.71. For bidding purposes assume depth of restoration to be uniformly 3 inches deep and requires concrete removal behind existing reinforcing steel to provide $\frac{3}{4}$ " minimum clearance. Existing reinforcing steel shall be assumed to be corroded less than 15 percent, thereby not requiring replacement. Include all removal / prep work and application of approved restoration materials, followed by curing procedures and cleanup. Note: Include 50 square feet in Base Bid.
2. Unit of measurement: Per square foot, installed.

H. UNIT PRICE NO. S-2 PARTIAL-DEPTH CONCRETE RESTORATION: HORIZ. SURFACES

1. Description: Partial-depth restoration of existing steel-reinforced cast-in-place structural concrete horizontal surfaces (such as top surface of slabs) as described in Section 030130.71. For bidding purposes assume depth of restoration to be uniformly 3 inches deep and requires concrete removal behind existing reinforcing steel to provide $\frac{3}{4}$ " minimum clearance. Existing reinforcing steel shall be assumed to be corroded less than 15 percent, thereby not requiring replacement. Include all removal / prep work and application of approved restoration materials, followed by curing procedures and cleanup. Note: Include 100 square feet in Base Bid.
2. Unit of measurement: Per square foot, installed.

I. UNIT PRICE NO. S-3 PARTIAL-DEPTH CONCRETE RESTORATION: OVERHEAD SURFACES

1. Description: Partial-depth restoration of existing steel-reinforced cast-in-place structural concrete overhead surfaces (such as underside of slabs) as described in Section 030130.71. For bidding purposes assume depth of restoration to be uniformly 3 inches deep and requires concrete removal behind existing reinforcing steel to provide $\frac{3}{4}$ " minimum clearance. Existing reinforcing steel shall be assumed to be corroded less than 15 percent, thereby not requiring replacement. Include all removal / prep work and application of approved restoration materials, followed by curing procedures and cleanup. Note: Include 100 square feet in Base Bid.
2. Unit of measurement: Per square foot, installed.

J. UNIT PRICE NO. S-4 REPLACEMENT #5 CONCRETE REINFORCING STEEL

1. Description: As-needed replacement of existing concrete reinforcing steel corroded more than 15 percent exposed by demo / prep work for partial-depth concrete restoration. Replacement rebar to be low-alloy ASTM A706 deformed bars. Assume replacement bars are #5 and 4 feet long. Provide welded splice to existing rebar at both ends, either butt or lapped, in accordance with AWS D1.4 and capable of transferring 125% of the bar yield strength. Note: Include 20 #5 x 4 foot long replacement bars in Base Bid.
2. Unit of measure: Per each #5 x 4 foot long replacement bar, installed.

K. UNIT PRICE NO. S-5 REPLACEMENT #7 CONCRETE REINFORCING STEEL

1. Description: As-needed replacement of existing concrete reinforcing steel corroded more than 15 percent exposed by demo / prep work for partial-depth concrete restoration. Replacement rebar to be low-alloy ASTM A706 deformed bars. Assume replacement bars are #5 and 4 feet long. Provide welded splice to existing rebar at both ends, either butt or lapped, in accordance with AWS

D1.4 and capable of transferring 125% of the bar yield strength. Note: Include 20 #7 x 4 foot long replacement bars in Base Bid.

2. Unit of measure: Per each #7 x 4 foot long replacement bar, installed.

L. UNIT PRICE NO. S-6 REPLACEMENT #9 CONCRETE REINFORCING STEEL

1. Description: As-needed replacement of existing concrete reinforcing steel corroded more than 15 percent exposed by demo / prep work for partial-depth concrete restoration. Replacement rebar to be low-alloy ASTM A706 deformed bars. Assume replacement bars are #5 and 4 feet long. Provide welded splice to existing rebar at both ends, either butt or lapped, in accordance with AWS D1.4 and capable of transferring 125% of the bar yield strength. Note: Include 20 #9 x 4 foot long replacement bars in Base Bid.
2. Unit of measure: Per each #9 x 4 foot long replacement bar, installed.

M. UNIT PRICE NO. S-7 CRACK REHABILITATION BY INJECTION GROUTING WITH EPOXY

1. Description: Prepare and fill existing cracks in concrete walls by epoxy injection as described in Section 036423. For bidding purposes assume cracks extend through the full thickness of element (assume 12"). Assume cap sealing required on both faces of element. Include all prep work and cleanup. Note: Include 100 linear feet of crack rehabilitation in Base Bid.
2. Unit of measure: Per linear foot, installed.

N. UNIT PRICE NO. M-1 BRICK REPOINTING

1. Description: Remove loose and deteriorated mortar without cutting brick and repoint with as described in Section 045010. Note: Include 10 square feet of brick repointing in Base Bid.
2. Unit of Measurement: Per square foot, installed.

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PLEASE NOTE: SECTIONS THAT HIGHLIGHTED MUST BE FILLED OUT TO COMPLETE THIS CONTRACT. THIS INCLUDES CONTENT IN PAGE 1, SECTIONS 4.20, THE SIGNATURE PAGE & SCHEDULE A. DELETE THIS TEXT BEFORE FINALIZING THIS AGREEMENT.

Contract Number: _____

This Agreement (referred to alternately as "Agreement" or "Contract") made as of the _____ day of _____, 20____, for Contract Number _____ 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, 353 Broadway, Albany, New York 12246, on behalf of State University of New York at _____ located at _____ hereinafter referred to as "University" and _____ having its principal office located at _____, and a Federal ID or Social Security No. of {insert number}, hereinafter referred to as "the Contractor."

WITNESSETH:

The parties hereto agree that the Contractor shall:

(a) furnish and perform all work of every kind required and all other things necessary to complete in the most substantial and workmanlike manner the construction of

{Campus Let Project Number}
{Project Title}
At {Campus}

in strict accordance with the Contract Documents; and

(b) complete all work necessary for substantial completion by **{insert completion date OR insert "within _____ days after the date of the Notice to Proceed"}**, or within the time to which such completion may have been extended in accordance with the Contract Documents;

(c) in the event it fails to substantially complete all the work on time, pay to the University liquidated damages in accordance with the liquidated damages schedule listed on page one of the contractors proposal for each calendar day of delay of substantially completing all the work; and

(d) do everything required by the Contract; subject, however, to the terms, provisions and conditions listed hereinafter.

(e) The University shall pay and the Contractor shall accept as full and complete payment for the performance of this Agreement, subject to additions or deductions as provided herein, the total contract compensation of \$ _____, (in figures), _____ (in words).

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:

Allowance Any and all work and materials which may be required of the Contractor in performing work set forth under one or more allowances to this Agreement shall be Work, as defined herein, which shall be performed in accordance with the base schedule for the performance of the Contractor's Work. Contractor shall not be entitled to an extension of time for the performance of an allowance or all allowances.

Consultant The Architect or Engineer 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.

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Bidding Documents	Notice to Bidders, Information for Bidders and Proposals
Bonds	Performance Bond and Labor and Material Bond
Delay	For purposes of this document and as used herein and in any other contract documents between the Contractor and the University the word "delay" shall be interpreted broadly and shall include by way of example only and not by way of limitation: delay, disruption, interference, inefficiencies, impedance, hindrance, acceleration, resequencing, schedule impacts, lack of timeliness by the University and/or Consultant, and lack of coordination, cumulative impact of multiple change orders, delay and other impacts.
Contract or Contract Documents	The Agreement, Exhibits A and A-1, Bidding Documents, Bonds, Specifications, Project Manual, Drawings Addenda issued prior to the opening of bids and Change Orders issued after award of the Contract.
University	State University of New York
Notice to Proceed	Written notice provided by the University to the Contractor stating the date on which the contractor can begin project work.
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.
Substantial Completion	Substantial Completion is the completion of Work so that the Project can be fully occupied and used for the purposes for which it is intended. Substantial Completion includes: (1) completion of all work required for the issuance of a code compliance certificate, or a temporary approval for occupancy, completed in a manner that includes no uncorrected deficiency or material violation of the Building Code of New York State within the area or work for which the certificate is to be issued; (2) completion of all building systems and functional testing of said systems (other than tests that cannot be performed due to the seasonal environmental conditions in effect at the time of completion); (3) acceptance and approval of the Operating Instructions and Manuals and Training of Campus Personnel; and (4) the sum of values determined for Punch List work at the time of Substantial Completion shall not exceed one (1) percent of the amount of the Contract consideration unless otherwise agreed to by the University.
Work	The using, performing, installing, furnishing and supplying of all materials, equipment, labor, services 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.

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 and abbreviations which have a well-known, technical or trade meaning shall be interpreted as having such meaning in connection with the Contract.

Section 1.04 Entire Agreement

The Contract 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.

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Section 1.05 Successors, Assigns and Agents

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 University Fund act as its agent 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.

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 to 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) Exhibit A and A-1, (b) Addenda (later dates to take preference over earlier dates); (c) Amendments to Agreement; (d) Agreement; (e) Bidding Documents; (f) Specifications; (g) Schedules (i.e. finish schedules); (h) Large scale detail Drawings (detail drawings having a scale of 3/4" and over); (i) 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); (j) Small scale detail Drawings (detail drawings having a scale of less than 3/4"); and (k) 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 University shall establish the format for the Contract Documents (hard copy and/or electronic media) at the start of the Project. The Contractor shall be furnished, free of charge, with two (2) copies of the Specifications and Drawings in the selected format(s). Any other copies of the Specifications and Drawings which the Contractor may desire can be obtained at the Contractors expense.

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

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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

The Contractor hereby agrees that the Contract was secured without collusion or fraud and that neither any officer nor any employee of the University has or shall have a financial interest in the performance of the Contract or in the supplies, work or business to which it relates, or in any portion of the profits thereof.

Section 1.12 Notices

- (1) All notices permitted or required hereunder shall be in writing and shall be transmitted either:
- a. via certified or registered United States mail, return receipt requested;
 - b. by personal delivery;
 - c. by expedited delivery service; or
 - d. by email if actually received by the University. Contractor bears the burden of proof of service by email and receipt of email by the University.

Such notices shall be addressed as follows or to such different addresses as the parties may from time to time designate:

{insert campus}
Name: {insert designated contact's name}
Title: {insert designated contact's title}
Address: {insert campus address}
Telephone Number: {insert phone}
E-mail address: {insert email}

{insert company name}
Name: {insert designated contact's title}
Title: {insert designated contact's title}
Address: {insert company}
Telephone Number: {insert phone}
E-mail Address: {insert email}

- (2) Any such notice shall be deemed to have been given either at the time of personal delivery or actual receipt by the University, or in the case of email, upon receipt by the University.
- (3) The parties may, from time to time, specify any new or different address in the United States as their address for purpose of receiving notice under this Agreement by giving fifteen (15) days written notice to the other party sent in accordance herewith. The parties agree to mutually designate individuals as their respective representatives for the purposes of receiving notices under this Agreement. Additional individuals may be designated in writing by the parties for purposes of implementation and administration/billing, resolving issues and problems and/or for dispute resolution.

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 neutral 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

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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 and/or direction 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 and/or direct 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 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 and after a court of competent jurisdiction determines the University's said decision or determination to be fraudulent, capricious, arbitrary or so grossly erroneous as necessarily to imply bad faith in an action brought in accordance with Section 4.24.

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. Notwithstanding the provisions of Section 1.12 of the Agreement and any other provisions of the Contract documents to the contrary, 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 fifteen (15) 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. Notwithstanding the provisions of Section 1.12 of the Agreement and any other provisions of the Contract documents to the contrary, 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, including an initial and updated detailed Time Progress Schedule,
 - d. Produce for the University's examination, upon notice from the University, such information and documentation as directed by the University, which shall include but not be limited to job cost reports and all estimates and

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documentation used to develop the Bid Proposal, all its books of account, bills, invoices, payrolls, subcontracts, time books, progress records, daily reports, bank deposit books, bank statements, checkbooks and cancelled 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, c and d 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, c and d 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 or 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) The Contractor's failure to submit and maintain a Time Progress Schedule in accordance with Section 3.02 of the Agreement shall be deemed to be a waiver by the Contractor of all claims for additional time, compensation or damages as a result of any condition which is an alleged cause of delay in the completion of the work. The Schedule of Record, regularly updated and submitted at required durations in accordance with the provisions of the General Requirements, Section paragraph titled "Project Schedule": (i) informs the University and affords it promptly of regular opportunities to change its plans or mitigate or remedy the effects or circumstances giving rise to a claim of delay in the completion of the work or take such other action as may seem desirable to verify any claimed circumstances as they occur; and (ii) forms a record which becomes the basis of the University's verification of an alleged cause of delay in the completion of the work.
- (4) 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.
- (5) 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 or Field 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 or 4.05A 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 Change Order or Field Order or as otherwise required by the University thereto providing for extra work of either a qualitative or quantitative nature and in such event the Contract consideration may be increased by an amount to be determined in accordance with the provisions of Sections 4.02 and 4.05A of the Agreement and the completion date for all or any part of the work may 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.

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- (2) Nothing in the Contract Documents shall excuse the Contractor from proceeding with the extra work as directed., 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 or an extension of time 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 the University believes is incorrect; in the event the University exercises such right, that 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 work in 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, approved by the Consultant and the University, 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.
- (3) If the superintendent, project manager or other supervisory employees are not satisfactory to the University, the Contractor shall, if directed by the University, immediately replace such supervisory employees with other supervisory employees acceptable to the Consultant and the University. Such replacement and all related impacts shall be at no additional cost to the University.

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 a disciplined orderly manner and in accordance with the Time Progress Schedule and the contractually required time of performance. All workers engaged in special 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 from 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.

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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 Agreement 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 Building Code of New York State and the applicable Federal and State health and labor laws and regulations.

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 benchmark and one (1) fixed base line at the site. The Contractor shall work from the benchmarks 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 or Field Order may be issued, the amount of which shall be determined in accordance with the provisions of Sections 4.02 and 4.05A, 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 4.02 and 4.05A of the Agreement.

Section 2.14 Unforeseen Difficulties

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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 unforeseeable 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 that 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 therefor in accordance with the provisions of Sections 4.02 and 4.05A 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 or permit the letting of 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 Agreement 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 Agreement 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 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.
- (3) 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 reception 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 prove that the materials and/or work tested do not meet the requirements of the Contract, then the entire cost of such tests and any additional testing and or inspections required until the work is deemed compliant 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 therefor, 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

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workmanship, the University may, by contract or otherwise, replace such material and/or correct such workmanship, and charge the costs thereof to the Contractor or it may cancel the Contract and terminate the Contractor's employment as provided in the Agreement.

- (3) The Contractor, without additional charge, shall promptly furnish all reasonable facilities, labor materials and equipment with associated operators necessary for the safe and convenient access, 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 therefor. 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 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 Sections 4.02 and 4.05A.
- (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 receipt of the notice to proceed, 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

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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 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 ten (10) 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.
- (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 Agreement 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 conformed 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 Agreement 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, Submittal, Mockup, and Sample schedules 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 and mock-ups 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. Shop drawings include drawings, diagrams, schedules, product data and other information or materials specially prepared for the work by the Contractor to illustrate some portion of the work. Product data include standard illustrations, schedules, performance charts, instructions, brochures, diagrams and other information identified by the Contractor to illustrate materials or equipment for some portion of the work.
- (3) All Shop Drawings, mock-ups 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. 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

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all other sections or trades whose work is related thereto, as required for proper and complete installation and sequence 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) At the start of the Project, the format for submittals shall be established by the University. If an electronic method is selected for the submission and approval of submittals, the Contractor shall provide submittals in a PDF format and the Consultant will return the submittals in electronic format to the Contractor. For both hard-copy and electronic submittal formats, all submittals that require physical samples or mock-ups shall be provided in accordance with the requirements set forth in the Contract Specifications. Shop Drawings and Samples, submitted by the Contractor in accordance with the approved Shop Drawing and Sample schedule that is included in the Time Progress 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. Should more than two (2) separate reviews of any required shop drawings or samples submitted be necessary, in the judgement of the Consultant and the University, the Contractor shall be responsible for the reasonable costs incurred by the University for such additional reviews by the Consultant.
- (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, 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 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.
- (9) The Contractor may be required to provide professional services that constitute the practice of architecture or engineering when specifically required by the Contract Documents for a portion of the work or the Contractor needs to provide such services in order to carry out its responsibilities for construction means, methods, techniques, sequences and procedures. When professional services are required in the Contract Documents, the Consultant will specify all performance and design criteria that such services must satisfy. The University

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and Consultant shall be entitled to rely on the adequacy, accuracy and completeness of the professional services, certifications, and approvals performed or provided by design professionals working for the Contractor.

- (10) Contractor agrees that the University may deduct from any application for payment made by the Contractor, any and all Design Professional, Consultant and/or Construction Management fees and costs incurred by the University together with a markup upon such hard costs in the amount of 15% in the review or evaluation of any substitutions for methods, products or performance pursuant to this Section 2.19.

Section 2.20 Equivalent - Approved Equal

(1) Equivalent or Approvals - General

- a. The words "similar and equal to", or equal", "equivalent" and such other words of similar content and meaning shall for the purposes of this Agreement be deemed to mean similar and equivalent to one of the named products. For the purposes of subdivisions (1) and (2) of this Section and for the 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.
- b. 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 (2) 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.
- c. Nothing in the Contract Documents shall be construed as representing, expressly or implied, 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.
- d. 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.
- e. Requests for approval of proposed equivalents will be received by the Consultant only from the Contractor.
- f. Approval shall in no way be construed as: (a) permitting any departure whatsoever from the Contract Documents, (b) relieving the Contractor of full responsibility for any error in quality of materials, details, dimensions, sequence of work, 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 to achieve a functionally complete facility or result 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.
- g. Contractor agrees that the Contractor approves and authorizes the deduction from Contractor's applications for payment any and all costs incurred by the Construction Manager, Consultant, Design Professional or otherwise in evaluating Contractor's submissions under this Section 2.20, together with a markup upon such hard costs in the amount of 15%.

(2) Equivalent or Approvals After Bidding

- a. Any and all submissions for "or equal" products which are submitted by the Contractor after award of the Contract must be made by the Contractor within ninety (90) calendar days after the date of award. Contractor agrees that it waives and relinquishes the right, claim or privilege, if any, to submit "or equal" proposals if such

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are made ninety (90) calendar days after the date of award of the Contract to the Contractor.

- b. 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.
- c. Where the Consultant pursuant to the provisions of this 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 Agreement, all such revision and redesign and all new Drawings and details required therefor shall be subject to the approval of the Consultant and shall be provided by the Contractor at its own cost and expense.

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.

- (3) Contractor agrees that the University may deduct from any application for payment made by the Contractor any and all Design Professional, Consultant and/or Construction Management fees and costs incurred by the University, together with a markup upon such hard costs in the amount of 15%, in the consideration or evaluation of any substitutions for methods, products or performance pursuant to this Section 2.20.

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 any time 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. 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

(1) Partial Completion

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

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Contractor that it accepts such portion of the work. Such action 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. The partial completion of any portion of the Contractor's work by the University, the Campus or the Consultant, shall not impact the assessment of liquidated damages or actual costs for delays or disruption to the Project caused by the Contractor, its subcontractors or vendors.

(2) Substantial Completion

When all the Work covered by the Contract is substantially completed, as defined in Section 1.01, 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. In the judgement of the University, should more than two (2) separate inspections of the Work be necessary, the Contractor agrees that the University may deduct from any application for payment made by the Contractor, any and all Design Professional, Consultant and/or Construction Management fees and costs incurred by the University together with a markup upon such hard costs in the amount of 15% for all such additional inspections.

The Contractor must fully, completely and acceptably perform all Punch List work and any other work subsequently discovered remaining to be completed or corrected, within ninety (90) calendar days of Substantial Completion or within such other timeframe stipulated by the University or Consultant. Failure to complete the Punch List within the time so designated hereunder may be deemed default on the part of the Contractor.

(3) Final 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. In the judgement of the University, should more than two (2) separate inspections of the Work be necessary, the Contractor agrees that the University may deduct from any application for payment made by the Contractor, any and all Design Professional, Consultant and/or Construction Management fees and costs incurred by the University together with a markup upon such hard costs in the amount of 15% for all such additional inspections.

Section 2.24 Record Drawings

(1) At the start of the Project, the format for Record Drawings shall be established by the University. 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 for hard copy format or electronic editing tool in contrasting color for electronic format, 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 anchorages 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, Field 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; (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; and (f) final make and model for all significant equipment and devices listed in the specifications. The Contractor shall also provide an electronic version as determined by the Consultant.

(2) Periodically during the work, the Consultant may request submission of a progress set of Record Drawings for review and advise the Contractor of errors or omissions, if any, that must be corrected or completed prior to final submission of the Record Drawings. Shop Drawings shall not be acceptable as Record Drawings.

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- (3) The Contractor shall submit the Record Drawings to the Consultant at least fifteen (15) days prior to the date of Substantial Completion. The Consultant will then review the Record Drawings and, if they shall determine that the Record Drawings represent the actual field construction being completed, they shall so advise the Contractor. If not satisfactory, the Record Drawings will be appropriately marked and returned to the Contractor for correction thereof, in which event the Contractor shall promptly correct and resubmit to the Consultant a corrected copy of the Record Drawings. Acceptance of the Record Drawings by the University is a condition precedent to the Contractor's entitlement to receive Final Payment.

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 becomes insolvent; or if
 - b. The Contractor makes an assignment for the benefit of creditors pursuant to the statutes of the State of New York; or if
 - c. A voluntary or involuntary petition in bankruptcy is filed by or against the Contractor; or if
 - d. A receiver or receivers are appointed to take charge of the Contractor's property or affairs; or if
 - e. The Contractor fails to commence work when notified to do so by the Consultant; or if
 - f. The Contractor shall abandon the work; or if
 - g. The Contractor shall refuse to proceed with the work or extra work when and as directed by the Consultant or the University; or if
 - h. 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
 - i. The Contractor shall sublet, assign, transfer convey, or otherwise dispose of the Contract other than as herein specified; or if

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- j. The University shall be of the opinion that 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
 - k. The University shall be of the opinion that the work cannot be completed within the time herein provided therefor 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
 - l. The work is not completed within the time herein provided therefor or within the time to which the Contractor may be entitled to have such completion extended; or if
 - m. The University shall be of the opinion that the Contractor is or has been willfully or in bad faith violating any of the provisions of this Agreement;
 - n. The University shall be of the opinion that the Contractor is not or has not been executing the Contract in good faith and in accordance with its terms; or if
 - o. At any time during the period of the Agreement, insurance as required is not in effect or proof thereof is not provided to the University.
- (2) Before the University shall exercise its right to declare the Contractor in default by reason of the conditions set forth in the above items *a, b, c, d, e, f, g, h, i, j, k, l, m, n* and *o*, 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.
- (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 certificate 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.

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- (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 applicable by law.

Section 2.27 Termination for Convenience

- (1) The performance of work under this Agreement 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. 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 action 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 cancelled. 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 foregoes reimbursement therefor;

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- 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 allowability 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 Sections 4.02 and 4.05A 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 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 this 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.

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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 upon receipt of notice to proceed, unless the University consents in writing, to begin at a different date, and that it will prosecute the same with such diligence that all work covered by the Contract shall be substantially completed and performed on or before the time specified on page one of the Agreement.
- (2) The Contractor further agrees that time is of the essence in this Agreement and that all the work shall be prosecuted in such manner and with sufficient plant and forces to complete all work timely.

Section 3.02 Time Progress Schedule

- (1) To show compliance with the requirements of Section 3.01 of the Agreement, provide and maintain a Time Progress Schedule in accordance with the General Requirements, Special Conditions, Section paragraph titled "Project Schedule". Unless otherwise accepted by the University, the Time Progress Schedule shall be strictly adhered to by the Contractor. The time for substantial completion shall be on or before the time specified on page one of the Agreement.
- (2) 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.
- (3) The failure of the Contractor to submit a Time Progress Schedule, the University's or the Consultant's acceptance of the Contractor's time progress schedule or lack of such acceptance, the means and/or methods of construction employed by the Contractor, including any revisions thereof, and/or its failure to revise the same shall not relieve the Contractor of its obligation to accomplish the result required by the Contract in the time specified on page one of the Agreement, nor shall the exercise of the Consultant's or the University's right to reject any portion of the work, create or give rise to any claim, action or cause of action, legal, equitable or otherwise, against the Consultant or the University.
- 4) The failure of the Contractor to submit and maintain a Time Progress Schedule in accordance with the General Requirements shall be deemed to be a waiver by the Contractor of all claims for additional compensation or damages as a result of any condition which is an alleged cause of delay in the completion of the work.

Section 3.03 Time Progress Schedule for Shop Drawings and Samples

The Contractor shall include activities for preparation and submission of all Shop Drawings, mock-ups and Samples in the Time Progress Schedule in Section 3.02.

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 or require Contractor to request an extension of time, 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) Contractor agrees that an express condition precedent to Contractor's entitlement to any extension of time on the project shall be full and complete compliance to the satisfaction of the University with the Contractor's obligations in Section 3.06, Contractor's Progress Reports. Failure to submit proper Contractor's progress reports in appropriate and timely fashion shall be deemed a waiver and relinquishment of any right, claim or privilege to obtain an extension of time for the performance of the Contractor's work.
- (3) 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.
- (4) Except as otherwise set forth in this Section 3.04 all procedures set forth in Sections 2.02 and 2.03 of this Agreement shall be complied with by the Contractor. Furthermore, full and complete compliance with the

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requirements of this Article III is a condition precedent to the Contractor's entitlement to receive an extension of time.

Section 3.05 Extension of Time

- (1) Within ten (10) working days after the commencement of any condition which is causing or may cause the Contractor to incur, require or otherwise need an extension of time, the Contractor shall notify the Consultant and the University of such condition. Full and complete compliance with this paragraph 3.05(1) is a condition precedent to the Contractor obtaining an extension of time for performance of any portion or all of its work.
- (2) 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 therefor by the Contractor to the University and the Consultant.
- (3) 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.
- (4) If such an application is made, the Contractor may 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).
- (5) The Contractor may, 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.
- (6) 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 material-men 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 an act, fault or omission.
- (7) 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.
- (8) 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 un contemplated 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.
- (9) The Contractor shall not be entitled to an extension of time for the performance of any or all of the Work set forth in allowances to the Contract. All allowance work shall be performed in accordance with the Contractor's schedule.

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 progress of the work, the percentage of each part of the work that has been finished, those parts of

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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. Contractor agrees that compliance with this Section 3.06 is an express condition precedent to the Contractor's right, claim or entitlement to obtain an extension of time for the performance of the Contractor's work. Failure to comply with this Section 3.06 shall be a waiver and relinquishment of all such rights, claims and privileges to request or obtain an extension of time for the performance of Contractor's work.

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 Agreement, subject to additions or deductions as provided herein, the sum of identified on page one of this agreement which sum is the amount of the Contract consideration.

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 or Field Order shall be determined by the University by one or more of the following methods:

- a. By applying the applicable price or prices set forth on the attached Schedule "I" of this Agreement or by applying a unit price agreed to by both parties. Subject to the provisions of Section 4.04, this method must be used if the Contract Documents contain applicable unit prices.
- b. 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. There is no markup on the premium portion of overtime labor. 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.

No overhead and profit shall be retained by the Contractor on the cost of work determined by the method provided in Subparagraph (1)a.

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 therefor 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.

- c. By determining the actual cost of the extra work in the same manner as in the above subdivision b except that actual costs of the Contractor shall be utilized in lieu of estimated costs. The University shall have the option to utilize 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.

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- (2) Irrespective of the method used or to be used by the University in determining the value of a Change Order or Field 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 in a format approved by the University.
- (3) Equipment Watch Rental Rate Blue Book (published online by Intertec Penton Media, Inc.) or other published rates as approved by the University in writing, will be utilized for the equipment rental pricing. 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 as follows: take the monthly rate listed in Equipment Watch 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. The Contractor will submit an actual rental invoice, or acceptable quotation from a bonafide equipment rental supplier for rented equipment when equipment is not owned by the Contractor. The equipment rental supplier cannot be an "affiliate" of the Contractor, nor in any way be related to the Contractor. If submitted invoices/quotations are acceptable to the University, the Contractor will be reimbursed the actual rental cost including sales tax and appropriate mark-up. If no listing of rates for an item of equipment is contained in Equipment Watch, the University shall determine the reasonable rate of rental of the particular item of equipment by such other means as it finds appropriate. The edition Equipment Watch to be used shall be that in effect on the date of the receipt of bids for this Agreement. None of the provisions of Equipment Watch shall be deemed referred to or included in this Agreement 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 therefor 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 or Field 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 Agreement, the University may 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 may calculate and determine the amount of the adjustment in the Contract consideration by estimating such costs. There is no markup on bond or insurance premium adjustment.

Section 4.04 Unit Prices

- (1) Except as otherwise provided in the second paragraph of this Section, the unit prices, set forth on the attached Schedule "I" of this Agreement, 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 whatsoever 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 said 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

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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 therefor set forth in said Schedule "I".

Section 4.05 Allowances

- (1) The Contractor acknowledges that the Contract consideration includes the allowances set forth on the attached Schedule "II" and "III" of this Agreement and, except for quantitative and field order 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 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 of the cash allowances listed below are 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 on the attached Schedule "I" of the Agreement, 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 Sections 4.02, 4.04 and 4.05A of the Agreement.

Section 4.05A Field Orders

When the Agreement contains a Field Order Allowance, the bid shall include the amount of such allowance. Said amount shall cover the cost of additional labor, materials and time for contingent activities within the scope of the Agreement as directed and described by the University in writing in a Field Order. The Field Order will include a description of the work and the method for determining the value of such work. The value of the work directed under this allowance will be determined by one or more of the provisions of Section 4.02. If the net cost(s) of all Field Orders issued are more or less than the specified amount of the allowance, the Contract sum will be adjusted by Change Order.

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 Agreement, 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, including but limited to the University's Job Order Contracting Program, 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 backcharge 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. The Contractor agrees that the University may deduct from any application for payment made by the Contractor, any and all Design Professional, Consultant and/or Construction Management fees and costs incurred by the University together with a markup upon such hard costs in the amount of 15% for services required in connection with the correction of such deficiency(ies).

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- (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 one of this 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 one of the Contractors proposal, as stated on page one of this agreement. . 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. The Contract Breakdown Summary shall be further broken down as required by the Consultant and the University. 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) Until such time that the Contract is approved by the University, 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 a retained amount equal to 5 percent thereof (i.e. retainage) , 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, , together with any back charges and offsets which are deemed necessary or likely to be incurred by the University as a result of any failure by the Contractor to fully, completely, accurately and timely perform its work, which it shall reserve from each such payment until all of the work covered by the Contract has been completed.

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- (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 and all required supporting documentation shall be submitted using the University's prescribed forms. The Contractor shall include with such applications reports detailing actual payments to minority and women-owned businesses who participate on University projects. 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;

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- b. The Consultant shall have inspected said materials and equipment and recommended payment therefor; 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 cancelled and that it will be automatically renewed upon expiration and continued in force unless the University is given thirty (30) days written notice to the contrary.
 - d. The Contractor shall develop and provide a preventive maintenance log for stored equipment when determined appropriate by the Consultant. The Contractor shall provide timely notification and opportunity for the Consultant and the University to view the Contractor's preventative maintenance efforts.
- (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 and/or additional time 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 whatsoever 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.

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- 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 be 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 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, 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.
- d. 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.

Section 4.19 Acceptance of Final Payment

- (1) The acceptance by the Contractor, or by any one 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.

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- (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 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 the completion date listed on page one of this agreement unless the date/duration listed on page one of this agreement, is extended in writing by the University.

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 therefor; 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

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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 shall be instituted in the Court of Claims in 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 shall have provided the University with an electronic version of any claims, including all required information and copies of all contractually required notices that the Contractor provided to the University and the Consultant throughout the duration of the Contract ;
 - c. Such action or proceeding by the Contractor shall be commenced within eighteen months after the date of substantial completion set by the University or its Consultant and issued in writing to the Contractor. Any action or proceeding not commenced within this time frame shall be dismissed with prejudice.
 - 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.
 - e. The Parties shall use good faith efforts to amicably resolve any dispute arising under this Agreement. If the Parties are unable to amicably resolve the dispute within thirty (30) days, then either Party may seek legal or equitable redress.
- (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.

Section 4.25 Electronic Payments

The Contractor shall provide complete and accurate payment applications in order to receive payment. Payment applications submitted must contain all information and supporting documentation required by the University. Payment for applications submitted by the Contractor shall only be rendered electronically unless payment by paper check is expressly authorized by the University's sole discretion, due to extenuating circumstances. Such electronic payment shall be made in accordance with ordinary State procedures and practices. The Contractor shall comply with the State Comptroller's procedures to authorize electronic payments. Authorization forms are available at the Office of the State Comptroller's 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 Agreement if it does not comply with the State Comptroller's electronic payment procedures, except where the University has expressly authorized payment by paper check as set forth above.

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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 and OSHA and with all valid rules and regulations thereunder. 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 therefor in accordance with the provisions of Section 4.02.

Section 5.04 Fire Safety

- (1) If the existing building is to be partially occupied during the course of the project, all existing exits except those shown for closure, fire walls, fire barriers and fire protection systems shall be continuously maintained in the occupied phases in compliance with the Fire Code of New York State and as required by NFPA 241 and as recommended in its Annex A, Explanatory Material, or other measures must be taken which in the opinion of the Consultant will provide equal safety. Those portions occupied by the campus must be available for their use 24 hours a day, seven days a week during the contract period unless otherwise scheduled in these documents. Comply with all applicable State and Federal codes and regulations. Prior to removal of existing fire walls, fire barriers and fire protection systems, if such removal is part of the work, install equivalent temporary fire walls, fire barriers and fire protection systems. The cost of all labor, fire watches, variances, materials, installations, maintenance and removal of such temporary fire protection systems or modifications to the existing systems are the responsibility of the Contractor. Install permanent fire walls, fire barriers and fire protection systems, if provided as part of the work, as soon as practical and as required by NFPA 241 and as recommended in its Annex A, Explanatory Material.
- (2) Solid fuel salamanders and heaters shall not be used by the Contractor or any of its subcontractors. 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) To the fullest extent permitted by law, 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

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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, material man 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 finally 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.
- (2) To the fullest extent permitted by law, 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 Insurance Requirements

- (1) General Provisions
- a. Prior to the execution of the Agreement, the Contractor shall at its sole cost and expense, procure and furnish to the University a Certificate of Insurance and required endorsements in a form satisfactory to the University demonstrating that the Contractor has complied with the specific provisions of this Article and the Agreement, The Contractor shall maintain in force and effect at all times during the Agreement from Notice to Proceed until Final Acceptance, or as may otherwise be required by this Article and the Agreement, policies of insurance covering all operations under the Agreement whether performed by the Contractor or its subcontractors as herein set forth.
 - b. All insurance required by the Agreement shall be written by companies that have an A.M. Best Company rating of "A-," Class "VII" or better. In addition, companies writing insurance intended to comply with the requirements of the Agreement shall be an admitted carrier approved by the New York State Department of Financial Services to issue insurance in the State of New York or meet such other requirements as may be acceptable to the University in its sole and exclusive discretion. If during the duration of coverage on the Agreement, the carrier's A.M. Best rating falls below "A-," Class "VII," the insurance must be replaced, on or before the renewal date of the policy with insurance that meets the requirements set forth herein.
- (2) Submission of Insurance

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- a. **Coverage Types.** The types of insurance coverage and policy limits required from the Contractor pursuant to the Agreement are specified in Paragraph (3) Specific Coverage below and limits outlined in Schedule A attached hereto ("Schedule A").
- b. **Policy.** Except as may be otherwise specifically provided herein or agreed to in writing by the University, policies of insurance must be maintained on an occurrence basis at all times during the Agreement from Notice to Proceed until Final Acceptance, or as may be otherwise required by this Article and the Agreement, with limits not less than those set forth in Schedule A and as required by the terms of the Agreement, or as required by law, whichever is greater. If such insurance contains an aggregate limit, it shall apply separately on a per project basis.
- c. **Certificates of Insurance.** The Contractor shall provide the University a Certificate or Certificates of Insurance, on the appropriate Certificate of Liability Insurance ACORD form, as well as the ACORD 855 NY form for liability insurance including required policy endorsements, in accordance with New York Insurance Law and submitted directly by the insurance broker or agent to the University, before commencing any work under the Agreement. The certificate C105.2 or the U26.3 (State Insurance Fund) are the only acceptable proof of coverage for Worker's Compensation. The DB120.1 is the only acceptable proof of coverage for Disability Benefits. Certificates must reference the NAIC number of the issuing company, policy number, effective dates of coverage, policy limits consistent with Schedule A and the Agreement requirements, name the Additional Insureds, and shall name the University as the Certificate Holder.
- d. **Primary Coverage.** The liability and protective policies of insurance shall provide primary and non-contributory coverage to the Additional Insureds required in Section 5.06(2)(h) below for any claim arising from the Contractor's work under the Agreement, or because of the Contractor's activities. Any other insurance maintained by the University or Additional Insureds shall be in excess of and shall not contribute to the Contractor's insurance or subcontractor's insurance, regardless of the "other insurance" clause contained in the University's or Additional Insured's policy of insurance, if any. A copy of the endorsement reflecting this requirement may be requested by the University.
- e. **Policy Renewal/Expiration.** Unless otherwise agreed to in writing by the University, all insurance policies must have a policy period of at least one year. Not less than five (5) days prior to the expiration date or renewal date of the policy for insurance, the Contractor shall supply the University with updated replacement certificates of insurance and required endorsements. The Contractor shall give written notice to the University of any letter or notification that cancels, materially changes, or non-renews the policy and the Contractor shall require the insurance carrier(s) to copy the University on any letter or notification that cancels, materially changes, or non-renews the policy.

Unless otherwise agreed to in writing by the University, policies shall be written to include a provision that the policy will not be canceled, materially changed, or not renewed without at least thirty (30) days' prior, written notice except for non-payment, in which case notice shall be provided as required by law from the insurance carrier to the University. In addition, if required by the University, the Contractor shall deliver to the University within three (3) business days of such request a copy of any or all certificates of insurance and required endorsements not previously provided.

If, at any time during the Agreement, the University determines that the insurance as required is not in effect as per the terms of the Agreement, or proof thereof is not provided to the University, or the Contractor has otherwise failed to strictly adhere to the provisions of this Article, the University may withhold further Agreement payments and shall have the option to (i) direct the Contractor to stop work with no additional cost or extension of time due on account thereof; or (ii) treat such failure as an event of default under Section 2.26 of the Agreement..

With exception of the A.M. Best rating requirements, if at any time the coverage provisions and limits of the policies of insurance required herein do not meet the provisions and limits set forth in Schedule A and the Agreement, the Contractor shall immediately cease work on the project site. Further, the Contractor will not be allowed access to the project site without providing proof of proper insurance. The Contractor shall not resume work on the project until permitted to do so by the University. Any delay or time lost as a result of the Contractor not having insurance or providing proof thereof as required by this Article and the Agreement shall not give rise to a delay claim or any other claim by the Contractor against the University. If required by the University, the

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Contractor shall deliver to the University within fifteen (15) business days of such request, full and complete copies of any or all policies of insurance and endorsements relating to the project that were not previously provided, certified by the insurance carrier as true and complete.

- f. **Self-Insured Retention / Deductibles.** Certificates must disclose any Deductible, Self-Insured Retention, Aggregate Limit or any exclusion to the policy that materially changes the coverage required by the Agreement, and Deductibles or Self-Insured Retentions above \$25,000 shall be subject to approval from the University. The Contractor shall be solely responsible for all claim expenses and loss payments within the Deductible or Self-Insured Retention.
- g. **Subcontractors.** Should the Contractor engage subcontractors, the Contractor shall impose on those entities the general insurance requirements of this Article and the Agreement. Required insurance limits shall be determined commensurate with the work of the subcontractor. The Contractor shall maintain the subcontractor certificates of insurance and required endorsements on file which shall be delivered to the University within three (3) business days of such request. If required by the University, the Contractor shall deliver to the University within fifteen (15) business days of such request, full and complete copies of any or all subcontractor policies of insurance and endorsements relating to the project that were not previously provided, certified by the insurance carrier as true and complete.
- h. **Additional Insureds.** The Contractor shall cause to be included in each of the liability insurance policies coverage for on-going and completed operations naming as Additional Insureds, The People of the State of New York, the State University of New York, the Dormitory Authority of the State of New York, the Fund, other such entities as named in Schedule A, and their officers, agents, and employees ("Additional Insureds"). An Additional Insured Endorsement evidencing such coverage shall be provided to the University prior to the commencement of the Agreement. Additional Insured protection afforded must contemplate on-going and completed operations, and the additional insured protection for products/completed operations must remain in place for three years after Final Acceptance. For Contractors who have Self-Insured Retention, the Contractor shall be obligated to defend and indemnify the above-named Additional Insureds with respect to Commercial General Liability insurance and Business Automobile Liability insurance, in the same manner that the Contractor would have been required to pursuant to this Article had the Contractor obtained such insurance policies.
- i. **Waiver of Subrogation.** Unless otherwise agreed to in writing by the University, with the exception of Disability policies, all policies of insurance must be endorsed to provide that there shall be no right of subrogation against the State of New York, the State University of New York, the Dormitory Authority of the State of New York, the Fund, the Additional Insureds, and their officers, agents and employees. To the extent that any of the policies of insurance prohibit such a waiver of subrogation, the Contractor shall secure the necessary permission to make this waiver.

(3) Specific Coverage

The Contractor shall obtain and maintain in full force and effect, the following insurance with limits not less than those described in Schedule A and as required by the terms of the Agreement, or as required by law, whichever is greater:

- a. **Commercial General Liability Insurance.** A Commercial General Liability ("CGL") insurance policy with coverage that shall include, but not be limited to, coverage for bodily injury, property damage, personal/advertising injury, premises liability, independent contractors/ subcontractors, blanket contractual liability including tort liability of another assumed in contract, liability arising from all work and operations under the Agreement, defense and indemnification obligations, including those assumed under the Agreement, cross liability coverage for Additional Insureds, products/completed operations for a term no less than three years commencing upon Final Acceptance, explosion, collapse, and underground hazards, contractor means and methods, and liability resulting from Section 240 or Section 241 of the NYS Labor Law. Such policy shall be written on ISO Occurrence form CG 00 01 or a substitute form that is acceptable to the University, providing equivalent coverage.

The General Aggregate limit included in the CGL insurance shall apply separately on a per project basis at the limits set forth herein in Schedule A.

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Insurance policies that remove or restrict blanket contractual liability located in the “insured contract” definition (as stated in Section V, Number 9, Item f in the ISO CGL policy) so as to limit coverage against claims that arise out of the work under the Agreement, or that remove or modify the “insured contract” exception to the employers liability exclusion, or that do not cover the Additional Insureds for claims involving injury to employees of the Named Insured or subcontractors, are not acceptable.

In the event any work under the Agreement involves activity on or within 50 ft. of railroad property or a railroad right-of-way or requires entrance upon a railroad property or railroad right-of-way, or requires an assignment of a Railroad employee, any exclusion for such work must be deleted. In addition, the Contractor shall otherwise fully comply with Section 5.06 (3)h below. For purposes of this paragraph, a subway is also a railroad.

- b. **Comprehensive Business Automobile Liability Insurance.** A Commercial Automobile Liability insurance policy at the limits set forth herein in Schedule A covering liability arising out of the use of any motor vehicle in connection with the Agreement, including owned, leased, hired, and non-owned 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. If the Agreement involves the removal of hazardous waste from the project site or otherwise transporting Hazardous Materials, pollution liability coverage for covered autos shall be provided.
- c. **Workers’ Compensation. New York State Workers’ Compensation** (including occupational disease) and Employer’s Liability insurance coverage during the life of the Agreement for the benefit of the Contractor’s and its subcontractors’ employees as are required to be covered by the New York State Workers’ Compensation Law.

In the event any of the work under the Agreement involves activity on or near a shoreline or on or near navigable waterways or when any part of the work under the Agreement is connected to water related activities, an endorsement to the Workers’ Compensation policy or the Protection & Indemnity policy providing coverage for all of the Contractor’s and its subcontractors’ employees under the Jones Act and the US Longshore and Harbor Workers’ Compensation Act will be required and shall be delivered to the University within three (3) business days of such request. A waiver of subrogation in favor of the Additional Insureds must be included on the policy. In addition, the Contractor shall otherwise fully comply with Section 5.06(3)g below.

Evidence of Workers’ Compensation and Employer’s Liability coverage must be provided to the University on forms specified by the Chairman of the New York State Workers’ Compensation Board.

- d. **Disability Benefits.** Disability coverage during the life of the Agreement for the benefit of the Contractor’s and its subcontractors’ employees as are required to be covered by the New York State Disability Benefits Law.

Evidence of New York State Disability Benefits coverage must be provided to the University on forms specified by the Chairman of the New York State Workers’ Compensation Board.

- e. **Umbrella and Excess Liability.** When the limits of the CGL, Auto, and/or Employers Liability policies procured are insufficient to meet the limits specified in Schedule A, the Contractor shall procure and maintain Commercial Umbrella and/or Excess Liability policies with limits in excess of the primary, provided, however, that the total amount of insurance coverage is at least equal to the requirements set forth above. Such policies shall follow the same form as the primary. Any insurance maintained by the University or Additional Insureds shall be considered in excess of and shall not contribute with any other insurance procured or maintained by the Contractor including primary, umbrella and excess liability regardless of the “other insurance” clause contained in either party’s policy.
- f. **Contractor’s Pollution Liability.** If the Agreement involves abatement, handling, removal, repair, replacement, enclosure, encapsulation and/or disposal of any pollutants, which includes but is not limited to, petroleum, petroleum products, Hazardous Materials or substances including asbestos, lead, mercury, PCBs, fungus and those as defined by applicable State and federal laws and regulations (collectively referred to as “Hazardous Activities”), the Contractor shall procure, or otherwise obtain through an approved subcontractor, and maintain in full force and effect throughout the term of the Agreement, from Notice to Proceed and for three years after Final Acceptance, Contractor’s Pollution Liability with limits as set forth in Schedule A, providing coverage for

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bodily injury and property damage, including loss of use of damaged property or of property that has not been physically injured. Such policy shall provide coverage for actual, alleged or threatened emission, discharge, dispersal, seepage, release or escape of pollutants, including any loss, cost or expense incurred as a result of any cleanup of pollutants or in the investigation, settlement or defense of any claim, suit, or proceedings against the University or Additional Insureds arising from the Contractor's or its subcontractors' work under the Agreement.

In addition, in the event the Contractor or any subcontractor is engaged in Hazardous Activities related to the Agreement, the Contractor or subcontractor shall, to the fullest extent permitted by law, hold harmless and indemnify the Additional Insureds and their trustees, officers, agents or employees, 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.

- g. **Marine General Liability, Protection & Indemnity, Hull & Machinery, Jones Act and United States Longshore and Harbor Workers' Act Coverage.** In the event any of the work under the Agreement involves activity on or near a shoreline or on or near navigable waterways or when any part of the work under the Agreement is connected to water related activities (collectively referred to as "Marine Operations"), Marine General Liability, Protection & Indemnity and Hull and Machinery coverage is required. Hull and Machinery coverage shall be provided for the total value of the watercraft and equipment used. The Contractor shall obtain Marine General Liability and Protective and Indemnity Liability Insurance for all Marine Operations relating to the Agreement at the limits set forth herein in Schedule A. Any endorsements that eliminate or minimize coverage for claims related to the imposition of New York Labor Law are prohibited. Certificate of Liability Insurance must be provided that certifies the required coverage is in place and must be accompanied by an ACORD 855 form or its equivalent.
- h. **Railroad Protective Liability.** In the event any work under the Agreement involves activity on or within 50 ft. of railroad property or a railroad right-of-way, or requires entrance upon a railroad property or railroad right-of-way, or requires an assignment of a Railroad employee, the Contractor shall provide and maintain a Railroad Protective Liability ("RPL") Insurance Policy in the amount required by the respective railroad as set forth herein in Schedule A. For purposes of this paragraph, a subway is also a railroad.

The RPL policy must name the Railroad as the Named Insured. No Additional Insureds may be listed on the RPL policy and the definition of "physical damage to property" must be amended to mean direct and accidental loss of or damage to "all property of any Named Insured and all property in any Named Insured's care, custody or control."

Evidence of RPL must be provided to the University on a Certificate of Insurance, and a detailed Binder pending issuance of the policy, or on an ISO-RIMA or equivalent form approved by the Railroad and meet any other requirements as specified by the Railroad and/or the University."

Section 5.07 Builder's Risk

- (1) The Contractor shall procure and maintain, at its own cost and expense, until final acceptance of all work covered by this Agreement 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 covering all risks, with fire, extended coverage, vandalism and malicious mischief coverage. In the event the loss occurs at an occupied facility, the policy shall permit occupancy without the consent of the insurance company. The policy shall cover the cost of removing debris, including demolition as may be legally necessary by operation of any law, ordinance, or regulation, and property of the State held in their care, custody and/or control.
- (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

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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, shall 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 Agreement or to be a limitation on the nature or extent of such obligations and risks.
- (8) Not less than thirty days prior to the expiration date or renewal date, the Contractor shall supply the University with an updated replacement certificate of insurance and endorsements. The Contractor shall advise the University of any letter or notification that cancels, materially changes, or non- renews the policy and Contractor shall require the insurance carrier(s) to copy the University on any letter or notification that cancels, materially changes, or non- renews the policy. 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 carrier approved by the University, licensed or authorized to do business in the State of New York and rated at least "A-" by A.M. Best Company.

Section 5.08 Effect of Procurement of Insurance

Neither the procurement nor the maintenance of such insurance shall in any way affect or limit the obligations, responsibilities or liabilities of the Contractor hereunder.

Section 5.09 No Third Party Rights

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

Article VI

Minority and Women's Business Enterprises (MWBEs) / Equal Employment Opportunity (EEO) Provisions

The University is required to implement the provisions of New York State Executive Law Article 15-A and 5 NYCRR Parts 142-145 ("MWBE Regulations") for all State contracts as defined therein, with a value (1) in excess of \$25,000 for labor, services, equipment, materials, or any combination of the foregoing or (2) in excess of \$100,000 for real property renovations and construction.

The requirements for the MWBE and EEO programs 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 Agreement shall forthwith be physically amended to make such insertion or correction.

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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 applicable 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 Agreement shall forthwith be physically amended to make such insertion or correction.

Section 7.02 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 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 7.03 Governing Law

This Agreement shall be governed, construed and enforced in accordance with the laws of New York State, excluding New York State's choice of law principles, in a court of competent jurisdiction, and all claims relating to or arising out of this Agreement or the breach thereof, whether sounding in contract, tort or otherwise, shall likewise be governed by the laws of New York State, excluding the New York choice of law principles, in a court of competent jurisdiction. Consultant agrees to submit itself to such courts' jurisdiction.

Article VIII
Vendor Responsibility

- (1) The Contractor shall at all times during the Agreement term remain responsible. The Contractor shall provide the University with written notice as required by this Article of any issues impacting its responsibility, which shall minimally include updated responses to the it's filed vendor responsibility questionnaire. The Contractor agrees, if requested by the University, to present evidence of its continuing legal authority to do business in New York State, integrity, experience, ability, prior performance and organizational and financial capacity.
- (2) The University, at its sole discretion, reserves the right to suspend any or all activities under this Agreement, at any time, when the University discovers information that calls into question the responsibility of the Contractor. In the event of such suspension, the Contractor will be given written notice outlining the particulars of such suspension. Upon issuance of such notice, the Contractor must comply with the terms of the suspension order. Agreement activity may resume at such time as the University issues a written notice authorizing a resumption of performance under the Agreement.
- (3) Upon written notice to the Contractor, and a reasonable opportunity to be heard with appropriate University officials or staff, the Contractor may be terminated by the University at the Contractor's expense where the Contractor is determined by the University to be non-responsible. In such event, the University may complete the contractual requirements in any manner that the University may deem advisable and pursue available legal or equitable remedies for breach.

In no case shall termination of the Contract by the University be deemed a breach by the University thereof, nor shall the University be liable for any damages or lost profits or otherwise, which may be sustained by Contractor as a result of such termination.

State University of New York
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Article IX

Use of Service-Disabled Veteran-Owned Business Enterprises in Contract Performance

Article 17-B of New York State Executive Law acknowledges that Service-Disabled Veteran-Owned Businesses (SDVOBs) strongly contribute to the economies of the State and the nation. As defenders of our nation and in recognition of their economic activity in doing business in New York State, the Contractor for the Project and Work defined in this Agreement, agrees to, at no additional cost to the University, fully comply and cooperate with the University's implementation of New York State Executive Law Article 17-B and provide opportunities for SDVOBs in the fulfillment of the requirements of this Agreement. SDVOBs can be readily identified on the directory of certified businesses at: http://www.ogs.ny.gov/Core/docs/CertifiedNYS_SDVOB.pdf.

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In accordance with the Chapter 17 of the Laws of 2023 certain University contracts are subject to review by the Office of the State Comptroller. As such a contract, the State shall have no liability under this Agreement and this Agreement is not valid, effective, or binding until it has been approved by the Office of the State Comptroller and filed in their office.

This Agreement may be amended only upon the mutual written consent of the Parties, and with the approval of the New York Attorney General and the Office of the State Comptroller if such approval is required.

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

Agency Certification:

In addition to the acceptance of this contract, I also certify that original copies of this signature page will be attached to all other exact copies of this contract.

Contract Number: *Insert Contract Number*

Insert Contractor Name

STATE UNIVERSITY OF NEW YORK

Sign: _____ Date: _____

Sign: _____ Date: _____

Print: _____

Print: _____

Title: _____

Title: _____

APPROVED BY ATTORNEY GENERAL:

**APPROVED BY OFFICE OF THE STATE
COMPTROLLER:**

_____ Date: _____

_____ Date: _____

By:

By:

State University of New York
Construction Agreement

Schedule I, II, III

SCHEDULE I

Unit Prices

Refer to Section 4.04 of the Agreement for additional information.

<u>Work or Material</u> <u>Description</u> _____	<u>Amount in Words</u>	<u>Amount in Figures</u>
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Insert information as appropriate or state "none"

SCHEDULE II Allowance(s)

Refer to Section 4.05 of the Agreement for additional information. The amount(s) indicated below shall be included in the Total Bid amount and their total indicated on the Proposal in the space provided.

<u>Work or Material</u> <u>Description</u> _____	<u>Amount in Words</u>	<u>Amount in Figures</u>
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Insert information as appropriate or state "none"

SCHEDULE III Field Order Allowance

Refer to Section 4.05A of the Agreement for additional information. The amount indicated below shall be included in the Total Bid amount and indicated on the Proposal in the space provided

Insert information as appropriate or state "none"

(in words)

(in figures)

State University of New York
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Schedule A
Insurance Requirements

Contract Number: *insert contract number*

All certificate(s) of insurance/ACORD Form must be submitted pursuant to Contract Article 5.06 and include the following information:

- For each insurance certificate, the name and NAIC number of issuing company, number of policy, with effective dates and deductibles, if applicable
- Policy limits consistent with the requirements listed below
- Certificate must disclose that the policies are on a primary and non-contributory basis
- The contract/project number assigned by the University
- Admitted Carriers must meet the following criteria: (1) AM Best Company rating of A- or greater, (2) financial score of VII or greater

Insurance Type	Per Occurrence	Per Aggregate	Forms
Workers Compensation	As required by NYS		Form C105.2 (Certificate of NYS Workers' Compensation Coverage) or the U-26.3 (State Insurance Fund Certificate)
Disability	As required by NYS		Form DB120.1 (Certificate of Insurance Coverage under the NYS Disability Benefits Law)
Commercial General Liability	Campus insert value	Campus insert value	ACORD 25 Certificate of Liability Insurance; and ACORD 855 Certificate of Liability Addendum
Automobile	\$1,000,000, combined single limit		ACORD 25 Certificate of Liability Insurance
Contractor's (or Subcontractor's) Pollution Liability	Campus insert value	Campus insert value	ACORD 25 Certificate of Liability Insurance
Builders Risk	Policy shall match the total contract value, or where appropriate - the value determined using the Builder Risk Insurance Breakdown		ACORD 25 Certificate of Liability Insurance
Campus insert additional insurance as required (i.e. Railroad, Marine)	Delete this row if no additional insurance is required		

Specific contract requirements for insurance may be found in section 5.06 of the Construction Agreement.

DELETE THIS TEXT ONCE THE ABOVE TABLE IS COMPLETE:

Insurance Limits are assigned based on the contract value, considering guidance from the Council of Contracting Agencies Insurance Guidelines and risk factors considered on a project-by-project basis.

Commercial General Liability

Certain projects may warrant increased insurance limits, when additional risks are present consult with campus counsel.

For contracts <\$10M \$2,000,000 occurrence, \$2,000,000 aggregate

For contracts \$10M to 50M \$5,000,000 occurrence, \$5,000,000 aggregate

For contracts > \$50M \$10,000,000 occurrence, \$10,000,000 aggregate

Contractor's (or subcontractor's) Pollution Liability (Environmental Liability)

Certain projects may warrant increased insurance limits, when additional risks are present consult with campus counsel.

For contracts <\$10M \$2,000,000 occurrence, \$2,000,000 aggregate

For contracts \$10M to 50M \$5,000,000 occurrence, \$5,000,000 aggregate

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For contracts > \$50M \$10,000,000 occurrence, \$10,000,000 aggregate

If applicable, add to the table Railroad Protective Liability and/or Marine General Liability, Protection & Indemnity, Hull & Machinery, Jones Act and United States Longshore and Harbor Workers' Act Coverage

Additional Insureds for each liability insurance policy, including coverage for on-going and completed operations:

- The People of the State of New York
- The State University of New York
- The Dormitory Authority of the State of New York
- The State University Construction Fund
- The Campus
- If applicable, Construction Manager
- If applicable, Railroad
- The officers, agents, and employees of those listed above
- If applicable, non-state landowner impacted by this work

Such policy shall be written on ISO Occurrence form CG 00 01 or a substitute form that is acceptable to the University, providing equivalent coverage.

Guidance to Submit Insurance Certificates

- Certificates must be signed
- Acord forms must be emailed directly by the agent or carrier
- Email certificates and other insurance related correspondence to ***insert campus email***
- Include in the subject line the campus and contract number
- Please do not mail additional copies

State University of New York
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Exhibit A

State University of New York
Construction Agreement

Exhibit A-1

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 or State University of New York, whether a Contractor, licensor, licensee, lessor, lessee or any other party; the State University of New York shall hereinafter be referred to as "SUNY"):

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.** In accordance with Section 138 of the State Finance Law, this contract may not be assigned by the Contractor or its right, title or interest therein assigned, transferred, conveyed, sublet or otherwise disposed of without the State's previous written consent, and attempts to do so are null and void. Notwithstanding the foregoing, such prior written consent of an assignment of a contract let pursuant to Article XI of the State Finance Law may be waived at the discretion of SUNY and with the concurrence of the State Comptroller where the original contract was subject to the State Comptroller's approval, where the assignment is due to a reorganization, merger or consolidation of the Contractor's business entity or enterprise. SUNY retains its right to approve an assignment and to require that any Contractor demonstrate its responsibility to do business with SUNY. The Contractor may, however, assign its right to receive payments without SUNY's prior written consent unless this contract concerns Certificates of Participation pursuant to Article 5-A of the State Finance Law.

3. **COMPTROLLER'S APPROVAL.** (a) In accordance with Section 112 of the State Finance Law, the State Comptroller's approval is required for the following contracts: (i) goods, services, construction, and construction-related services for State University hospital or healthcare facilities which exceed \$150,000; (ii) purchases utilizing an Office of General Services (OGS) centralized contract which exceed \$200,000 (iii) goods, services, construction, and construction-related services not described in (i) or (ii) and which exceed \$75,000;

(b) If this contract exceeds the threshold amounts listed above in Paragraph 3(a), or, if this is an amendment for any amount to a contract which, as so amended, exceeds said threshold amounts, or if, by this contract, the State agrees to give something other than money when the value or reasonably estimated value of such consideration exceeds \$25,000, it shall not be valid, effective or binding upon the State, and the State shall bear no liability, until it has been approved by the State Comptroller and filed in his or her 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, nor subject any individual to harassment, because of age, race, creed, color, national origin, citizenship or immigration status, sexual orientation, gender identity or expression, military status, sex, disability, predisposing genetic characteristics, familial status, marital status, or domestic violence victim status or because the individual has opposed any practices forbidden under the Human Rights Law or has filed a complaint, testified, or assisted in any proceeding under the Human Rights Law. 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 the State of any State- 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 upon the submission of competitive bids, Contractor affirms, under penalty of perjury, 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 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, fee 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 SUNY, 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 examination, as well as SUNY and any other agencies 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.**

(a) Identification Number(s). Every invoice or New York State Claim for Payment submitted to SUNY 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 SUNY or the State 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 SUNY 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.**

In accordance with Section 312 of the Executive Law and 5 NYCRR Part 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:

(a) The Contractor will not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status, shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its workforce on State contracts 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, upgrading, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation;

(b) 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

(c) 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 because of race, creed, color, national origin, sex, age, disability or marital status.

Contractor will include the provisions of "a," "b," and "c" 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 clause. 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 certifications, 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 the Contractor either (a) has 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 of the New York 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 and Technology Development
625 Broadway
Albany, NY 12245
Telephone: 518-292-5100

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 33rd Floor
New York, NY 10017
646-846-7364
email: mwbebusinessdev@esd.ny.gov
<https://ny.newnycontracts.com/FrontEnd/searchcertifieddirectory.asp>

The Omnibus Procurement Act of 1992 (Chapter 844 of the Laws of 1992, codified in State Finance Law § 139-i and Public Authorities Law § 2879(3)(n)-(p)) 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 Service 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 the State may seek to obtain offset credits from foreign countries as a result of this contract and agrees to cooperate with the State 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, codified in State Finance Law § 165(6) and Public Authorities Law § 2879(5))

require that they be denied contracts which they would otherwise obtain.

NOTE: As of May 2023, the list of discriminatory jurisdictions subject to this provision includes the states of South Carolina, Alaska, West Virginia, Wyoming, Louisiana and Hawaii.

22. COMPLIANCE WITH BREACH NOTIFICATION AND DATA SECURITY LAWS.

Contractor shall comply with the provisions of the New York State Information Security Breach and Notification Act (General Business Law § 899-aa, § 899-bb, and State Technology Law § 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 (as amended by Chapter 10 of the Laws of 2006), 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 contract is a "procurement contract" as defined by State Finance Law §§ 139-j and 139-k, by signing this contract the Contractor certifies and affirms that all disclosures made in accordance with State Finance Law §§ 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 contract by providing written notification to the Contractor in accordance with the terms of the contract.

26. CERTIFICATION OF REGISTRATION TO COLLECT SALES AND COMPENSATING USE TAX BY CERTAIN STATE CONTRACTORS, AFFILIATES AND SUBCONTRACTORS. To the extent this contract is a contract as defined by Tax Law § 5-a, if the Contractor fails to make the certification required by Tax Law § 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 contract, if SUNY determines that such action is in the best interests of the State.

27. IRAN DIVESTMENT ACT. By entering into this contract, 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: <https://ogs.ny.gov/iran-divestment-act-2012>.

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 SUNY receive information that a person (as defined in State Finance Law §165-a) is in violation of the above-referenced certifications, SUNY 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 SUNY 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.

SUNY 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.

28. ADMISSIBILITY OF REPRODUCTION OF CONTRACT. Notwithstanding the best evidence rule or any other legal principle or rule of evidence to the contrary, the Contractor acknowledges and agrees that it waives any and all objections to the admissibility into evidence at any court proceeding or to the use at any examination before trial of an electronic reproduction of this contract, in the form approved by the State Comptroller, if such approval was required, regardless of whether the original of said contract is in existence.

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

29. 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.

30. (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 subcontract 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.

31. Hospital Retained Authority: Hospital Retained Authority: The Hospital retains direct, independent authority over the appointment and/or dismissal, in its sole discretion, of the facility's management level employees (including but not limited to, the Facility/Service Administrator/Director, the Medical Director, the Director of Nursing, the Chief Executive Officer, the Chief Financial Officer and the Chief Operating Officer) and all licensed or certified health care staff. The Hospital retains the right to adopt and approve, at its sole discretion, the facility's operating and capital budgets. The Hospital retains independent control over and physical possession of the facility's books and records. The Hospital retains independent control over and physical possession of the facility's operating policies and procedures. The Hospital retains full authority and responsibility for, and control over, the operations and management of the facility. The Hospital retains the right and authority to independently adopt, approve and enforce, in its sole discretion, policies affecting the facility's delivery of health care services. The Hospital retains the right to independently adopt, approve and enforce, at its sole discretion, the disposition of assets and authority to incur debts. The Hospital retains the right to approve, at its sole discretion, contracts for administrative services, management and/or clinical services. The Hospital retains the right to approve, at its sole discretion, any facility debt. The Hospital retains the right to approve, at its sole discretion, settlements of administrative proceeding or litigation to which the facility is a party. No powers specifically reserved to the Hospital may be delegated to, or shared by, the Contractor or any other person. In addition, if there is any disagreement between the parties to this Agreement regarding control between the Hospital and the Contractor, the terms of this Section shall control.

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; (c) and (d) 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 fifteen million dollars (\$15,000,000), 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 fifteen million dollars (\$15,000,000.00) 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 (“DMWBD”) 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) Form 108 - Staffing Plan To ensure compliance with this Section, the Contractor shall submit a staffing plan to document the composition of the proposed workforce to be utilized in the performance of the Contract by the specified categories listed, including ethnic background, gender, and Federal occupational categories. Contractors shall complete the Staffing plan form and submit it as part of their bid or proposal or within a reasonable time, but no later than the time of award of the contract.

(e) Form 112 - Workforce Employment Utilization Report (“Workforce Report”)

(i) Once a contract has been awarded and during the term of Contract, Contractor is responsible for updating and providing notice to SUNY of any changes to the previously submitted Staffing Plan. This information is to be submitted on a quarterly basis during the term of the contract to report the actual workforce utilized in the performance of the contract by the specified categories listed including ethnic background, gender, and Federal occupational categories. The Workforce Report must be submitted to report this information.

(ii) Separate forms shall be completed by Contractor and any subcontractor performing work on the Contract.

(iii) In limited instances, Contractor may not be able to separate out the

workforce utilized in the performance of the Contract from Contractor's and/or subcontractor's total workforce. When a separation can be made, Contractor shall submit the Workforce Report and indicate that the information provided related to the actual workforce utilized on the Contract. When the workforce to be utilized on the contract cannot be separated out from Contractor's and/or subcontractor's total workforce, Contractor shall submit the Workforce Report and indicate that the information provided is Contractor's total workforce during the subject time frame, not limited to work specifically under the contract.

(f) Contractor shall comply with the provisions of the Human Rights Law, all other State and Federal statutory and constitutional non-discrimination provisions. Contractor and subcontractors shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.

(g) 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.

(h) 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.

(i) 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.

(j) 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.

(k) 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

3. 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.

4. 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.

5. 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.

6. MWBE Utilization Plan.

(a) The Contractor represents and warrants that Contractor has submitted an MWBE Utilization Plan prior to the execution of the contract.

(b) MWBE Utilization Plan (Form 7557-107).

Contractors are required to submit a Utilization Plan on Form 7557-107 with their bid or proposal. Complete the following steps to prepare the Utilization Plan:

- i. list NYS Certified minority- and women-owned business enterprises which the Contractor intends to use to perform the State contract;
- ii. insert a description of the contract scope of work which the Contractor intends to structure to increase the participation by NYS Certified minority- and women-owned enterprises on the State contract;
- iii. insert 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 NYS Certified minority- or women-owned business; and

(c) Any modifications or changes to the agreed participation by NYS Certified MWBEs after the Contract Award and during the term of the contract must be reported on a revised MWBE Utilization Plan and submitted to the SUNY University-wide MWBE Program Office.

(d) The University will review the MWBE Utilization Plan and will issue the Contractor a written notice of acceptance or deficiency within twenty (20) day of its receipt. A notice of deficiency shall include the:

- i. list NYS Certified minority- and women-owned business enterprises which the

- ii. Contractor intends to use to perform the State contract; name of any MWBE which is not acceptable for the purpose of complying with the MWBE participation goals;
- iii. reasons why it is not an acceptable element of the Contract scope of work which the MWBE Program Office has determined can be reasonably structured by the Contractor to increase the likelihood of participation in the Contract by MWBEs; and
- iv. other information which the MWBE Program Office determines to be relevant to the MWBE Utilization Plan.

(e) The Contractor shall respond to the notice of deficiency within seven (7) business days of receipt by submitting to the University a written remedy in response to the notice of deficiency.

- i. If the written remedy that is submitted is not timely or is found to be inadequate, the University-wide MWBE Program Office shall notify the Contractor and direct the Contractor to submit, within five (5) business days, a request for partial or total waiver of MWBE participation goals on forms provided by the University-wide MWBE Program Office.
- ii. Failure to file the waiver form in a timely manner may be grounds for disqualification of the bid or proposal.

(f) The University may disqualify a Contractor as being non-responsive under the following circumstances:

- i. If a Contractor fails to submit a MWBE Utilization Plan;
- ii. If a Contractor fails to submit a written remedy to a notice of deficiency in a MWBE Utilization Plan;
- iii. If a Contractor fails to submit a request for waiver; or

iv. If the MWBE Program Office determines that the Contractor has failed to document Good Faith Efforts.

(g) Contractor agrees to use such MWBE Utilization Plan for the performance of MWBEs on the Contract pursuant to the prescribed MWBE goals set forth in Section III-A of this Appendix.

(h) Contractor further agrees that a failure to submit and/or use such MWBE Utilization Plan shall constitute a material breach of the terms of the Contract. Upon the occurrence of such a material breach, SUNY shall be entitled to any remedy provided herein, including but not limited to, a finding of Contractor non-responsiveness.

7. Waivers.

(a) For Waiver Requests Contractor should use (Form 7557-114) – Waiver Request.

(b) If the Contractor, after making good faith efforts, is unable to comply with MWBE goals, the Contractor may submit a Request for Waiver form documenting good faith efforts by the Contractor to meet such goals. If the documentation included with the waiver request is complete the University shall evaluate the request and issue a written notice of acceptance or denial within twenty (20) days of receipt.

(c) If University, upon review of the MWBE Utilization Plan and updated Quarterly MWBE Contractor Compliance Reports determines that Contractor is failing or refusing to comply with the Contract goals and no waiver has been issued in regards to such non-compliance, the University may issue a notice of deficiency to the Contractor. The contractor must respond to the notice of deficiency within seven (7) business days of receipt. Such response may include a request for partial or total waiver of MWBE Contract Goals.

8. MWBE Contractor Compliance Report.

Contractor is required to submit an MWBE Contractor Compliance Report (Form 7557-112) to the University by the 5th day following each end of quarter over the term of the Contract documenting the progress made towards achievement of the MWBE goals of the Contract. Compliance Reports for construction contracts (Form 7557-110) must be submitted on a monthly basis.

9. 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 a 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 _____ percent (____%) for Certified Minority-Owned Business Enterprises and _____ percent (____%) for Certified Women-Owned Business Enterprises.

10. 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.

Failure to comply with all of the requirements herein may result in a finding of non-responsiveness, non-responsibility and/or a breach of contract, leading to the withholding of funds or such other actions, remedies or enforcement proceedings as allowed by the Contract.

11. 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.

FIELD ORDER PROPOSAL

Project No: _____

No overhead or profit is to be included for field orders in accordance with Section 4.05 of the Construction Agreement

CHANGE DESCRIPTION:

Contractor Name: _____
 Address: _____
 Telephone No.: _____

Date: _____
 Contract No.: _____
 Field Order No.: _____
 Change Proposal No.: _____

SECTION A: CONTRACTOR WORK

Round Totals to Nearest Dollar

SUNY Revisions

- 1. Total Contractor Labor
- 2. Total Contractor Material
- 3. Total Contractor Equipment
- 4. Total Unit Price Costs
- 5. SUBTOTAL (Total lines 1 thru 4)
- 6. Total Premium Portion of Contractor Labor
- 7. **CONTRACTOR TOTAL** (Total lines 5 & 6)

\$	-	
\$	-	

SECTION B: SUBCONTRACTOR WORK (Provide a separate form **for each** Subcontractor.)

Round Totals to Nearest Dollar

- 8. Names of Subcontractors:
 - A. _____
 - B. _____
 - C. _____
 - D. _____
 - E. _____
 - F. _____
- 9. TOTAL SUBCONTRACTOR PROPOSALS (Total lines A thru F)
- 10. Contractor's Override on Subs' Proposals:
 - 11a. 10% of first \$10,000 of line 10 (\$1,000 maximum)
 - 11b. 5% of next \$90,000 of line 10 (\$4,500 maximum)
 - 11c. 3% of sum in excess of \$100,000 of line 10
- 11. Total Premium Portion of Subcontractor Labor
- 12. **SUBCONTRACTOR TOTAL**

\$	-	
\$	-	
\$	-	
\$	-	
\$	-	

SECTION C: TOTAL CONTRACT UNIT PRICE(S) 13.

SECTION D: CONTRACTOR'S REQUESTED TOTAL

Round Totals to Nearest Dollar

AMOUNT REQUESTED (Total lines 7, 12, and 13) 14.

\$	-	

Contractor's Signature _____ Date _____
 Print Name of Authorized Representative _____
 Print Title _____

Print name of Contact Person (if different) _____
 Phone No. (if different from above) _____

SECTION E: PROJECT COORDINATOR'S COMMENTS:

Contractor Instructions: Complete fields shaded in red. If a detailed change description is requested attach one to this form. Sign and date the form and submit to your Campus Representative.



PROSPECTIVE BIDDERS NOTICE MINORITY AND WOMEN-OWNED BUSINESS ENTERPRISE REQUIREMENTS: CONSTRUCTION CONTRACTS

To Prospective Bidders:

Consistent with the State University of New York (SUNY)'s commitment and in accordance with Article 15-A of the New York State Executive Law, contractors are required to ensure that good faith efforts are made to include meaningful participation by Minority and Women-Owned Business Enterprises (MWBE). These requirements apply to all SUNY construction contracts in excess of \$100,000.

Receipt of the MWBE utilization plan is required within seven (7) business days after the bid opening, for construction contracts only. The Contract Administrator shall provide MWBE Utilization Plan Form (107) to the campus MWBE Program Coordinator for review and approval for the three apparent low bidders ("Contractor"). The MWBE forms identified below shall be submitted by all bidders.

- a. MWBE Utilization Plan ([7557-107](#))
- b. MWBE-EEO Staffing Plan ([7557-108](#))
- c. MWBE-EEO Policy ([7557-104](#)) or the vendor/contractor's own EEO Policy Statement

If the Contractor's MWBE participation rate shown on its MWBE Utilization Plan is below 30%, the campus MWBE Program Coordinator will provide a written notice of deficiency of the Utilization Plan within twenty (20) business days of its submission to the contractor, as required under 5 NYCRR §142.4.

The notice will include, but not be limited to the following:

- a. A list of NYS certified MWBEs that the contractor could potentially use within the contract scope of work;
- b. The name of any MWBE which is not acceptable for the purpose of complying with the MWBE participation goals; and
- c. Any other information which the MWBE Program Coordinator determines to be relevant to develop an approvable MWBE Utilization Plan.

The contractor shall respond to the notice of deficiency by submitting a revised MWBE Utilization Plan within seven (7) business days, as required by 5 NYCRR Part §142.6 (e) to the MWBE Program Coordinator.

If the deficiency is not corrected and the MWBE participation rate on the MWBE Utilization Plan is still below 30%, the contractor should request a waiver.

The Waiver Request Form submitted by the Contractor will include, but not be limited to, the following:

- a. A request for partial or total waiver of MWBE goals as required by 5 NYCRR Part §142.6 (f) on Request for Waiver Form ([Form 7557-114](#)) provided by the University-wide MWBE Program Office.
- b. Copy of the deficient Utilization Plan.
- c. Work Scope of this contract. If there are subcontracting opportunities, please provide documentation d, e, and f.
- d. Screenshot of searching results for available MWBEs in [NYS M/WBE Directory](#).
- e. Copy of email messages containing the request for quote, along with the responses from MWBEs.
- f. Forms required to obtain this information are:
[7557-101](#) – MWBE Contractor Solicitation Letter
[7557-102](#) – MWBE Participation Quote

[7557-103](#) – MWBE Contractor Unavailability Certification

Please submit the above documentations by mail, fax, or email:

SUNY
Cortland
Kristi Hughston, MWBE Program Coordinator
Miller Building, Room 309
PO Box 2000
Cortland, NY 13045
Fax: 607-753-5486
Tel: 607-753-2582
Email: Kristi.Hughston@cortland.edu

- OR - IF APPLICABLE

Please submit the above documentation to the University-wide MWBE Program Office:

SUNY System Administration at State University
Plaza,
Office of Diversity, Equity and Inclusion
University-wide MWBE Program
Albany, NY 12246
Fax: (518)-320-1548
Tel: (518)-320-1452
Email: MWBEProgram@suny.edu

Information regarding this legislation may be found at: [Participation by Minority Group Members and Women \(MWBEs\) with Respect to State University of New York Contracts](#) on the [State University of New York](#) web site.

STATE UNIVERSITY OF NEW YORK MWBE UTILIZATION PLAN INSTRUCTIONS (FOR ALL CONTRACT TYPES)

A letter of explanation and documentation of efforts should accompany any MBE/WBE Utilization Plan that falls short of the stated goals. Without an approved MBE/WBE Utilization Plan, SUNY's Notice of Award and Contract may be withheld.

If you have questions or need assistance related to the SUNY's Minority and Women's Business requirements call the University-wide MWBE Program Office at 518-320-1189 or email MWBEprogram@suny.edu.

1. The three low bidding contractors ("Contractors") are required to submit a Utilization Plan (107) to the MWBE Program Coordinator within seven (7) calendar days after the opening of bids for construction contracts exceeding \$100,000.
2. The MWBE Program Coordinator is required to submit the mandatory MWBE documentation to the University-wide MWBE Program Office web based contract management system for commodity, service and construction related consultant service contracts exceeding \$25,000 for construction project exceeding \$100,000 upon contract execution.
3. The MBE and WBE goals are separate and not to be treated as one combined goal.
4. The MBE and WBE firms included are businesses the bidder *seriously expects* to include in the project activity.
5. The contractor reasonably commits to the dollar values included in the plan for participation by MBE and WBE subcontractors and suppliers.
6. MBE and WBE firms **must be certified** by the New York State Department of Economic Development, Division of Minority and Women Business Development. A directory of certified minority and women-owned business enterprises is available on the internet at <https://ny.newnycontracts.com/FrontEnd/VendorSearchPublic.asp>.
7. Contractors utilizing MWBE firms for supplies/materials/equipment whose NYS certification profile designates them as Broker will receive an MWBE utilization credit for the actual monetary value of the broker fees or the actual markup percentage of the items brokered.
8. MBE and WBE Participation:

The actual services provided by the MBE or WBE must be essential in the performance of the scope of work for the applicable contract. Utilization of a certified MBE or WBE as a conduit or pass through for participation credit is **strictly prohibited**. It is the discretion of University-wide MWBE Program to determine whether services are essential in the performance of the scope of work and offer a determination of the appropriateness of work allowed for lower tier subcontracting in accordance with practices generally accepted in the construction industry. The services the MBE or WBE will provide must be among those explicitly identified in the profile (codes) of firm as listed in the NYS Empire State Development Directory of Certified MWBEs. Firms submitted or who participate in the project outside of these conditions and without specific prior approval by SUNY will not be credited toward the MWBE Utilization Plan and goals for the contract.
9. Prior to submitting the Plan, the bidders should confirm the following:
 - a. MBE and WBE firms are NYS certified;
 - b. MBE **or** WBE designation ~ Dual certified firms may be used as *either* but **not** both;
 - c. MBE and WBE firms are being used for item(s) within their certification product codes;
 - d. MBE and WBE firms will perform work for which they have been submitted; and

- e. 2nd tier subcontractors and/or suppliers are noted as such and the purchaser of the product identified (i.e. purchase by electrical sub)

The prime Contractor is responsible for ensuring participation provided by subcontractors for 2nd and 3rd tier MBE and WBE participation.

Submission of a Utilization Plan which fails to meet or exceed each goal shall be accompanied by documentation of specific efforts undertaken both pre and post bid. The campus MWBE Program Coordinator will review and notify Contractor of its assessment.

The University-wide MWBE Program Office in collaboration with the campus MWBE Program Coordinator will review the Utilization Plan and notify the contractor of any deficiencies and determine necessary actions to bring the Utilization Plan into compliance. The University-wide MWBE Program Office reserves the right to require the contractor to provide sufficient documentation of the efforts made in the development of the Plan. The documentation should meet the good faith efforts standard under 5 NYCRR Part §141.6, and demonstrate the contractor's commitment to providing opportunities for MBE and WBE firms in the development of the plan.

A copy of the approved Utilization Plan will be provided to the contractor after issuance of Notice of Award.

MWBE FORM (107) INSTRUCTIONS

Requested information must be completed and submitted within seven (7) days after the bid opening.

Subcontractor Name & Address

Name & Address of each MBE/WBE subcontractor or supplier

MBE or WBE

Minority (MBE) or Women (WBE) Designation

Federal ID

Provide accurate Federal ID number of each MBE/WBE subcontractor or supplier

Dollar Value of Subcontract or Purchase Order

This is the total value of the signed subcontract. If this value is different from the amount in the approved MBE/WBE utilization plan, an explanation should be provided.

Description of Work or Supplies

Brief description of work performed or supplies provided by the MBE/WBE subcontractor or supplier

Schedule

This is the anticipated start and completion dates for each MBE/WBE subcontractor or supplier. Do not include the construction schedule for the life of the entire project.

Signature

To be signed by an Officer of the Company

- The information included on the form is subject to verification by the campus MWBE Program Coordinator.
- The campus MWBE Program Coordinator must be notified prior to changes made to the approved MBE/WBE Utilization Plan.

Questions regarding this form should **first** be directed to the [campus MWBE Program Coordinator](#) (click the link and be directed to the SUNY MWBE Campus Contacts directory on the University-wide MWBE web site).

Questions regarding this form should be directed to the University-wide MWBE Program Office at (518) 320-1189 or via e-mail: MWBEprogram@suny.edu.

Submit To:

**State University of New York
Office of Diversity, Equity and Inclusion University-wide MWBE Program
353 Broadway
Albany, NY 12246
Or MWBEProgram@suny.edu**

MBE/WBE CONTRACTOR PARTICIPATION QUOTE

Campus/Prime Contractor _____

Re: Contract # _____

Address _____

Recipient _____

TO: _____
(Name of Campus/Prime Contractor)

_____ proposes to perform the work as follows:
(Name of M/WBE Firm)

(Specify in detail the particular work items to be performed and associated dollar amounts):

TYPE OF WORK	UNIT PRICE	DOLLAR AMOUNT

NAME OF MBE/WBE COMPANY

SIGNATURE OF MBE/WBE REPRESENTATIVE

DATE

**MINORITY AND WOMEN’S BUSINESS - EQUAL EMPLOYMENT
OPPORTUNITY PROGRAM POLICY STATEMENT**

Policy Statement

The _____ commits to carrying out the intent of the New York State
(Name of Campus, Consultant, Contractor)
Executive Law, Article 15-A which assures the meaningful participation of minority and
women’s business enterprises in contracting and the meaningful participation of minorities and
women in the workforce on activities financed by public funds.

Minority Business Officer

_____ is designated as the Minority Business Enterprise Officer
(Name of Designated Officer)
responsible for administering the Minority and Women’s Business-Equal Employment
Opportunity (M/WBE-EEO) program. They can be reached at:

Phone: _____

Email: _____

M/WBE Contract Goals

_____ % Minority Business Enterprise Participation

_____ % Women’s Business Enterprise Participation

EEO Contract Goals

10% Minority Labor Force Participation

10% Female Labor Force Participation

(Authorized Representative)

Title: _____

Date: _____

M/WBE UTILIZATION PLAN

INSTRUCTIONS: This form must be submitted with any bid, proposal, or proposed negotiated contract or within a reasonable time thereafter, but prior to contract award. This Utilization Plan must contain a detailed description of the supplies and/or services to be provided by each certified Minority and Women-owned Business Enterprise (M/WBE) under the contract. Attach additional sheets if necessary.

Offeror's Name:

Federal Identification No.:

Address:

Location of Work: SUNY at _____

City, State, Zip Code:

Project No.:

Telephone No.:

M/WBE Goals in the Contract: MBE % WBE %

Authorized Representative:

EEO Goals in the Contract: MBE % WBE %

Authorized Signature:

1. Certified M/WBE Subcontractors/Suppliers Name, Address, Email Address, Telephone No.	2. Classification	3. Federal ID No.	4. Detailed Description of Work (Attach additional sheets, if necessary)	5. Dollar Value of Subcontracts/ Supplies/Services and intended performance dates of each component of the contract.
1.	NYS ESD CERTIFIED <input type="checkbox"/> MBE <input type="checkbox"/> WBE			
2.	NYS ESD CERTIFIED <input type="checkbox"/> MBE <input type="checkbox"/> WBE			
3.	NYS ESD CERTIFIED <input type="checkbox"/> MBE <input type="checkbox"/> WBE			
4.	NYS ESD CERTIFIED <input type="checkbox"/> MBE <input type="checkbox"/> WBE			
5.	NYS ESD CERTIFIED <input type="checkbox"/> MBE <input type="checkbox"/> WBE			
6.	NYS ESD CERTIFIED <input type="checkbox"/> MBE <input type="checkbox"/> WBE			
7.	NYS ESD CERTIFIED <input type="checkbox"/> MBE <input type="checkbox"/> WBE			

8.	NYS ESD CERTIFIED <input type="checkbox"/> MBE <input type="checkbox"/> WBE			
9.	NYS ESD CERTIFIED <input type="checkbox"/> MBE <input type="checkbox"/> WBE			

6. IF UNABLE TO FULLY MEET THE MBE AND WBE GOALS SET FORTH IN THE CONTRACT, OFFEROR MUST SUBMIT A REQUEST FOR WAIVER FORM (M/WBE 104).

PREPARED BY (Signature): DATE: NAME AND TITLE OF PREPARER (Print or Type): SUBMISSION OF THIS FORM CONSTITUTES THE OFFEROR'S ACKNOWLEDGEMENT AND AGREEMENT TO COMPLY WITH THE M/WBE REQUIREMENTS SET FORTH UNDER NYS EXECUTIVE LAW, ARTICLE 15-A, 5 NYCRR PART 143, AND THE ABOVE-REFERENCED SOLICITATION. FAILURE TO SUBMIT COMPLETE AND ACCURATE INFORMATION MAY RESULT IN A FINDING OF NONCOMPLIANCE AND POSSIBLE TERMINATION OF YOUR CONTRACT.	TELEPHONE NO.: 	EMAIL ADDRESS:
--	-------------------------------	-------------------------------

	FOR M/WBE USE ONLY	
	REVIEWED BY: 	DATE:
UTILIZATION PLAN APPROVED: <input type="checkbox"/> YES <input type="checkbox"/> NO Date: _____ Contract No.: _____ Project No. (if applicable): _____ Contract Award Date: _____ Estimated Date of Completion: _____ Amount Obligated Under the Contract: _____ Description of Work: _____ NOTICE OF DEFICIENCY ISSUED: <input type="checkbox"/> YES <input type="checkbox"/> NO Date: _____ NOTICE OF ACCEPTANCE ISSUED: <input type="checkbox"/> YES <input type="checkbox"/> NO Date: _____		

EEO STAFFING PLAN

Instructions on page 2

Solicitation No.:	Reporting Entity:	Report includes Contractor's/Subcontractor's: <input type="checkbox"/> Work force to be utilized on this contract <input type="checkbox"/> Total work force
Offeror's Name:		<input type="checkbox"/> Offerer
Offeror's Address:		<input type="checkbox"/> Subcontractor Subcontractor's name _____

Enter the total number of employees for each classification in each of the EEO-Job Categories identified

EEO-Job Category	Total Work force	Work force by Gender		Work force by Race/Ethnic Identification								Disabled		Veteran				
		Total Male (M)	Total Female (F)	White (M) (F)		Black (M) (F)		Hispanic (M) (F)		Asian (M) (F)		Native American (M) (F)		(M)	(F)	(M)	(F)	
Officials/Administrators																		
Professionals																		
Technicians																		
Sales Workers																		
Office/Clerical																		
Craft Workers																		
Laborers																		
Service Workers																		
Temporary /Apprentices																		
Totals																		

PREPARED BY (Signature):	TELEPHONE NO.:	DATE:
	EMAIL ADDRESS:	
NAME AND TITLE OF PREPARER (Print or Type):		Submit completed with bid or proposal

General instructions: All Offerors and each subcontractor identified in the bid or proposal must complete an EEO Staffing Plan (ADM/EEO 100) and submit it as part of the bid or proposal package. For construction, except for contracts of \$100,000 or less, the three lowest bidders shall submit to the University for its approval an EEO Staffing Plan within seven (7) calendar days after the opening of bids. Where the work force to be utilized in the performance of the State contract can be separated out from the contractor's and/or subcontractor's total work force, the Offeror shall complete this form only for the anticipated work force to be utilized on the State contract. Where the work force to be utilized in the performance of the State contract cannot be separated out from the contractor's and/or subcontractor's total work force, the Offeror shall complete this form for the contractor's and/or subcontractor's total work force.

Instructions for completing:

1. Enter the Solicitation number that this report applies to along with the name and address of the Offeror.
2. Check off the appropriate box to indicate if the Offeror completing the report is the contractor or a subcontractor.
3. Check off the appropriate box to indicate work force to be utilized on the contract or the Offerors' total work force.
4. Enter the total work force by EEO job category.
5. Break down the anticipated total work force by gender and enter under the heading 'Work force by Gender'
6. Break down the anticipated total work force by race/ethnic identification and enter under the heading 'Work force by Race/Ethnic Identification'. Contact the M/WBE Permissible contact(s) for the solicitation if you have any questions.
7. Enter information on disabled or veterans included in the anticipated work force under the appropriate headings.
8. Enter the name, title, phone number and email address for the person completing the form. Sign and date the form in the designated boxes.

RACE/ETHNIC IDENTIFICATION

Race/ethnic designations as used by the Equal Employment Opportunity Commission do not denote scientific definitions of anthropological origins. For the purposes of this form, an employee may be included in the group to which he or she appears to belong, identifies with, or is regarded in the community as belonging. However, no person should be counted in more than one race/ethnic group. The race/ethnic categories for this survey are:

- **WHITE** (Not of Hispanic origin) All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.
- **BLACK** a person, not of Hispanic origin, who has origins in any of the black racial groups of the original peoples of Africa.
- **HISPANIC** a person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.
- **ASIAN & PACIFIC ISLANDER** a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent or the Pacific Islands.
- **NATIVE INDIAN (NATIVE AMERICAN/ ALASKAN NATIVE)** a person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition.

OTHER CATEGORIES

- **DISABLED INDIVIDUAL** any person who:
 - has a physical or mental impairment that substantially limits one or more major life activity(ies)
 - has a record of such an impairment; or
 - is regarded as having such an impairment.
- **VIETNAM ERA VETERAN** a veteran who served at any time between and including January 1, 1963 and May 7, 1975.
- **GENDER** Male or Female

EEO-1 JOB CLASSIFICATION GUIDE,2014

(Effective beginning with the 2014 EEO-1 survey)

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Exec/Senior Offs & Mgrs.	Chief Executives *** (See Details in Bottom Note)	11-1011	0010
First/Mid Offs & Mgrs.	General and Operations Managers	11-1021	0020
First/Mid Offs & Mgrs.	Advertising and Promotions Managers	11-2011	0040
First/Mid Offs & Mgrs.	Marketing Managers	11-2021	0050
First/Mid Offs & Mgrs.	Sales Managers	11-2022	0050
First/Mid Offs & Mgrs.	Public Relations and Fundraising Managers	11-2031	0060
First/Mid Offs & Mgrs.	Administrative Services Managers	11-3011	0100
First/Mid Offs & Mgrs.	Computer and Information Systems Managers	11-3021	0110
First/Mid Offs & Mgrs.	Financial Managers	11-3031	0120
First/Mid Offs & Mgrs.	Industrial Production Managers	11-3051	0140
First/Mid Offs & Mgrs.	Purchasing Managers	11-3061	0150
First/Mid Offs & Mgrs.	Transportation, Storage, and Distribution Managers	11-3071	0160
First/Mid Offs & Mgrs.	Compensation and Benefits Managers	11-3111	0135
First/Mid Offs & Mgrs.	Human Resources Managers	11-3121	0136
First/Mid Offs & Mgrs.	Training and Development Managers	11-3131	0137
First/Mid Offs & Mgrs.	Farmers, Ranchers, and Other Agricultural Managers	11-9013	0205
First/Mid Offs & Mgrs.	Construction Managers	11-9021	0220
First/Mid Offs & Mgrs.	Education Administrators, Preschool and Childcare Center/Program	11-9031	0230
First/Mid Offs & Mgrs.	Education Administrators, Elementary and Secondary School	11-9032	0230
First/Mid Offs & Mgrs.	Education Administrators, Postsecondary	11-9033	0230
First/Mid Offs & Mgrs.	Education Administrators, All Other	11-9039	0230
First/Mid Offs & Mgrs.	Architectural and Engineering Managers	11-9041	0300
First/Mid Offs & Mgrs.	Food Service Managers	11-9051	0310
First/Mid Offs & Mgrs.	Funeral Service Managers	11-9061	0430
First/Mid Offs & Mgrs.	Gaming Managers	11-9071	0330
First/Mid Offs & Mgrs.	Lodging Managers	11-9081	0340
First/Mid Offs & Mgrs.	Medical and Health Services Managers	11-9111	0350
First/Mid Offs & Mgrs.	Natural Sciences Managers	11-9121	0360
First/Mid Offs & Mgrs.	Postmasters and Mail Superintendents	11-9131	0430
First/Mid Offs & Mgrs.	Property, Real Estate, and Community Association Managers	11-9141	0410
First/Mid Offs & Mgrs.	Social and Community Service Managers	11-9151	0420
First/Mid Offs & Mgrs.	Emergency Management Directors	11-9161	0425
First/Mid Offs & Mgrs.	Managers, All Other	11-9199	0430
First/Mid Offs & Mgrs.	Morticians, Undertakers, and Funeral Directors	39-4031	4465
Professionals	Agents and Business Managers of Artists, Performers, and Athletes	13-1011	0500
Professionals	Buyers and Purchasing Agents, Farm Products	13-1021	0510
Professionals	Wholesale and Retail Buyers, Except Farm Products	13-1022	0520
Professionals	Purchasing Agents, Except Wholesale, Retail, and Farm Products	13-1023	0530

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Professionals	Claims Adjusters, Examiners, and Investigators	13-1031	0540
Professionals	Insurance Appraisers, Auto Damage	13-1032	0540
Professionals	Compliance Officers	13-1041	0565
Professionals	Cost Estimators	13-1051	0600
Professionals	Human Resources Specialists	13-1071	0630
Professionals	Farm Labor Contractors	13-1074	0630
Professionals	Labor Relations Specialists	13-1075	0630
Professionals	Logisticians	13-1081	0700
Professionals	Management Analysts	13-1111	0710
Professionals	Meeting, Convention, and Event Planners	13-1121	0725
Professionals	Fundraisers	13-1131	0726
Professionals	Compensation, Benefits, and Job Analysis Specialists	13-1141	0640
Professionals	Training and Development Specialists	13-1151	0650
Professionals	Market Research Analysts and Marketing Specialists	13-1161	0735
Professionals	Business Operations Specialists, All Other	13-1199	0740
Professionals	Accountants and Auditors	13-2011	0800
Professionals	Appraisers and Assessors of Real Estate	13-2021	0810
Professionals	Budget Analysts	13-2031	0820
Professionals	Credit Analysts	13-2041	0830
Professionals	Financial Analysts	13-2051	0840
Professionals	Personal Financial Advisors	13-2052	0850
Professionals	Insurance Underwriters	13-2053	0860
Professionals	Financial Examiners	13-2061	0900
Professionals	Credit Counselors	13-2071	0910
Professionals	Loan Officers	13-2072	0910
Professionals	Tax Examiners and Collectors, and Revenue Agents	13-2081	0930
Professionals	Tax Preparers	13-2082	0940
Professionals	Financial Specialists, All Other	13-2099	0950
Professionals	Computer and Information Research Scientists	15-1111	1005
Professionals	Computer Systems Analysts	15-1121	1006
Professionals	Information Security Analysts	15-1122	1007
Professionals	Computer Programmers	15-1131	1010
Professionals	Software Developers, Applications	15-1132	1020
Professionals	Software Developers, Systems Software	15-1133	1020
Professionals	Web Developers	15-1134	1030
Professionals	Database Administrators	15-1141	1060
Professionals	Network and Computer Systems Administrators	15-1142	1105
Professionals	Computer Network Architects	15-1143	1106
Professionals	Computer User Support Specialists	15-1151	1050
Professionals	Computer Network Support Specialists	15-1152	1050
Professionals	Computer Occupations, All Other	15-1199	1107

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Professionals	Actuaries	15-2011	1200
Professionals	Mathematicians	15-2021	1240
Professionals	Operations Research Analysts	15-2031	1220
Professionals	Statisticians	15-2041	1240
Professionals	Mathematical Technicians	15-2091	1240
Professionals	Mathematical Science Occupations, All Other	15-2099	1240
Professionals	Architects, Except Landscape and Naval	17-1011	1300
Professionals	Landscape Architects	17-1012	1300
Professionals	Cartographers and Photogrammetrists	17-1021	1310
Professionals	Surveyors	17-1022	1310
Professionals	Aerospace Engineers	17-2011	1320
Professionals	Agricultural Engineers	17-2021	1340
Professionals	Biomedical Engineers	17-2031	1340
Professionals	Chemical Engineers	17-2041	1350
Professionals	Civil Engineers	17-2051	1520
Professionals	Computer Hardware Engineers	17-2061	1400
Professionals	Electrical Engineers	17-2071	1410
Professionals	Electronics Engineers, Except Computer	17-2072	1410
Professionals	Environmental Engineers	17-2081	1420
Professionals	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	17-2111	1430
Professionals	Industrial Engineers	17-2112	1430
Professionals	Marine Engineers and Naval Architects	17-2121	1440
Professionals	Materials Engineers	17-2131	1450
Professionals	Mechanical Engineers	17-2141	1460
Professionals	Mining and Geological Engineers, Including Mining Safety Engineers	17-2151	1520
Professionals	Nuclear Engineers	17-2161	1530
Professionals	Petroleum Engineers	17-2171	1520
Professionals	Engineers, All Other	17-2199	1530
Professionals	Animal Scientists	19-1011	1600
Professionals	Food Scientists and Technologists	19-1012	1600
Professionals	Soil and Plant Scientists	19-1013	1600
Professionals	Biochemists and Biophysicists	19-1021	1610
Professionals	Microbiologists	19-1022	1610
Professionals	Zoologists and Wildlife Biologists	19-1023	1610
Professionals	Biological Scientists, All Other	19-1029	1610
Professionals	Conservation Scientists	19-1031	1640
Professionals	Foresters	19-1032	1640
Professionals	Epidemiologists	19-1041	1650
Professionals	Medical Scientists, Except Epidemiologists	19-1042	1650
Professionals	Life Scientists, All Other	19-1099	1650
Professionals	Astronomers	19-2011	1700

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Professionals	Physicists	19-2012	1700
Professionals	Atmospheric and Space Scientists	19-2021	1710
Professionals	Chemists	19-2031	1720
Professionals	Materials Scientists	19-2032	1720
Professionals	Environmental Scientists and Specialists, Including Health	19-2041	1740
Professionals	Geoscientists, Except Hydrologists and Geographers	19-2042	1740
Professionals	Hydrologists	19-2043	1740
Professionals	Physical Scientists, All Other	19-2099	1760
Professionals	Economists	19-3011	1800
Professionals	Survey Researchers	19-3022	1860
Professionals	Clinical, Counseling, and School Psychologists	19-3031	1820
Professionals	Industrial-Organizational Psychologists	19-3032	1820
Professionals	Psychologists, All Other	19-3039	1820
Professionals	Sociologists	19-3041	1860
Professionals	Urban and Regional Planners	19-3051	1840
Professionals	Anthropologists and Archeologists	19-3091	1860
Professionals	Geographers	19-3092	1860
Professionals	Historians	19-3093	1860
Professionals	Political Scientists	19-3094	1860
Professionals	Social Scientists and Related Workers, All Other	19-3099	1860
Professionals	Substance Abuse and Behavioral Disorder Counselors	21-1011	2000
Professionals	Educational, Guidance, School, and Vocational Counselors	21-1012	2000
Professionals	Marriage and Family Therapists	21-1013	2000
Professionals	Mental Health Counselors	21-1014	2000
Professionals	Rehabilitation Counselors	21-1015	2000
Professionals	Counselors, All Other	21-1019	2000
Professionals	Child, Family, and School Social Workers	21-1021	2010
Professionals	Healthcare Social Workers	21-1022	2010
Professionals	Mental Health and Substance Abuse Social Workers	21-1023	2010
Professionals	Social Workers, All Other	21-1029	2010
Professionals	Health Educators	21-1091	2025
Professionals	Probation Officers and Correctional Treatment Specialists	21-1092	2015
Professionals	Community Health Workers	21-1094	2025
Professionals	Community and Social Service Specialists, All Other	21-1099	2025
Professionals	Clergy	21-2011	2040
Professionals	Directors, Religious Activities and Education	21-2021	2050
Professionals	Religious Workers, All Other	21-2099	2060
Professionals	Lawyers	23-1011	2100
Professionals	Judicial Law Clerks	23-1012	2105
Professionals	Administrative Law Judges, Adjudicators, and Hearing Officers	23-1021	2100
Professionals	Arbitrators, Mediators, and Conciliators	23-1022	2100

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Professionals	Judges, Magistrate Judges, and Magistrates	23-1023	2100
Professionals	Business Teachers, Postsecondary	25-1011	2200
Professionals	Computer Science Teachers, Postsecondary	25-1021	2200
Professionals	Mathematical Science Teachers, Postsecondary	25-1022	2200
Professionals	Architecture Teachers, Postsecondary	25-1031	2200
Professionals	Engineering Teachers, Postsecondary	25-1032	2200
Professionals	Agricultural Sciences Teachers, Postsecondary	25-1041	2200
Professionals	Biological Science Teachers, Postsecondary	25-1042	2200
Professionals	Forestry and Conservation Science Teachers, Postsecondary	25-1043	2200
Professionals	Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary	25-1051	2200
Professionals	Chemistry Teachers, Postsecondary	25-1052	2200
Professionals	Environmental Science Teachers, Postsecondary	25-1053	2200
Professionals	Physics Teachers, Postsecondary	25-1054	2200
Professionals	Anthropology and Archeology Teachers, Postsecondary	25-1061	2200
Professionals	Area, Ethnic, and Cultural Studies Teachers, Postsecondary	25-1062	2200
Professionals	Economics Teachers, Postsecondary	25-1063	2200
Professionals	Geography Teachers, Postsecondary	25-1064	2200
Professionals	Political Science Teachers, Postsecondary	25-1065	2200
Professionals	Psychology Teachers, Postsecondary	25-1066	2200
Professionals	Sociology Teachers, Postsecondary	25-1067	2200
Professionals	Social Sciences Teachers, Postsecondary, All Other	25-1069	2200
Professionals	Health Specialties Teachers, Postsecondary	25-1071	2200
Professionals	Nursing Instructors and Teachers, Postsecondary	25-1072	2200
Professionals	Education Teachers, Postsecondary	25-1081	2200
Professionals	Library Science Teachers, Postsecondary	25-1082	2200
Professionals	Criminal Justice and Law Enforcement Teachers, Postsecondary	25-1111	2200
Professionals	Law Teachers, Postsecondary	25-1112	2200
Professionals	Social Work Teachers, Postsecondary	25-1113	2200
Professionals	Art, Drama, and Music Teachers, Postsecondary	25-1121	2200
Professionals	Communications Teachers, Postsecondary	25-1122	2200
Professionals	English Language and Literature Teachers, Postsecondary	25-1123	2200
Professionals	Foreign Language and Literature Teachers, Postsecondary	25-1124	2200
Professionals	History Teachers, Postsecondary	25-1125	2200
Professionals	Philosophy and Religion Teachers, Postsecondary	25-1126	2200
Professionals	Graduate Teaching Assistants	25-1191	2200
Professionals	Home Economics Teachers, Postsecondary	25-1192	2200
Professionals	Recreation and Fitness Studies Teachers, Postsecondary	25-1193	2200
Professionals	Vocational Education Teachers, Postsecondary	25-1194	2200
Professionals	Postsecondary Teachers, All Other	25-1199	2200
Professionals	Preschool Teachers, Except Special Education	25-2011	2300
Professionals	Kindergarten Teachers, Except Special Education	25-2012	2300

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Professionals	Elementary School Teachers, Except Special Education	25-2021	2310
Professionals	Middle School Teachers, Except Special and Career/Technical Education	25-2022	2310
Professionals	Career/Technical Education Teachers, Middle School	25-2023	2310
Professionals	Secondary School Teachers, Except Special and Career/Technical Education	25-2031	2320
Professionals	Career/Technical Education Teachers, Secondary School	25-2032	2320
Professionals	Special Education Teachers, Preschool	25-2051	2330
Professionals	Special Education Teachers, Kindergarten and Elementary School	25-2052	2330
Professionals	Special Education Teachers, Middle School	25-2053	2330
Professionals	Special Education Teachers, Secondary School	25-2054	2330
Professionals	Special Education Teachers, All Other	25-2059	2330
Professionals	Adult Basic and Secondary Education and Literacy Teachers and Instructors	25-3011	2340
Professionals	Self-Enrichment Education Teachers	25-3021	2340
Professionals	Teachers and Instructors, All Other	25-3099	2340
Professionals	Archivists	25-4011	2400
Professionals	Curators	25-4012	2400
Professionals	Museum Technicians and Conservators	25-4013	2400
Professionals	Librarians	25-4021	2430
Professionals	Audio-Visual and Multimedia Collections Specialists	25-9011	2550
Professionals	Farm and Home Management Advisors	25-9021	2550
Professionals	Instructional Coordinators	25-9031	2550
Professionals	Education, Training, and Library Workers, All Other	25-9099	2550
Professionals	Art Directors	27-1011	2600
Professionals	Craft Artists	27-1012	2600
Professionals	Fine Artists, Including Painters, Sculptors, and Illustrators	27-1013	2600
Professionals	Multimedia Artists and Animators	27-1014	2600
Professionals	Artists and Related Workers, All Other	27-1019	2600
Professionals	Commercial and Industrial Designers	27-1021	2630
Professionals	Fashion Designers	27-1022	2630
Professionals	Floral Designers	27-1023	2630
Professionals	Graphic Designers	27-1024	2630
Professionals	Interior Designers	27-1025	2630
Professionals	Merchandise Displayers and Window Trimmers	27-1026	2630
Professionals	Set and Exhibit Designers	27-1027	2630
Professionals	Designers, All Other	27-1029	2630
Professionals	Actors	27-2011	2700
Professionals	Producers and Directors	27-2012	2710
Professionals	Athletes and Sports Competitors	27-2021	2720
Professionals	Coaches and Scouts	27-2022	2720
Professionals	Umpires, Referees, and Other Sports Officials	27-2023	2720
Professionals	Dancers	27-2031	2740
Professionals	Choreographers	27-2032	2740

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Professionals	Music Directors and Composers	27-2041	2750
Professionals	Musicians and Singers	27-2042	2750
Professionals	Entertainers and Performers, Sports and Related Workers, All Other	27-2099	2760
Professionals	Radio and Television Announcers	27-3011	2800
Professionals	Public Address System and Other Announcers	27-3012	2800
Professionals	Broadcast News Analysts	27-3021	2810
Professionals	Reporters and Correspondents	27-3022	2810
Professionals	Public Relations Specialists	27-3031	2825
Professionals	Editors	27-3041	2830
Professionals	Technical Writers	27-3042	2840
Professionals	Writers and Authors	27-3043	2850
Professionals	Interpreters and Translators	27-3091	2860
Professionals	Media and Communication Workers, All Other	27-3099	2860
Professionals	Photographers	27-4021	2910
Professionals	Camera Operators, Television, Video, and Motion Picture	27-4031	2920
Professionals	Film and Video Editors	27-4032	2920
Professionals	Chiropractors	29-1011	3000
Professionals	Dentists, General	29-1021	3010
Professionals	Oral and Maxillofacial Surgeons	29-1022	3010
Professionals	Orthodontists	29-1023	3010
Professionals	Prosthodontists	29-1024	3010
Professionals	Dentists, All Other Specialists	29-1029	3010
Professionals	Dietitians and Nutritionists	29-1031	3030
Professionals	Optometrists	29-1041	3040
Professionals	Pharmacists	29-1051	3050
Professionals	Anesthesiologists	29-1061	3060
Professionals	Family and General Practitioners	29-1062	3060
Professionals	Internists, General	29-1063	3060
Professionals	Obstetricians and Gynecologists	29-1064	3060
Professionals	Pediatricians, General	29-1065	3060
Professionals	Psychiatrists	29-1066	3060
Professionals	Surgeons	29-1067	3060
Professionals	Physicians and Surgeons, All Other	29-1069	3060
Professionals	Physician Assistants	29-1071	3110
Professionals	Podiatrists	29-1081	3120
Professionals	Occupational Therapists	29-1122	3150
Professionals	Physical Therapists	29-1123	3160
Professionals	Radiation Therapists	29-1124	3200
Professionals	Recreational Therapists	29-1125	3210
Professionals	Respiratory Therapists	29-1126	3220
Professionals	Speech-Language Pathologists	29-1127	3230

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Professionals	Exercise Physiologists	29-1128	3245
Professionals	Therapists, All Other	29-1129	3245
Professionals	Veterinarians	29-1131	3250
Professionals	Registered Nurses	29-1141	3255
Professionals	Nurse Anesthetists	29-1151	3256
Professionals	Nurse Midwives	29-1161	3258
Professionals	Nurse Practitioners	29-1171	3258
Professionals	Audiologists	29-1181	3140
Professionals	Health Diagnosing and Treating Practitioners, All Other	29-1199	3260
Professionals	Animal Trainers	39-2011	4340
Professionals	Sales Engineers	41-9031	4930
Professionals	Agricultural Inspectors	45-2011	6010
Professionals	Construction and Building Inspectors	47-4011	6660
Professionals	Airline Pilots, Copilots, and Flight Engineers	53-2011	9030
Professionals	Commercial Pilots	53-2012	9030
Professionals	Transportation Inspectors	53-6051	9410
Technicians	Architectural and Civil Drafters	17-3011	1540
Technicians	Electrical and Electronics Drafters	17-3012	1540
Technicians	Mechanical Drafters	17-3013	1540
Technicians	Drafters, All Other	17-3019	1540
Technicians	Aerospace Engineering and Operations Technicians	17-3021	1550
Technicians	Civil Engineering Technicians	17-3022	1550
Technicians	Electrical and Electronics Engineering Technicians	17-3023	1550
Technicians	Electro-Mechanical Technicians	17-3024	1550
Technicians	Environmental Engineering Technicians	17-3025	1550
Technicians	Industrial Engineering Technicians	17-3026	1550
Technicians	Mechanical Engineering Technicians	17-3027	1550
Technicians	Engineering Technicians, Except Drafters, All Other	17-3029	1550
Technicians	Surveying and Mapping Technicians	17-3031	1560
Technicians	Agricultural and Food Science Technicians	19-4011	1900
Technicians	Biological Technicians	19-4021	1910
Technicians	Chemical Technicians	19-4031	1920
Technicians	Geological and Petroleum Technicians	19-4041	1930
Technicians	Nuclear Technicians	19-4051	1930
Technicians	Social Science Research Assistants	19-4061	1965
Technicians	Environmental Science and Protection Technicians, Including Health	19-4091	1965
Technicians	Forensic Science Technicians	19-4092	1965
Technicians	Forest and Conservation Technicians	19-4093	1965
Technicians	Life, Physical, and Social Science Technicians, All Other	19-4099	1965
Technicians	Audio and Video Equipment Technicians	27-4011	2900
Technicians	Broadcast Technicians	27-4012	2900

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Technicians	Radio Operators	27-4013	2900
Technicians	Sound Engineering Technicians	27-4014	2900
Technicians	Media and Communication Equipment Workers, All Other	27-4099	2900
Technicians	Medical and Clinical Laboratory Technologists	29-2011	3300
Technicians	Medical and Clinical Laboratory Technicians	29-2012	3300
Technicians	Dental Hygienists	29-2021	3310
Technicians	Cardiovascular Technologists and Technicians	29-2031	3320
Technicians	Diagnostic Medical Sonographers	29-2032	3320
Technicians	Nuclear Medicine Technologists	29-2033	3320
Technicians	Radiologic Technologists	29-2034	3320
Technicians	Magnetic Resonance Imaging Technologists	29-2035	3320
Technicians	Emergency Medical Technicians and Paramedics	29-2041	3400
Technicians	Dietetic Technicians	29-2051	3420
Technicians	Pharmacy Technicians	29-2052	3420
Technicians	Psychiatric Technicians	29-2053	3420
Technicians	Respiratory Therapy Technicians	29-2054	3420
Technicians	Surgical Technologists	29-2055	3420
Technicians	Veterinary Technologists and Technicians	29-2056	3420
Technicians	Ophthalmic Medical Technicians	29-2057	3420
Technicians	Licensed Practical and Licensed Vocational Nurses	29-2061	3500
Technicians	Medical Records and Health Information Technicians	29-2071	3510
Technicians	Opticians, Dispensing	29-2081	3520
Technicians	Orthotists and Prosthetists	29-2091	3535
Technicians	Hearing Aid Specialists	29-2092	3535
Technicians	Health Technologists and Technicians, All Other	29-2099	3535
Technicians	Occupational Health and Safety Specialists	29-9011	3540
Technicians	Occupational Health and Safety Technicians	29-9012	3540
Technicians	Athletic Trainers	29-9091	3540
Technicians	Genetic Counselors	29-9092	3540
Technicians	Healthcare Practitioners and Technical Workers, All Other	29-9099	3540
Technicians	Air Traffic Controllers	53-2021	9040
Technicians	Airfield Operations Specialists	53-2022	9040
Sales Workers	First-Line Supervisors of Retail Sales Workers	41-1011	4700
Sales Workers	First-Line Supervisors of Non-Retail Sales Workers	41-1012	4710
Sales Workers	Cashiers	41-2011	4720
Sales Workers	Gaming Change Persons and Booth Cashiers	41-2012	4720
Sales Workers	Counter and Rental Clerks	41-2021	4740
Sales Workers	Parts Salespersons	41-2022	4750
Sales Workers	Retail Salespersons	41-2031	4760
Sales Workers	Advertising Sales Agents	41-3011	4800
Sales Workers	Insurance Sales Agents	41-3021	4810

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Sales Workers	Securities, Commodities, and Financial Services Sales Agents	41-3031	4820
Sales Workers	Travel Agents	41-3041	4830
Sales Workers	Sales Representatives, Services, All Other	41-3099	4840
Sales Workers	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	41-4011	4850
Sales Workers	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	41-4012	4850
Sales Workers	Demonstrators and Product Promoters	41-9011	4900
Sales Workers	Models	41-9012	4900
Sales Workers	Real Estate Brokers	41-9021	4920
Sales Workers	Real Estate Sales Agents	41-9022	4920
Sales Workers	Telemarketers	41-9041	4940
Sales Workers	Door-to-Door Sales Workers, News and Street Vendors, and Related Workers	41-9091	4950
Sales Workers	Sales and Related Workers, All Other	41-9099	4965
Administrative Support Workers	Social and Human Service Assistants	21-1093	2016
Administrative Support Workers	Paralegals and Legal Assistants	23-2011	2145
Administrative Support Workers	Court Reporters	23-2091	2160
Administrative Support Workers	Title Examiners, Abstractors, and Searchers	23-2093	2160
Administrative Support Workers	Legal Support Workers, All Other	23-2099	2160
Administrative Support Workers	Library Technicians	25-4031	2440
Administrative Support Workers	Teacher Assistants	25-9041	2540
Administrative Support Workers	Medical Transcriptionists	31-9094	3646
Administrative Support Workers	First-Line Supervisors of Office and Administrative Support Workers	43-1011	5000
Administrative Support Workers	Switchboard Operators, Including Answering Service	43-2011	5010
Administrative Support Workers	Telephone Operators	43-2021	5020
Administrative Support Workers	Communications Equipment Operators, All Other	43-2099	5030
Administrative Support Workers	Bill and Account Collectors	43-3011	5100
Administrative Support Workers	Billing and Posting Clerks	43-3021	5110
Administrative Support Workers	Bookkeeping, Accounting, and Auditing Clerks	43-3031	5120
Administrative Support Workers	Gaming Cage Workers	43-3041	5130
Administrative Support Workers	Payroll and Timekeeping Clerks	43-3051	5140
Administrative Support Workers	Procurement Clerks	43-3061	5150
Administrative Support Workers	Tellers	43-3071	5160

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Administrative Support Workers	Financial Clerks, All Other	43-3099	5165
Administrative Support Workers	Brokerage Clerks	43-4011	5200
Administrative Support Workers	Correspondence Clerks	43-4021	5350
Administrative Support Workers	Court, Municipal, and License Clerks	43-4031	5220
Administrative Support Workers	Credit Authorizers, Checkers, and Clerks	43-4041	5230
Administrative Support Workers	Customer Service Representatives	43-4051	5240
Administrative Support Workers	Eligibility Interviewers, Government Programs	43-4061	5250
Administrative Support Workers	File Clerks	43-4071	5260
Administrative Support Workers	Hotel, Motel, and Resort Desk Clerks	43-4081	5300
Administrative Support Workers	Interviewers, Except Eligibility and Loan	43-4111	5310
Administrative Support Workers	Library Assistants, Clerical	43-4121	5320
Administrative Support Workers	Loan Interviewers and Clerks	43-4131	5330
Administrative Support Workers	New Accounts Clerks	43-4141	5340
Administrative Support Workers	Order Clerks	43-4151	5350
Administrative Support Workers	Human Resources Assistants, Except Payroll and Timekeeping	43-4161	5360
Administrative Support Workers	Receptionists and Information Clerks	43-4171	5400
Administrative Support Workers	Reservation and Transportation Ticket Agents and Travel Clerks	43-4181	5410
Administrative Support Workers	Information and Record Clerks, All Other	43-4199	5420
Administrative Support Workers	Cargo and Freight Agents	43-5011	5500
Administrative Support Workers	Couriers and Messengers	43-5021	5510
Administrative Support Workers	Police, Fire, and Ambulance Dispatchers	43-5031	5520
Administrative Support Workers	Dispatchers, Except Police, Fire, and Ambulance	43-5032	5520
Administrative Support Workers	Meter Readers, Utilities	43-5041	5530
Administrative Support Workers	Postal Service Clerks	43-5051	5540
Administrative Support Workers	Postal Service Mail Carriers	43-5052	5550
Administrative Support Workers	Postal Service Mail Sorters, Processors, and Processing Machine Operators	43-5053	5560
Administrative Support Workers	Production, Planning, and Expediting Clerks	43-5061	5600

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Administrative Support Workers	Shipping, Receiving, and Traffic Clerks	43-5071	5610
Administrative Support Workers	Stock Clerks and Order Fillers	43-5081	5620
Administrative Support Workers	Weighers, Measurers, Checkers, and Samplers, Recordkeeping	43-5111	5630
Administrative Support Workers	Executive Secretaries and Executive Administrative Assistants	43-6011	5700
Administrative Support Workers	Legal Secretaries	43-6012	5700
Administrative Support Workers	Medical Secretaries	43-6013	5700
Administrative Support Workers	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	43-6014	5700
Administrative Support Workers	Computer Operators	43-9011	5800
Administrative Support Workers	Data Entry Keyers	43-9021	5810
Administrative Support Workers	Word Processors and Typists	43-9022	5820
Administrative Support Workers	Desktop Publishers	43-9031	5940
Administrative Support Workers	Insurance Claims and Policy Processing Clerks	43-9041	5840
Administrative Support Workers	Mail Clerks and Mail Machine Operators, Except Postal Service	43-9051	5850
Administrative Support Workers	Office Clerks, General	43-9061	5860
Administrative Support Workers	Office Machine Operators, Except Computer	43-9071	5900
Administrative Support Workers	Proofreaders and Copy Markers	43-9081	5910
Administrative Support Workers	Statistical Assistants	43-9111	5920
Administrative Support Workers	Office and Administrative Support Workers, All Other	43-9199	5940
Craft Workers	First-Line Supervisors of Construction Trades and Extraction Workers	47-1011	6200
Craft Workers	Boilermakers	47-2011	6210
Craft Workers	Brickmasons and Blockmasons	47-2021	6220
Craft Workers	Stonemasons	47-2022	6220
Craft Workers	Carpenters	47-2031	6230
Craft Workers	Carpet Installers	47-2041	6240
Craft Workers	Floor Layers, Except Carpet, Wood, and Hard Tiles	47-2042	6240
Craft Workers	Floor Sanders and Finishers	47-2043	6240
Craft Workers	Tile and Marble Setters	47-2044	6240
Craft Workers	Cement Masons and Concrete Finishers	47-2051	6250
Craft Workers	Terrazzo Workers and Finishers	47-2053	6250
Craft Workers	Paving, Surfacing, and Tamping Equipment Operators	47-2071	6300
Craft Workers	Pile-Driver Operators	47-2072	6320
Craft Workers	Operating Engineers and Other Construction Equipment Operators	47-2073	6320

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Craft Workers	Drywall and Ceiling Tile Installers	47-2081	6330
Craft Workers	Tapers	47-2082	6330
Craft Workers	Electricians	47-2111	6355
Craft Workers	Glaziers	47-2121	6360
Craft Workers	Insulation Workers, Floor, Ceiling, and Wall	47-2131	6400
Craft Workers	Insulation Workers, Mechanical	47-2132	6400
Craft Workers	Painters, Construction and Maintenance	47-2141	6420
Craft Workers	Paperhangers	47-2142	6430
Craft Workers	Pipelayers	47-2151	6440
Craft Workers	Plumbers, Pipefitters, and Steamfitters	47-2152	6440
Craft Workers	Plasterers and Stucco Masons	47-2161	6460
Craft Workers	Reinforcing Iron and Rebar Workers	47-2171	6500
Craft Workers	Roofers	47-2181	6515
Craft Workers	Sheet Metal Workers	47-2211	6520
Craft Workers	Structural Iron and Steel Workers	47-2221	6530
Craft Workers	Solar Photovoltaic Installers	47-2231	6765
Craft Workers	Elevator Installers and Repairers	47-4021	6700
Craft Workers	Fence Erectors	47-4031	6710
Craft Workers	Hazardous Materials Removal Workers	47-4041	6720
Craft Workers	Highway Maintenance Workers	47-4051	6730
Craft Workers	Rail-Track Laying and Maintenance Equipment Operators	47-4061	6740
Craft Workers	Septic Tank Servicers and Sewer Pipe Cleaners	47-4071	6765
Craft Workers	Segmental Pavers	47-4091	6765
Craft Workers	Construction and Related Workers, All Other	47-4099	6765
Craft Workers	Derrick Operators, Oil and Gas	47-5011	6800
Craft Workers	Rotary Drill Operators, Oil and Gas	47-5012	6800
Craft Workers	Service Unit Operators, Oil, Gas, and Mining	47-5013	6800
Craft Workers	Earth Drillers, Except Oil and Gas	47-5021	6820
Craft Workers	Explosives Workers, Ordnance Handling Experts, and Blasters	47-5031	6830
Craft Workers	Continuous Mining Machine Operators	47-5041	6840
Craft Workers	Mine Cutting and Channeling Machine Operators	47-5042	6840
Craft Workers	Mining Machine Operators, All Other	47-5049	6840
Craft Workers	Rock Splitters, Quarry	47-5051	6940
Craft Workers	Roof Bolters, Mining	47-5061	6940
Craft Workers	Roustabouts, Oil and Gas	47-5071	6800
Craft Workers	Helpers--Extraction Workers	47-5081	6940
Craft Workers	Extraction Workers, All Other	47-5099	6940
Craft Workers	First-Line Supervisors of Mechanics, Installers, and Repairers	49-1011	7000
Craft Workers	Computer, Automated Teller, and Office Machine Repairers	49-2011	7010
Craft Workers	Radio, Cellular, and Tower Equipment Installers and Repairs	49-2021	7020
Craft Workers	Telecommunications Equipment Installers and Repairers, Except Line Installers	49-2022	7020

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Craft Workers	Avionics Technicians	49-2091	7030
Craft Workers	Electric Motor, Power Tool, and Related Repairers	49-2092	7040
Craft Workers	Electrical and Electronics Installers and Repairers, Transportation Equipment	49-2093	7100
Craft Workers	Electrical and Electronics Repairers, Commercial and Industrial Equipment	49-2094	7100
Craft Workers	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	49-2095	7100
Craft Workers	Electronic Equipment Installers and Repairers, Motor Vehicles	49-2096	7110
Craft Workers	Electronic Home Entertainment Equipment Installers and Repairers	49-2097	7120
Craft Workers	Security and Fire Alarm Systems Installers	49-2098	7130
Craft Workers	Aircraft Mechanics and Service Technicians	49-3011	7140
Craft Workers	Automotive Body and Related Repairers	49-3021	7150
Craft Workers	Automotive Glass Installers and Repairers	49-3022	7160
Craft Workers	Automotive Service Technicians and Mechanics	49-3023	7200
Craft Workers	Bus and Truck Mechanics and Diesel Engine Specialists	49-3031	7210
Craft Workers	Farm Equipment Mechanics and Service Technicians	49-3041	7220
Craft Workers	Mobile Heavy Equipment Mechanics, Except Engines	49-3042	7220
Craft Workers	Rail Car Repairers	49-3043	7220
Craft Workers	Motorboat Mechanics and Service Technicians	49-3051	7240
Craft Workers	Motorcycle Mechanics	49-3052	7240
Craft Workers	Outdoor Power Equipment and Other Small Engine Mechanics	49-3053	7240
Craft Workers	Bicycle Repairers	49-3091	7260
Craft Workers	Recreational Vehicle Service Technicians	49-3092	7260
Craft Workers	Tire Repairers and Changers	49-3093	7260
Craft Workers	Mechanical Door Repairers	49-9011	7300
Craft Workers	Control and Valve Installers and Repairers, Except Mechanical Door	49-9012	7300
Craft Workers	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	49-9021	7315
Craft Workers	Home Appliance Repairers	49-9031	7320
Craft Workers	Industrial Machinery Mechanics	49-9041	7330
Craft Workers	Maintenance Workers, Machinery	49-9043	7350
Craft Workers	Millwrights	49-9044	7360
Craft Workers	Refractory Materials Repairers, Except Brickmasons	49-9045	7330
Craft Workers	Electrical Power-Line Installers and Repairers	49-9051	7410
Craft Workers	Telecommunications Line Installers and Repairers	49-9052	7420
Craft Workers	Camera and Photographic Equipment Repairers	49-9061	7430
Craft Workers	Medical Equipment Repairers	49-9062	7430
Craft Workers	Musical Instrument Repairers and Tuners	49-9063	7430
Craft Workers	Watch Repairers	49-9064	7430
Craft Workers	Precision Instrument and Equipment Repairers, All Other	49-9069	7430
Craft Workers	Maintenance and Repair Workers, General	49-9071	7340
Craft Workers	Wind Turbine Service Technicians	49-9081	7630
Craft Workers	Coin, Vending, and Amusement Machine Servicers and Repairers	49-9091	7510
Craft Workers	Commercial Divers	49-9092	7630

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Craft Workers	Fabric Menders, Except Garment	49-9093	7630
Craft Workers	Locksmiths and Safe Repairers	49-9094	7540
Craft Workers	Manufactured Building and Mobile Home Installers	49-9095	7550
Craft Workers	Riggers	49-9096	7560
Craft Workers	Signal and Track Switch Repairers	49-9097	7630
Craft Workers	Installation, Maintenance, and Repair Workers, All Other	49-9099	7630
Craft Workers	Structural Metal Fabricators and Fitters	51-2041	7740
Craft Workers	Machinists	51-4041	8030
Craft Workers	Model Makers, Metal and Plastic	51-4061	8060
Craft Workers	Patternmakers, Metal and Plastic	51-4062	8060
Craft Workers	Tool and Die Makers	51-4111	8130
Craft Workers	Prepress Technicians and Workers	51-5111	8250
Craft Workers	Print Binding and Finishing Workers	51-5113	8256
Craft Workers	Shoe and Leather Workers and Repairers	51-6041	8330
Craft Workers	Sewers, Hand	51-6051	8350
Craft Workers	Tailors, Dressmakers, and Custom Sewers	51-6052	8350
Craft Workers	Upholsterers	51-6093	8450
Craft Workers	Cabinetmakers and Bench Carpenters	51-7011	8500
Craft Workers	Furniture Finishers	51-7021	8510
Craft Workers	Model Makers, Wood	51-7031	8550
Craft Workers	Patternmakers, Wood	51-7032	8550
Craft Workers	Woodworkers, All Other	51-7099	8550
Craft Workers	Nuclear Power Reactor Operators	51-8011	8600
Craft Workers	Power Distributors and Dispatchers	51-8012	8600
Craft Workers	Power Plant Operators	51-8013	8600
Craft Workers	Stationary Engineers and Boiler Operators	51-8021	8610
Craft Workers	Water and Wastewater Treatment Plant and System Operators	51-8031	8620
Craft Workers	Jewelers and Precious Stone and Metal Workers	51-9071	8750
Craft Workers	Dental Laboratory Technicians	51-9081	8760
Craft Workers	Medical Appliance Technicians	51-9082	8760
Craft Workers	Ophthalmic Laboratory Technicians	51-9083	8760
Craft Workers	Etchers and Engravers	51-9194	8910
Craft Workers	Crane and Tower Operators	53-7021	9510
Craft Workers	Dredge Operators	53-7031	9520
Craft Workers	Excavating and Loading Machine and Dragline Operators	53-7032	9520
Craft Workers	Loading Machine Operators, Underground Mining	53-7033	9520
Operatives	Graders and Sorters, Agricultural Products	45-2041	6040
Operatives	First-Line Supervisors of Production and Operating Workers	51-1011	7700
Operatives	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	51-2011	7710
Operatives	Coil Winders, Tapers, and Finishers	51-2021	7720
Operatives	Electrical and Electronic Equipment Assemblers	51-2022	7720

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Operatives	Electromechanical Equipment Assemblers	51-2023	7720
Operatives	Engine and Other Machine Assemblers	51-2031	7730
Operatives	Fiberglass Laminators and Fabricators	51-2091	7750
Operatives	Team Assemblers	51-2092	7750
Operatives	Timing Device Assemblers and Adjusters	51-2093	7750
Operatives	Assemblers and Fabricators, All Other	51-2099	7750
Operatives	Bakers	51-3011	7800
Operatives	Butchers and Meat Cutters	51-3021	7810
Operatives	Meat, Poultry, and Fish Cutters and Trimmers	51-3022	7810
Operatives	Slaughtering and Meat Packers	51-3023	7810
Operatives	Food and Tobacco Roasting, Baking, and Drying Machine Operators and Tenders	51-3091	7830
Operatives	Food Batchmakers	51-3092	7840
Operatives	Food Cooking Machine Operators and Tenders	51-3093	7850
Operatives	Food Processing Workers, All Other	51-3099	7855
Operatives	Computer-Controlled Machine Tool Operators, Metal and Plastic	51-4011	7900
Operatives	Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	51-4012	7900
Operatives	Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	51-4021	7920
Operatives	Forging Machine Setters, Operators, and Tenders, Metal and Plastic	51-4022	7930
Operatives	Rolling Machine Setters, Operators, and Tenders, Metal and Plastic	51-4023	7940
Operatives	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	51-4031	7950
Operatives	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	51-4032	7960
Operatives	Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	51-4033	8000
Operatives	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic	51-4034	8010
Operatives	Milling and Planing Machine Setters, Operators, and Tenders, Metal and Plastic	51-4035	8220
Operatives	Metal-Refining Furnace Operators and Tenders	51-4051	8040
Operatives	Pourers and Casters, Metal	51-4052	8040
Operatives	Foundry Mold and Coremakers	51-4071	8100
Operatives	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	51-4072	8100
Operatives	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	51-4081	8220
Operatives	Welders, Cutters, Solderers, and Brazers	51-4121	8140
Operatives	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	51-4122	8140
Operatives	Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic	51-4191	8150
Operatives	Layout Workers, Metal and Plastic	51-4192	8220
Operatives	Plating and Coating Machine Setters, Operators, and Tenders, Metal and Plastic	51-4193	8200
Operatives	Tool Grinders, Filers, and Sharpeners	51-4194	8210
Operatives	Metal Workers and Plastic Workers, All Other	51-4199	8220
Operatives	Printing Press Operators	51-5112	8255
Operatives	Laundry and Dry-Cleaning Workers	51-6011	8300
Operatives	Pressers, Textile, Garment, and Related Materials	51-6021	8310
Operatives	Sewing Machine Operators	51-6031	8320

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Operatives	Shoe Machine Operators and Tenders	51-6042	8340
Operatives	Textile Bleaching and Dyeing Machine Operators and Tenders	51-6061	8400
Operatives	Textile Cutting Machine Setters, Operators, and Tenders	51-6062	8400
Operatives	Textile Knitting and Weaving Machine Setters, Operators, and Tenders	51-6063	8410
Operatives	Textile Winding, Twisting, and Drawing Out Machine Setters, Operators, and Tenders	51-6064	8420
Operatives	Extruding and Forming Machine Setters, Operators, and Tenders, Synthetic and Glass Fibers	51-6091	8460
Operatives	Fabric and Apparel Patternmakers	51-6092	8460
Operatives	Textile, Apparel, and Furnishings Workers, All Other	51-6099	8460
Operatives	Sawing Machine Setters, Operators, and Tenders, Wood	51-7041	8530
Operatives	Woodworking Machine Setters, Operators, and Tenders, Except Sawing	51-7042	8540
Operatives	Chemical Plant and System Operators	51-8091	8630
Operatives	Gas Plant Operators	51-8092	8630
Operatives	Petroleum Pump System Operators, Refinery Operators, and Gaugers	51-8093	8630
Operatives	Plant and System Operators, All Other	51-8099	8630
Operatives	Chemical Equipment Operators and Tenders	51-9011	8640
Operatives	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	51-9012	8640
Operatives	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	51-9021	8650
Operatives	Grinding and Polishing Workers, Hand	51-9022	8650
Operatives	Mixing and Blending Machine Setters, Operators, and Tenders	51-9023	8650
Operatives	Cutters and Trimmers, Hand	51-9031	8710
Operatives	Cutting and Slicing Machine Setters, Operators, and Tenders	51-9032	8710
Operatives	Extruding, Forming, Pressing, and Compacting Machine Setters, Operators, and Tenders	51-9041	8720
Operatives	Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	51-9051	8730
Operatives	Inspectors, Testers, Sorters, Samplers, and Weighers	51-9061	8740
Operatives	Packaging and Filling Machine Operators and Tenders	51-9111	8800
Operatives	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	51-9121	8810
Operatives	Painters, Transportation Equipment	51-9122	8810
Operatives	Painting, Coating, and Decorating Workers	51-9123	8810
Operatives	Semiconductor Processors	51-9141	8965
Operatives	Photographic Process Workers and Processing Machine Operators	51-9151	8830
Operatives	Adhesive Bonding Machine Operators and Tenders	51-9191	8850
Operatives	Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders	51-9192	8860
Operatives	Cooling and Freezing Equipment Operators and Tenders	51-9193	8965
Operatives	Molders, Shapers, and Casters, Except Metal and Plastic	51-9195	8920
Operatives	Paper Goods Machine Setters, Operators, and Tenders	51-9196	8930
Operatives	Tire Builders	51-9197	8940
Operatives	Production Workers, All Other	51-9199	8965
Operatives	Aircraft Cargo Handling Supervisors	53-1011	9000
Operatives	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	53-1021	9000
Operatives	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	53-1031	9000

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Operatives	Flight Attendants	53-2031	9050
Operatives	Ambulance Drivers and Attendants, Except Emergency Medical Technicians	53-3011	9110
Operatives	Bus Drivers, Transit and Intercity	53-3021	9120
Operatives	Bus Drivers, School or Special Client	53-3022	9120
Operatives	Driver/Sales Workers	53-3031	9130
Operatives	Heavy and Tractor-Trailer Truck Drivers	53-3032	9130
Operatives	Light Truck or Delivery Services Drivers	53-3033	9130
Operatives	Taxi Drivers and Chauffeurs	53-3041	9140
Operatives	Motor Vehicle Operators, All Other	53-3099	9150
Operatives	Locomotive Engineers	53-4011	9200
Operatives	Locomotive Firers	53-4012	9200
Operatives	Rail Yard Engineers, Dinkey Operators, and Hostlers	53-4013	9200
Operatives	Railroad Brake, Signal, and Switch Operators	53-4021	9230
Operatives	Railroad Conductors and Yardmasters	53-4031	9240
Operatives	Subway and Streetcar Operators	53-4041	9260
Operatives	Rail Transportation Workers, All Other	53-4099	9260
Operatives	Sailors and Marine Oilers	53-5011	9300
Operatives	Captains, Mates, and Pilots of Water Vessels	53-5021	9310
Operatives	Motorboat Operators	53-5022	9310
Operatives	Ship Engineers	53-5031	9300
Operatives	Bridge and Lock Tenders	53-6011	9420
Operatives	Parking Lot Attendants	53-6021	9350
Operatives	Traffic Technicians	53-6041	9420
Operatives	Transportation Attendants, Except Flight Attendants	53-6061	9415
Operatives	Transportation Workers, All Other	53-6099	9420
Operatives	Conveyor Operators and Tenders	53-7011	9560
Operatives	Hoist and Winch Operators	53-7041	9560
Operatives	Industrial Truck and Tractor Operators	53-7051	9600
Operatives	Packers and Packagers, Hand	53-7064	9640
Operatives	Gas Compressor and Gas Pumping Station Operators	53-7071	9650
Operatives	Pump Operators, Except Wellhead Pumpers	53-7072	9650
Operatives	Wellhead Pumpers	53-7073	9650
Operatives	Mine Shuttle Car Operators	53-7111	9750
Operatives	Tank Car, Truck, and Ship Loaders	53-7121	9750
Operatives	Material Moving Workers, All Other	53-7199	9750
Labors and Helpers	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	37-1012	4210
Labors and Helpers	Landscaping and Groundskeeping Workers	37-3011	4250
Labors and Helpers	Pesticide Handlers, Sprayers, and Applicators, Vegetation	37-3012	4250
Labors and Helpers	Tree Trimmers and Pruners	37-3013	4250
Labors and Helpers	Grounds Maintenance Workers, All Other	37-3019	4250
Labors and Helpers	Nonfarm Animal Caretakers	39-2021	4350

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Labors and Helpers	First-Line Supervisors of Farming, Fishing, and Forestry Workers	45-1011	6005
Labors and Helpers	Animal Breeders	45-2021	6050
Labors and Helpers	Agricultural Equipment Operators	45-2091	6050
Labors and Helpers	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	45-2092	6050
Labors and Helpers	Farmworkers, Farm, Ranch, and Aquacultural Animals	45-2093	6050
Labors and Helpers	Agricultural Workers, All Other	45-2099	6050
Labors and Helpers	Fishers and Related Fishing Workers	45-3011	6100
Labors and Helpers	Hunters and Trappers	45-3021	6100
Labors and Helpers	Forest and Conservation Workers	45-4011	6120
Labors and Helpers	Fallers	45-4021	6130
Labors and Helpers	Logging Equipment Operators	45-4022	6130
Labors and Helpers	Log Graders and Scalers	45-4023	6130
Labors and Helpers	Logging Workers, All Other	45-4029	6130
Labors and Helpers	Construction Laborers	47-2061	6260
Labors and Helpers	Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	47-3011	6600
Labors and Helpers	Helpers--Carpenters	47-3012	6600
Labors and Helpers	Helpers--Electricians	47-3013	6600
Labors and Helpers	Helpers--Painters, Paperhangers, Plasterers, and Stucco Masons	47-3014	6600
Labors and Helpers	Helpers--Pipelayers, Plumbers, Pipefitters, and Steamfitters	47-3015	6600
Labors and Helpers	Helpers--Roofers	47-3016	6600
Labors and Helpers	Helpers, Construction Trades, All Other	47-3019	6600
Labors and Helpers	Helpers--Installation, Maintenance, and Repair Workers	49-9098	7610
Labors and Helpers	Helpers--Production Workers	51-9198	8950
Labors and Helpers	Automotive and Watercraft Service Attendants	53-6031	9360
Labors and Helpers	Cleaners of Vehicles and Equipment	53-7061	9610
Labors and Helpers	Laborers and Freight, Stock, and Material Movers, Hand	53-7062	9620
Labors and Helpers	Machine Feeders and Offbearers	53-7063	9630
Labors and Helpers	Refuse and Recyclable Material Collectors	53-7081	9720
Service Workers	Home Health Aides	31-1011	3600
Service Workers	Psychiatric Aides	31-1013	3600
Service Workers	Nursing Assistants	31-1014	3600
Service Workers	Orderlies	31-1015	3600
Service Workers	Occupational Therapy Assistants	31-2011	3610
Service Workers	Occupational Therapy Aides	31-2012	3610
Service Workers	Physical Therapist Assistants	31-2021	3620
Service Workers	Physical Therapist Aides	31-2022	3620
Service Workers	Massage Therapists	31-9011	3630
Service Workers	Dental Assistants	31-9091	3640
Service Workers	Medical Assistants	31-9092	3645
Service Workers	Medical Equipment Preparers	31-9093	3655
Service Workers	Pharmacy Aides	31-9095	3647

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Service Workers	Veterinary Assistants and Laboratory Animal Caretakers	31-9096	3648
Service Workers	Phlebotomists	31-9097	3649
Service Workers	Healthcare Support Workers, All Other	31-9099	3655
Service Workers	First-Line Supervisors of Correctional Officers	33-1011	3700
Service Workers	First-Line Supervisors of Police and Detectives	33-1012	3710
Service Workers	First-Line Supervisors of Fire Fighting and Prevention Workers	33-1021	3720
Service Workers	First-Line Supervisors of Protective Service Workers, All Other	33-1099	3730
Service Workers	Firefighters	33-2011	3740
Service Workers	Fire Inspectors and Investigators	33-2021	3750
Service Workers	Forest Fire Inspectors and Prevention Specialists	33-2022	3750
Service Workers	Bailiffs	33-3011	3800
Service Workers	Correctional Officers and Jailers	33-3012	3800
Service Workers	Detectives and Criminal Investigators	33-3021	3820
Service Workers	Fish and Game Wardens	33-3031	3840
Service Workers	Parking Enforcement Workers	33-3041	3840
Service Workers	Police and Sheriff's Patrol Officers	33-3051	3850
Service Workers	Transit and Railroad Police	33-3052	3850
Service Workers	Animal Control Workers	33-9011	3900
Service Workers	Private Detectives and Investigators	33-9021	3910
Service Workers	Gaming Surveillance Officers and Gaming Investigators	33-9031	3930
Service Workers	Security Guards	33-9032	3930
Service Workers	Crossing Guards	33-9091	3940
Service Workers	Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers	33-9092	3955
Service Workers	Transportation Security Screeners	33-9093	3945
Service Workers	Protective Service Workers, All Other	33-9099	3955
Service Workers	Chefs and Head Cooks	35-1011	4000
Service Workers	First-Line Supervisors of Food Preparation and Serving Workers	35-1012	4010
Service Workers	Cooks, Fast Food	35-2011	4020
Service Workers	Cooks, Institution and Cafeteria	35-2012	4020
Service Workers	Cooks, Private Household	35-2013	4020
Service Workers	Cooks, Restaurant	35-2014	4020
Service Workers	Cooks, Short Order	35-2015	4020
Service Workers	Cooks, All Other	35-2019	4020
Service Workers	Food Preparation Workers	35-2021	4030
Service Workers	Bartenders	35-3011	4040
Service Workers	Combined Food Preparation and Serving Workers, Including Fast Food	35-3021	4050
Service Workers	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	35-3022	4060
Service Workers	Waiters and Waitresses	35-3031	4110
Service Workers	Food Servers, Nonrestaurant	35-3041	4120
Service Workers	Dining Room and Cafeteria Attendants and Bartender Helpers	35-9011	4130
Service Workers	Dishwashers	35-9021	4140

EEO-1 Job Group	Job Title/Description of Standard Occupational Classification (SOC)	Six-Level SOC Job Code	Four-Digit Census Code
Service Workers	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	35-9031	4150
Service Workers	Food Preparation and Serving Related Workers, All Other	35-9099	4130
Service Workers	First-Line Supervisors of Housekeeping and Janitorial Workers	37-1011	4200
Service Workers	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	37-2011	4220
Service Workers	Maids and Housekeeping Cleaners	37-2012	4230
Service Workers	Building Cleaning Workers, All Other	37-2019	4220
Service Workers	Pest Control Workers	37-2021	4240
Service Workers	Gaming Supervisors	39-1011	4300
Service Workers	Slot Supervisors	39-1012	4300
Service Workers	First-Line Supervisors of Personal Service Workers	39-1021	4320
Service Workers	Gaming Dealers	39-3011	4400
Service Workers	Gaming and Sports Book Writers and Runners	39-3012	4400
Service Workers	Gaming Service Workers, All Other	39-3019	4400
Service Workers	Motion Picture Projectionists	39-3021	4410
Service Workers	Ushers, Lobby Attendants, and Ticket Takers	39-3031	4420
Service Workers	Amusement and Recreation Attendants	39-3091	4430
Service Workers	Costume Attendants	39-3092	4430
Service Workers	Locker Room, Coatroom, and Dressing Room Attendants	39-3093	4430
Service Workers	Entertainment Attendants and Related Workers, All Other	39-3099	4430
Service Workers	Embalmers	39-4011	4460
Service Workers	Funeral Attendants	39-4021	4460
Service Workers	Barbers	39-5011	4500
Service Workers	Hairdressers, Hairstylists, and Cosmetologists	39-5012	4510
Service Workers	Makeup Artists, Theatrical and Performance	39-5091	4520
Service Workers	Manicurists and Pedicurists	39-5092	4520
Service Workers	Shampooers	39-5093	4520
Service Workers	Skincare Specialists	39-5094	4520
Service Workers	Baggage Porters and Bellhops	39-6011	4530
Service Workers	Concierges	39-6012	4530
Service Workers	Tour Guides and Escorts	39-7011	4540
Service Workers	Travel Guides	39-7012	4540
Service Workers	Childcare Workers	39-9011	4600
Service Workers	Personal Care Aides	39-9021	4610
Service Workers	Fitness Trainers and Aerobics Instructors	39-9031	4620
Service Workers	Recreation Workers	39-9032	4620
Service Workers	Residential Advisors	39-9041	4640
Service Workers	Personal Care and Service Workers, All Other	39-9099	4650

*** NOTE: Executive/Senior Level Officials and Managers include individuals who plan, direct and formulate policies, set strategy and provide the overall direction of enterprises/organizations for the development and delivery of products or services, within the parameters approved by boards of directors or other governing bodies. Residing in the highest levels of organizations, these executives plan, direct or coordinate activities with the support of subordinate executives and staff managers. They include, in larger organizations, those individuals within two reporting levels of the CEO. Examples

of these kinds of managers are: chief executive officers, chief operating officers, chief financial officers, line of functional areas or operating groups, chief information officers, chief human resources officers, chief marketing officers, chief legal officers, management directors and managing partners.



PROSPECTIVE BIDDERS NOTICE
SERVICE DISABLED VETERAN-OWNED BUSINESS ENTERPRISE REQUIREMENTS:
CONSTRUCTION CONTRACTS

To Prospective Bidders:

Consistent with the State University of New York (SUNY) 's commitment and in accordance with Article 17-B of the New York State Executive Law and its implementing regulations, state agencies and contractors are required to ensure that good faith efforts are made to include meaningful participation by Service Disabled Veteran-Owned Business (SDVOB). The requirements apply to all SUNY construction contracts in excess of \$100,000.

Receipt of the SDVOB Utilization Plan is required *within seven (7) business days after the bid opening, for construction contracts.* The SDVOB Utilization Plan Form No. 7654-107 shall be submitted by the three apparent low bidders ("Contractor") to the campus MWBE Program Coordinator.

If the Contractor's SDVOB participation rate shown on its SDVOB Utilization Plan is below 6%, the campus MWBE Program Coordinator will provide a written notice of deficiency of the Utilization Plan within twenty (20) business days of its submission to the Contractor, as required under 9 NYCRR § 252.2(1)(4).

The notice will include but not be limited to the following:

- a. A list of NYS certified SDVOBs that the Contractor could potentially use within the contract scope of work;
- b. The name of any SDVOB that is not acceptable for the purpose of complying with the SDVOB participation goals; and
- c. Any other information which the MWBE Program Coordinator determines to be relevant to developing an approvable Utilization Plan.

The Contractor shall respond to the notice of deficiency by submitting a revised SDVOB Utilization Plan within seven (7) business days, as required by 9 NYCRR § 252.2(1) (5) to the MWBE Program Coordinator.

If the deficiency is not corrected and the SDVOB participation rate on the SDVOB Utilization Plan remains below 6%, the Contractor should request a waiver.

The Waiver Request Form submitted by the Contractor will include but not limited to the following:

- a. A request for partial or total waiver of SDVOB goals are required by (9 NYCRR § 252.2(m) (2) on Request for Waiver Form ([Form 7564-114](#)) provided by the University-wide MWBE Program Office.
- b. Copy of the deficient Utilization Plan.
- c. Work Scope of this contract. If there are subcontracting opportunities, please provide documentation d, e, and f.
- d. Screenshot of searching result for available SDVOBs in [Directory of NYS Certified SDVOBs](#).
- e. Copy of email messages containing the request for quote along with the responses from MWBEs.
- f. Forms required to obtain this information are:
[7564-101](#) – SDVOB Contractor Solicitation Letter
[7564-102](#) – SDVOB Participation Quote
[7564-103](#) – SDVOB Contractor Unavailability Certification

Please submit the above documentations by mail, fax, or email:

Please submit the above documentation to the campus MWBE Program Coordinator:

SUNY
Cortland
Kristi Hughston, MWBE Program Coordinator
Miller Building, Room 309
PO Box 2000
Cortland, NY 13045
Fax: 607-753-5486
Tel: 607-753-2582
Email: Kristi.Hughston@cortland.edu

- OR - IF APPLICABLE

SUNY System Administration at State University
Plaza,
Office of Diversity, Equity and Inclusion
University-wide MWBE Program
Albany, NY 12246
Fax: (518)-320-1548
Tel: (518)-320-1452
Email: MWBEProgram@suny.edu

Information regarding this legislation may be found at: [Division of Service-Disabled Veterans' Business Development](#) on the New York State Office General Services web site.

STATE UNIVERSITY OF NEW YORK SDVOB UTILIZATION PLAN

A letter of explanation and documentation of efforts must accompany any SDVOB Utilization Plan that falls short of the stated goals. Without an approved SDVOB Utilization Plan, SUNY's Notice of Award and Contract may be withheld.

If you have questions or need assistance related to the SUNY's Service-Disabled Veteran-Owned Business requirements call the University-wide MWBE Program Office at 518-320-1452 or email MWBEprogram@suny.edu.

1. The three low bidding contractors ("Contractors") are required to submit a Utilization Plan (Form 7564-107) to the MWBE Program Coordinator within seven (7) calendar days after the opening of bids for construction contracts exceeding \$100,000.
2. The MWBE Program Coordinator is required to submit the mandatory SDVOB documentation to the University-wide MWBE Program Office web based contract management system for commodity, service and construction related consultant service contracts exceeding \$25,000 and for construction project exceeding \$100,000 upon contract execution .
3. The SDVOB firms included are businesses the Contractor *seriously expects* to include in the project activity.
4. The Contractor must reasonably commit to the dollar values included in the Utilization Plan for participation by SDVOB subcontractors and suppliers.
5. SDVOB firms **must be certified** by the Division of Service-Disabled Veterans' Business Development. A directory of certified minority and women-owned business enterprises is available on the internet at http://ogs.ny.gov/Core/Docs/CertifiedNYS_SDVOB.pdf. If you would like to receive an excel file containing the current the List of NYS Certified Service-Disabled Veteran-Owned Businesses and sign up to receive updates whenever we certify new businesses, please send a request to veteransdevelopment@ogs.ny.gov.
6. Contractors utilizing SDVOB firms for supplies/materials/equipment whose NYS certification profile designates them as Broker will receive an SDVOB utilization credit for the actual monetary value of the broker fees or the actual markup percentage of the items brokered.

7. SDVOB Participation:

The actual services provided by the SDVOB must be essential in the performance of the scope of work for the applicable contract. Utilization of a certified SDVOB as a conduit or pass through for participation credit is strictly prohibited. It is the discretion of SUNY University-wide MWBE Program to determine whether services are essential in the performance of the scope of work and to offer a determination of the appropriateness of work allowed for lower tier subcontracting, in accordance with practices generally accepted in the construction industry. The services the SDVOB will provide must be among those explicitly identified in the profile (codes) of the firm as listed in the SDVOB directory [Division of Service-Disabled Veterans' Business Development](#). Firms submitted or firms that participate in the project outside of these conditions and without specific prior approval by SUNY will not be credited toward the SDVOB Utilization Plan and goals for the contract.

8. Prior to submitting the Utilization Plan, the bidders should confirm the following:

- a. SDVOB firms are NYS certified;
- b. SDVOB firms are being used for item(s) within their certification product codes as indicated in their SDVOB Directory firm profile;
- c. SDVOB firms will perform work for which they have been submitted; and
- d. 2nd tier subcontractors and/or suppliers are identified as such and SDVOB Utilization credit shall be given for 60% of the total contract value of supply purchases or services rendered (for example, when an electrical subcontractor purchases from a 3rd party supplier an SDVOB utilization credit will be given for 60% of the total contract value).

The prime Contractor is responsible for ensuring participation provided by subcontractors for 2nd and 3rd tier SDVOB participation.

Submission of a Utilization Plan which fails to meet or exceed each goal shall be accompanied by documentation of specific efforts undertaken both pre- and post-bid. The campus MWBE Program Coordinator will review and notify Contractor of its assessment.

The University-wide MWBE Program Office in collaboration with the campus MWBE Program Coordinator will review the Utilization Plan and notify the Contractor of any deficiencies and determine necessary actions to bring the Plan into compliance. The University-wide MWBE Program Office reserves the right to require the Contractor to provide sufficient documentation of the efforts made in the development of the Utilization Plan. The documentation should meet the good faith efforts standard under 9 NYCRR § 252.2, and demonstrate the Contractor's commitment to providing opportunities for SDVOB firms in the development of the Utilization Plan.

A copy of the approved Utilization Plan will be provided to the Contractor after issuance of Notice of Award.

SDVOB FORM (7564-107) UTILIZATION PLAN INSTRUCTIONS

Requested information must be completed and submitted within seven (7) days after the bid opening.

Subcontractor Name & Address

Name & Address of each SDVOB subcontractor or supplier.

Federal ID

Provide accurate Federal ID number of each SDVOB subcontractor or supplier.

Dollar Value of Subcontract or Purchase Order

This is the total value of the signed subcontract. If this value is different from the amount in the approved SDVOB Utilization Plan, an explanation should be provided.

Description of Work or Supplies

Brief description of work performed or supplies provided by the SDVOB subcontractor or supplier.

Schedule

This is the anticipated start and completion dates for each SDVOB subcontractor or supplier. Do not include the construction schedule for the life of the entire project.

Signature

To be signed by an Officer of the Company.

- The information included on the Form 7564-107 is subject to verification by the campus MWBE Program Coordinator.
- The campus MWBE Program Coordinator must be notified prior to changes made to the approved SDVOB Utilization Plan.

Questions regarding this form should **first** be directed to the [campus MWBE Program Coordinator](#) (click the link and be directed to the SUNY MWBE Campus Contacts directory on the University-wide MWBE web site).

Questions regarding this form should be directed to the University-wide MWBE Program Office at (518) 320- 1340 or via e-mail: MWBEprogram@suny.edu.

Submit To:

**State University of New York
Office of Diversity, Equity and Inclusion University-wide MWBE Program
353 Broadway
Albany, NY 12246
Or MWBEProgram@suny.edu**



Attachment

Use of Service-Disabled Veteran-Owned Business Enterprises in Contract Performance

Article 17-B of the Executive Law enacted in 2014 acknowledges that Service-Disabled Veteran-Owned Businesses (SDVOBs) strongly contribute to the economies of the State and the nation. As defenders of our nation and in recognition of their economic activity in doing business in New York State, bidders/proposers for this contract for commodities, services or technology are strongly encouraged and expected to consider SDVOBs in the fulfillment of the requirements of the contract. Such partnering may be as subcontractors, suppliers, protégés or other supporting roles. SDVOBs can be readily identified on the directory of certified businesses at:

http://ogs.ny.gov/Core/docs/CertifiedNYS_SDVOB.pdf

Bidders/proposers need to be aware that all authorized users of this contract will be strongly encouraged to the maximum extent practical and consistent with legal requirements of the State Finance Law and the Executive Law to use responsible and responsive SDVOBs in purchasing and utilizing commodities, services and technology that are

of equal quality and functionality to those that may be obtained from non-SDVOBs. Furthermore, bidders/proposers are reminded that they must continue to utilize small, minority and women-owned businesses consistent with current State law.

Utilizing SDVOBs in State contracts will help create more private sector jobs, rebuild New York State's infrastructure, and maximize economic activity to the mutual benefit of the contractor and its SDVOB partners. SDVOBs will promote the contractor's optimal performance under the contract, thereby fully benefiting the public sector programs that are supported by associated public procurements.

Public procurements can drive and improve the State's economic engine through promotion of the use of SDVOBs by its contractors. The State, therefore, expects bidders/proposers to provide maximum assistance to SDVOBs in their contract performance. The potential participation by all kinds of SDVOBs will deliver great value to the State and its taxpayers.

Bidders/proposers can demonstrate their commitment to the use of SDVOBs by responding to the questions below and including the responses with their bid/proposal:

Bidder/Proposer Name

Solicitation #

Bidder/Proposer Address

Are you a bidder/proposer that is a NYS-certified SDVOB? Yes No If yes, what is your DSDVBD Control #?

Will NYS-certified SDVOBs be used in the performance of this contract? Yes No

If yes, identify the NYS-certified SDVOBs that will be used below (if more than 4 identified, please attach an additional form):

NYS-Certified SDVOB 1:

Name

Address

Control # Contract # Total % Work Performed \$ Amount

Nature of Participation

NYS-Certified SDVOB 3:

Name

Address

Control # Contract # Total % Work Performed \$ Amount

Nature of Participation

NYS-Certified SDVOB 2:

Name

Address

Control # Contract # Total % Work Performed \$ Amount

Nature of Participation

NYS-Certified SDVOB 4:

Name

Address

Control # Contract # Total % Work Performed \$ Amount

Nature of Participation

Date

Authorized Signature

Contractor will report on **actual** participation by each SDVOB during the term of the contract to the contracting agency/authority on a quarterly basis according to policies and procedures set by the contracting agency/authority.

NOTE: Information about set asides for SDVOB participation in public procurement can be found at: <http://www.ogs.ny.gov/Core/SDVOBA.asp>, which provides guidance for State agencies in making determinations and administering set asides for procurements from SDVOBs.



UNIVERSITY-WIDE SDVOB PROGRAM UTILIZATION PLAN

SUNY Project No. _____
 Contractor: _____
 Address: _____
 Phone Number: _____

Bid Date: [Click here to enter a date.](#) Agreement/Contract Value: _____
 Primary Contact: _____
 City: _____ State: _____ Zip Code: _____
 Fax Number: _____ E-Mail: _____

GOALS: SDVOB _____ %

Campus: _____

SUBCONTRACTOR	FEDERAL ID #	DOLLAR VALUE OF CONTRACT OR PURCHASE ORDER	DESCRIPTION OF WORK OR SUPPLIES	SUBCONTRACTOR/SUPPLIER SCHEDULE	
				START DATE	COMPLETION DATE
Company Name: _____ Street Address: _____ Contact Name: _____ E-Mail Address: _____				Click here to enter a date.	Click here to enter a date.
Company Name: _____ Street Address: _____ Contact Name: _____ E-Mail Address: _____				Click here to enter a date.	Click here to enter a date.
Company Name: _____ Street Address: _____ Contact Name: _____ E-Mail Address: _____				Click here to enter a date.	Click here to enter a date.
Company Name: _____ Street Address: _____ Contact Name: _____ E-Mail Address: _____				Click here to enter a date.	Click here to enter a date.

In accordance with the SUNY Contract Documents and Executive Law Article 17-B, my firm seriously expects to use the NYS certified SDVOB firms listed above. The Contractor shall immediately notify and request approval prior to any changes to this Utilization Plan from the Campus MWBE Program Coordinator.



NAME: _____ TITLE: _____ COMPANY OFFICER'S SIGNATURE _____ DATE: _____
[Click here to enter a date.](#)

APPROVED: DEFICIENT: MWBE PROGRAM COORDINATOR: _____ DATE: _____



UNIVERSITY-WIDE SDVOB PROGRAM UTILIZATION PLAN SDVOB FORM (107) INSTRUCTIONS

A letter of explanation and documentation of efforts must accompany any SDVOB Utilization Plan that falls short of the stated goals. Without an approved SDVOB Utilization Plan, SUNY's Notice of Award and Contract may be withheld.

If you have questions or need assistance related to the SUNY's Service-Disabled Veteran-Owned Business requirements call the University-wide MWBE Program Office at 518-320-1340 or email MWBEprogram@suny.edu.

1. The three low bidding contractors ("Contractors") are required to submit an SDVOB Utilization Plan (Form 7465-107) to the MWBE Program Coordinator within seven (7) calendar days after the opening of bids for construction contracts exceeding \$100,000.
2. The MWBE Program Coordinator is required to submit the mandatory SDVOB documentation to the University-wide MWBE Program Office after the opening of bids for commodity, service and construction related consultant service contracts exceeding \$25,000 for the lowest bidding Contractor.
3. The SDVOB goals are not related to any other goals. Dual certified firms may be used to meet both MBE and SDVOB or WBE and SDVOB goals.
4. The SDVOB firms included are businesses the bidder *seriously expects* to include in the project activity.
5. The Contractor must reasonably commit to the values included in the Utilization Plan for participation by SDVOB subcontractors and suppliers.
6. SDVOB firms must be certified by the New York State Office of General Services Division of Service-Disabled Veterans' Business Development. A directory of NYS Certified Service-Disabled Veteran-Owned Businesses is available on the internet at <http://ogs.ny.gov/Core/SDVOBA.asp>.
7. Contractors utilizing SDVOB firms for supplies/materials/equipment whose NYS certification profile designates them as a Broker will receive an SDVOB utilization credit for the actual monetary value of the broker fees or the actual markup percentage of the items brokered.
8. SDVOB Participation:

The actual services provided by the SDVOB must be essential in the performance of the scope of work for the applicable contract. Utilization of a certified SDVOB as a conduit or pass through for participation credit is strictly prohibited. It is the discretion of the SUNY to determine whether services are essential in the performance of the scope of work and to offer a determination of the appropriateness of work allowed for lower tier subcontracting, in accordance with practices generally accepted in the construction industry. The services the SDVOB will provide must be among those explicitly identified in the profile (codes) of the firm as listed in the NYS Office of General Services Directory of Certified SDVOBs. Firms submitted or firms that participate in the project outside of these conditions and without specific prior approval by SUNY will not be credited toward the SDVOB Utilization Plan and goals for the contract. ☐

9. Prior to submitting the Utilization Plan, the bidders should confirm the following:
 - a. SDVOB firms are NYS certified;
 - b. SDVOB designation ~ Dual certified firms may be used as *MBE/SDVOB and/or WBE/SDVOB*;
 - c. SDVOB firms are being used for item(s) within their certification product codes as indicated in their SDVOB Directory firm profile;
 - d. SDVOB firms will perform work for which they have been submitted; and
 - e. 2nd tier subcontractors and/or suppliers are identified as such and SDVOB Utilization credit shall be given for 60% of the total contract value of supply purchases or services rendered (for example, when an electrical subcontractor purchases from a 3rd party supplier an SDVOB utilization credit will be given for 60% credit of the total contract value).



UNIVERSITY-WIDE SDVOB PROGRAM UTILIZATION PLAN

The prime Contractor is responsible for ensuring participation provided by subcontractors for 2nd and 3rd tier SDVOB participation.

Submission of a Utilization Plan which fails to meet or exceed each goal shall be accompanied by documentation of specific efforts undertaken both pre and post bid. The campus MWBE Program Coordinator will review and notify Contractor of its assessment.

The University-wide MWBE Program Office in collaboration with the campus MWBE Program Coordinator will review the Utilization Plan and notify the Contractor of any deficiencies and determine necessary actions to bring the Utilization Plan into compliance. The University-wide MWBE Program Office reserves the right to require the Contractor to provide sufficient documentation of the efforts made in the development of the Utilization Plan. The documentation should be responsive to good faith efforts and demonstrate the Contractor's commitment to providing opportunities for SDVOB firms in the development of the Utilization Plan.

A copy of the approved Utilization Plan will be provided to the Contractor after issuance of Notice of Award.

□



UNIVERSITY-WIDE SDVOB PROGRAM UTILIZATION PLAN

Requested information must be completed and submitted within seven (7) days after the bid opening.

Subcontractor Name & Address

Name & Address of each SDVOB subcontractor or supplier.

SDVOB

Service-Disabled Veteran-Owned Designation.

Federal ID

Provide accurate Federal ID number of each SDVOB subcontractor or supplier.

Dollar Value of Subcontract or Purchase Order

This is the total value of the signed subcontract. If this value is different from the amount in the approved SDVOB Utilization Plan, an explanation should be provided.

Description of Work or Supplies

Brief description of work performed or supplies provided by the SDVOB subcontractor or supplier.

Schedule

This is the anticipated start and completion dates for each SDVOB subcontractor or supplier. Do not include the construction schedule for the life of the entire project.

Signature

To be signed by an Officer of the Company.

- The information included on the form is subject to verification by the University-wide MWBE Program Office.
- The University-wide MWBE Program Office must be notified prior to changes made to the approved SDVOB Utilization Plan.

Questions regarding this form should be directed to the University-wide MWBE Program Office at (518) 320- 1452 or via e-mail: mwbeprogram@suny.edu.

Submit To:

State University of New York
Office of Diversity, Equity and Inclusion University-wide MWBE Program
353 Broadway
Albany, NY 12246
or MWBEProgram@suny.edu



PROCUREMENT LOBBYING ACT PROCEDURE

State Finance Law §§139-j and 139-k, enacted by Ch. 1 L. 2005, as amended by Ch. 596 L. 2005, effective January 1, 2006, regulate lobbying on government procurement, including procurements by State University to obtain commodities and services and to undertake real estate transactions.

Generally, the law restricts communications between a potential vendor or a person acting on behalf of the vendor, including its lobbyist, to communications with the officers and employees of the procuring agency designated in each solicitation to receive such communications. Further, the law prohibits a communication (a "Contact") which a reasonable person would infer as an attempt to unduly influence the award, denial or amendment of a contract. These restrictions apply to each contract in excess of \$15,000 during the "restricted period" (the time commencing with the earliest written notice of the proposed procurement and ending with the later of approval of the final contract by the agency, or, if applicable, the State Comptroller). The agency must record all Contacts, and, generally, must deny an award of contract to a vendor involved in a knowing and willful Contact. Each agency must develop guidelines and procedures regarding Contacts and procedures for the reporting and investigation of Contacts. The agency's procurement record must demonstrate compliance with these new requirements.

Accordingly, neither a potential vendor nor a person acting on behalf of the vendor should contact any individual at State University other than the person designated in this solicitation as State University's Designated Contact, nor attempt to unduly influence award of the contract. State University will make a record of all Contacts, and such records of Contact will become part of the procurement record for this solicitation. A determination that a vendor or a person acting on behalf of the vendor has made intentionally a Contact or provided inaccurate or incomplete information as to its past compliance with State Finance Law §§139-j and 139-k is likely to result in denial of the award of contract under this solicitation. Additional sanctions may apply.

The University's Procedures are available at:

http://www.suny.info/policies/groups/public/documents/policies/pub_suny_pp_039630.htm

Please complete the following:

1. As defined in State Finance Law §§ 139-j (1)(a), has a governmental agency made a determination of non-responsibility with respect to the Offeror within the previous four years where such a finding was due to a violation of State Finance Law §§ 139-j or the intentional provision of false or incomplete information with respect to previous determinations of non-responsibility? NO YES If yes, attach explanation

2. Has a governmental entity terminated or withheld a procurement contract with the Offeror because of violations of State Finance Law §§ 139-j or the intentional provision of false or incomplete information with respect to previous determinations of non-responsibility? NO YES If yes, attach explanation

CERTIFICATION:

By signing below the Bidder affirms and certifies that it: (1) has reviewed and understands the Policy and Procedure of SUNY, related to SFL §§ 139-j and 139-k, (2) agrees to comply with SUNY's procedure relating to Contacts with respect to this procurement, and (3) has provided information that is complete, true, and accurate with respect to SFL §§ 139-j and 139-k. Bidder understands that SUNY reserves the right to terminate any resulting contract in the event it is found that the certification filed by the Bidder in accordance State Finance Law §§139-j and 139-k was intentionally false or intentionally incomplete. Upon such finding, SUNY may exercise its termination right by providing written notification to the Bidder in accordance with the written notification terms of the contract.

Firms Name and Address:	
FEIN #:	
Telephone Number: (____)____-____	
Fax Number: (____)____-____	
Email Address:	
Bidder's Name and Title:	
Bidder's Signature:	
Date:	

Bidder's Certifications

NY HUMAN RIGHTS LAW EXECUTIVE ORDER 177 CERTIFICATION

In accordance with Executive Order No. 177, the Bidder hereby certifies that it does not have institutional policies or practices that fail to address the harassment and discrimination of individuals on the basis of their age, race, creed, color, national origin, sex, sexual orientation, gender identity, disability, marital status, military status, or other protected status under the Human Rights Law.

Executive Order No. 177 and this certification do not affect institutional policies or practices that are protected by existing law, including but not limited to the First Amendment of the United States Constitution, Article 1, Section 3 of the New York State Constitution, and Section 296(11) of the New York State Human Rights Law.

Bidder Name: _____

By (signature): _____

Name: _____

Title: _____

Date: _____, 20__

Bidder's Certifications

NEW YORK STATE FINANCE LAW 139-L CERTIFICATION

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 the Bidder has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such a policy shall, at a minimum, meet the requirements of section two hundred one-g of the Labor Law.

If the Bidder cannot make the foregoing certification, such Bidder shall so state and shall furnish with the bid a signed statement that sets forth in detail the reasons that the Bidder cannot make the certification.

Bidder Name: _____

By (signature): _____

Name: _____

Title: _____

Date: _____, 20__

Bidder's Certifications

NON-COLLUSIVE BIDDING CERTIFICATION

By submission of this bid, Bidder and each person signing on behalf of 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 their knowledge and belief:

- 1. The prices of this bid have been arrived at independently, without collusion, consultation, communication, or agreement, for the purposes of restricting competition, as to any matter relating to such prices with any other Bidder or with any competitor;
- 2. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder prior to opening, directly or indirectly, to any other Bidder or to any competitor; and
- 3. No attempt has been made or will be made by the Bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

A bid shall not be considered for award nor shall any award be made where [1], [2], [3] above have not been complied with; provided however, that if in any case the Bidder(s) cannot make the foregoing certification, the Bidder shall so state and shall furnish below a signed statement which sets forth in detail the reasons therefor:

Subscribed to under penalty of perjury under the laws of the State of New York, this _____ day of _____, 20____ as the act and deed of said corporation of partnership.

IF BIDDER IS A SOLE PROPRIETER OR PARTNERSHIP, COMPLETE THE FOLLOWING:

NAMES OF PARTNERS OR PRINCIPALS	LEGAL RESIDENCE
_____	_____
_____	_____
_____	_____
_____	_____

IF BIDDER IS A CORPORATION, COMPLETE THE FOLLOWING:

NAME	LEGAL RESIDENCE
President: _____	_____
Secretary: _____	_____
Treasurer: _____	_____

Joint or combined bids by companies or firms must be certified separately on behalf of each participant.

Bidder's Certifications

Identifying Data:

Bidder	
Address	
Telephone	
Name of Responsible Corporate Officer	
Title of Responsible Corporate Officer	

Joint or combined bids by companies or firms must be certified separately on behalf of each participant.

Legal name of person, firm or corporation

By (signature): _____

Name: _____

Title: _____

Address: _____

**State University of New York
Public Officers Law**

Form XIII

Purchasing and Contracting Procedures
(Procurement)

Inquiry to determine compliance with the provisions of Public Officers Law
§ 73 (4)

Please indicate if you or any officer of your organization, or any party owning or controlling more than 10 percent of your stock if you are a corporation, or any member if you are a firm or association, is an officer or employee of the State of New York or of a public benefit corporation of the State of New York.

_____ Yes

_____ No

LABOR AND MATERIAL BOND

KNOW ALL PERSONS BY THESE PRESENTS, that _____

(hereinafter called the "Principal") and _____

(hereinafter called the "Surety") are held and firmly bound to the State University of New York (hereinafter called the University) in the full and just sum of:

_____ dollars (\$ _____)
(in words) (in figures)

good and lawful money of the United States of America, for the payment of which sum of money, well and truly to be made and done, the Principal binds itself, its heirs, executors, administrators, successors and assigns and the Surety binds itself, its successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written Contract bearing date on the _____ day of _____, 20_____, with the University for the work contained in Project No. _____, a copy of which Contract is annexed to and hereby made a part of this Bond as though herein set forth in full; and

WHEREAS, the University has required this Bond guaranteeing prompt payment of monies due to all persons furnishing the Principal or any subcontractor of the Principal with labor or materials in the prosecution of the work provided in such Contract;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal shall promptly pay all monies due to all persons furnishing the Principal or any subcontractor of the Principal with labor or materials in the prosecution of the Contract, then this obligation shall be null and void, otherwise to remain in full force and effect.

PROVIDED, HOWEVER, the said Surety, for value received, hereby stipulates and agrees that no change, extension, alteration or addition to the terms of the said Contract or Specifications accompanying the same, shall in any way affect its obligations under this Bond, and it does hereby waive notice of any such change, extension, alteration or addition; and further.

PROVIDED, HOWEVER, the place of trial of any action on this Bond shall be in the county in which the said Contract was to be performed, or if said Contract was to be performed in more than one county, then in any such county, and not elsewhere; and further

PROVIDED, HOWEVER, this Bond shall be enforceable in accordance with the terms and provisions of Section 137 of the State Finance Law.

IN WITNESS WHEREOF, the Principal has hereunto set its hand and seal and the Surety has caused this instrument to be signed by its attorney in-fact on this _____ day of _____, 20__

Principal By _____

Surety By _____

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS, that _____

(hereinafter called the "Principal") and _____

(hereinafter called the "Surety") are held and firmly bound to the State University of New York (hereinafter called the University) in the full and just sum of:

_____ dollars (\$ _____)
(in words) (in figures)

good and lawful money of the United States of America, for the payment of which sum of money, well and truly to be made and done, the Principal binds itself, its heirs, executors, administrators, successors and assigns and the Surety binds itself, its successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written Contract bearing date on the _____ day of _____, 20_____, with the University for the work contained in Project No. _____, a copy of which Contract is annexed to and hereby made a part of this Bond as though herein set forth in full; and

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, its representatives or assigns, shall well and faithfully comply with and perform all the terms, covenants and conditions of said Contract on its part to be kept and performed and all modifications, amendments, additions and alterations thereto that may hereafter be made, according to the true intent and meaning of said Contract, including repair and/or replacement of defective work and guarantees of maintenance for the periods stated in the Contract, and shall fully indemnify and save harmless the University from all cost and damage which it may suffer by reason of failure to do so, and shall fully reimburse and repay the University for all outlay and expense which the University may incur in making good any such default, and shall protect the said University against, and pay any and all amounts, damages, costs and judgments which may or shall be recovered against said University or its trustees, officers, agents or employees or which the said University may be called upon to pay to any person or corporation by reason of any damages arising or growing out of the doing of said work, or the repair of maintenance thereof, or the manner of doing the same, or the neglect of the said Principal, or its agents, or the improper performance of the said work by the said Principal, or its agents, or the infringement of any patent or patent rights by reason of the use of any materials furnished or work done as aforesaid or otherwise, then this obligation shall be null and void, otherwise to remain in full force and effect;

PROVIDED, HOWEVER, the said Surety, for value received, hereby stipulates and agrees, if requested to do so by the University, to fully perform and complete the work mentioned and described in said Contract, pursuant to the terms, conditions, and covenants thereof, if for any cause the Principal fails or neglects to so fully perform and complete such work and the Surety hereby further agrees to commence such work of completion within ten (10) calendar days after written notice thereof from the University and to complete such work within ten (10) calendar days from the expiration of the time allowed the Principal in the Contract for the completion thereof. The surety shall fully perform and complete said work on its own, or through a contractor approved by the University, according to the terms, conditions and covenants of said Contract and specifications.

PROVIDED, HOWEVER, the Surety, for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety and its Bond shall be in no way impaired or affected by an extension of time, modification, omission, addition, or change in or to the said Contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer of any work to be performed or any monies due or to become due thereunder or by the University's takeover, use,

ACKNOWLEDGMENTS FOR LABOR AND MATERIAL BOND AND PERFORMANCE BOND

(Acknowledgment by Principal, unless it is a Corporation)

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 instruments and acknowledged that he / she executed the same.

Notary Public

(Acknowledgment by Principal, if a Corporation)

STATE OF NEW YORK)
) 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 resides in _____

;

that he / she is the _____

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

Notary Public

(Acknowledgment by Surety Company)

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

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

that he / she is the _____

of the _____,
the corporation described in and which executed the foregoing instruments; that he / she knows the seal of said corporation; that the
seal affixed to said instruments is such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation, and that
he / she signed their name thereto by like order; and that the liabilities of said company do not exceed its assets as ascertained in the manner
provided by the laws of the State of New York.

Notary Public



STATE UNIVERSITY OF NEW YORK CERTIFICATE OF INSURANCE

This is to certify to the State University of New York that the insurance policies listed below have been issued by the undersigned and are in full force and effect on the date borne by this Certificate.

Name of Insured Contractor: _____

Address of Insured Contractor: _____

Project Location and Certificate Holder (Campus): _____

SUNY Project No.: _____

Project Title: _____

KIND OF INSURANCE	LIMITS OF LIABILITY	POLICY NO	EFFECTIVE	EXPIRATION
Workers' Compensation	As required by law			
		Carrier: _____		
Contractor's Comprehensive General Liability	\$ _____ Each Occurrence			
Bodily Injury Liability and Property Damage Liability	\$ _____ Aggregate			
	\$ _____ Combined Single Limit	Carrier: _____		
Contractor's Automobile Liability	Each Accident			
Bodily Injury Liability and Property Damage Liability	\$ _____ or Occurrence			
	\$ _____ Combined Single Limit	Carrier: _____		
Owner's Protective Liability	\$ _____ Each Occurrence			
Bodily Injury Liability and Property Damage Liability	\$ _____ Aggregate			
	\$ _____ Combined Single Limit	Carrier: _____		
Asbestos Abatement Insurance (If Applicable)	\$ _____ Each Occurrence			
	\$ _____ Aggregate			
	\$ _____ Combined Single Limit	Carrier: _____		
Builder's Risk (See Page 2)	\$ _____			
		Carrier: _____		
Excess or Umbrella	\$ _____			
		Carrier: _____		

Name of Insurance Agency (if any)	Phone ()
Authorized Representative (Original Signature Required – No Stamp)	Date

As an inducement to the "University" to approve the above signed as an insurance company issuing the policies listed above and this Certificate as being in compliance with the construction contract between the "University" and the contractor named above, the above signed insurance company, duly licensed to do business in the State of New York, hereby agrees as follows:

- That the insurance policies listed above conform, with either the requirements set forth in Item 3 of the Request for Proposal for Contracts that do not exceed \$20,000, or set forth in Sections 5.06, 5.07, and 5.08 of Article V of the Agreement between the "University" and the Contractor for contracts that exceed \$20,000.
- That the insurance policies listed above shall not be changed or cancelled and that they will automatically be renewed upon expiration and continued in force until final acceptance by the "University" of all the work covered by the aforesaid construction contract unless the "University" is given fifteen (15) days written notice to the contrary.
- That the "University" shall not be liable for the payment of the premium on any of the insurance policies listed above and that such premium shall be payable by the Contractor named above who shall also receive any dividends or other refunds due under the above-listed insurance policies.
- The Insurer certifies that there is no inconsistency or conflict with or between any of the terms, provisions and conditions hereof and any of the terms, provisions and conditions of the policies listed above except for the following: _____

5. That without the above signed foregoing agreements neither it nor this Certificate of Insurance would be approved by the "University."

BUILDERS RISK INSURANCE BREAKDOWN

Date: _____

Title of Project:
Location of Project:
Project No.:

Name of Contractor:
Address of Contractor:
Estimated Completion Date:

Contract Amount: \$ _____

Non-insurable items
(amounts to be determined from Contractor's
approved breakdown):

1. Cost of the contractor's Performance and Labor and Materials Bonds \$ _____
2. Cost of trees, shrubbery, lawn grass, plants and the maintenance of same \$ _____
3. Cost of demolition \$ _____
4. Cost of excavation
5. Cost of foundations, piers or other supports which are below the undersurface of the lowest basement floors, or where there is no basement, which are below the surface of the ground. Concrete and Masonry Work \$ _____
6. Cost of Underground flues, pipes or wiring \$ _____
7. Cost of earthmoving, grading, and the cost of paving, roads, walks, parking lots and athletic fields \$ _____
8. Cost of bridges, tunnels, dams, piers, wharves, docks, retaining walls and radio and/or television towers and antennas \$ _____

Total Non-insurable items: \$ _____

Amount of Builder's Risk Insurance to be procured: \$ _____

Office of the State Comptroller
DIVISION OF PRE-AUDIT AND ACCOUNTING RECORDS
BUREAU OF STATE EXPENDITURES

New York State Labor Law, Section 220-a

Prime Contractor's Certification (AC 2947)

1. That I am an officer of _____
and am duly authorized to make this affidavit on behalf of the prime contractor on public contract
No. _____.
2. That I fully comprehend the terms and provisions of Section 220-a of the Labor Law.
3. That, except as herein stated, there are no amounts due and owing to or on behalf of laborers
employed on the project by the contractor. (Set forth any unpaid wages and supplements, if none,
so state).

Name

Amount

4. That the contractor hereby files every verified statement(s) required to be obtained by the
contractor from the subcontractor(s).
5. That, upon information and belief, except as stated herein, all laborers (exclusive of executive
or supervisory employees) employed on the project have been paid the prevailing wages and
supplements for their services through _____, (if more than one subcontractor
list name and date separately) the last day worked on the project by their subcontractor(s), (Set
forth any unpaid wages and supplements, if none, so state and utilize clause 5 (A)).

Name

Amount

- (5A) That the contractor has no knowledge of amounts owing to or on behalf of any laborers of its
subcontractor(s).

New York State Labor Law, Section 220-a

Prime Contractor's Certification (AC 2947) – page 2

6. In the event it is determined by the Commissioner of Labor that the wages or supplements or both of any such subcontractor(s) have not been paid or provided pursuant to the appropriate schedule of wages and supplements, then the contractor shall be responsible for payment of such wages and supplements pursuant to the provision of Section 223 of the Labor Law.

Signature

Print Name

Title

ACKNOWLEDGEMENT:

STATE OF NEW YORK
COUNTY OF _____ : SS.:

On this _____ day of _____ 20_____

Before me personally came _____ to me known and known to me to be the person described in and who executed for foregoing instrument and acknowledged that she/he executed the same

Notary Public

County

If this affidavit is verified by an oath administered by a notary public in a foreign country other than Canada, it must be accompanied by a certificate authenticating the authority of the notary who administers the oath. (See CPLR 2309(c); Real Property Law, 311, 312).

Office of the State Comptroller
DIVISION OF PRE-AUDIT AND ACCOUNTING RECORDS
BUREAU OF STATE EXPENDITURES

New York State Labor Law, Section 220-a

Subcontractor's Certification (AC 2948)

1. That I am an officer of _____
a subcontractor on public contract No. _____ and I am
duly authorized to make this affidavit on behalf of the firm.
2. That I make this affidavit in order to comply with the provisions of Section 220-a of the Labor Law.
3. That on _____ we received from _____
the prime contractor a copy of the initial/revised schedule of wages and supplements
Prevailing Wage Schedule Case Number _____ (PRC) specified in the public
improvement contract.
4. That I have reviewed such schedule(s), and agree to pay the applicable prevailing wages and
to pay or provide the supplements specified therein.

Signature

Print Name

Title

ACKNOWLEDGEMENT:

STATE OF NEW YORK
COUNTY OF _____: SS.:

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

Notary Public

County

If this affidavit is verified by an oath administered by a notary public in a foreign country other than Canada, it must be accompanied by a certificate authenticating the authority of the notary who administers the oath. (See CPLR 2309(c); Real Property Law, 311, 312).

Office of the State Comptroller
DIVISION OF PRE-AUDIT AND ACCOUNTING RECORDSD
BUREAU OF STATE EXPENDITURES

New York State Labor Law, Section 220-a

Sub-subcontractor's Certification (AC 2958)

1. That I am an officer of _____
a subcontractor to _____ a subcontractor
of _____, the prime contractor on public improvement
contract No. _____ and I am duly authorized to make this affidavit on behalf of the
firm.
2. That I make this affidavit in order to comply with the provisions of Section 220-a of the Labor Law.
3. That on _____ we received from _____
the (subcontractor of the) (contractor) a copy of the (initial) (revised) schedule of wages and
supplements Prevailing Rate Schedule Case Number _____ (PRC) specified in the public
improvement contract.
4. That I have reviewed such schedule(s), and agree to pay the applicable prevailing wages and
to pay or provide the supplements specified therein.

Signature

Print Name

Title

ACKNOWLEDGEMENT:

STATE OF NEW YORK
COUNTY OF _____ :SS.:

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

Notary Public

County

If this affidavit is verified by an oath administered by a notary public in a foreign country other
than Canada, it must be accompanied by a certificate authenticating the authority of the notary who
administers the oath. (See CPLR 2309(c); Real Property Law, 311, 312).

Contractor:

Contractor's:

- ◆ Vendor Responsibility Construction Questionnaire
- ◆ Financial Statement
- ◆ Affidavit of No Change

State of New York / State University of New York

**NEW YORK STATE
VENDOR RESPONSIBILITY QUESTIONNAIRE
CONSTRUCTION**

For any competitively bid construction contract of \$100,000 or more, or when proposed for subcontract work valued at \$100,000 or more, complete and submit the appropriate Office of the State Comptroller's Vendor Responsibility Questionnaire:

- [Vendor Responsibility Questionnaire, Construction—For Profit Business Entity](#)
 - [Attachment A: Completed Construction Contracts](#)
 - [Attachment B: Uncompleted Construction Contracts](#)
 - [Attachment C: Financial Information](#)
- [Vendor Responsibility Questionnaire, Construction—Not For Profit Business Entity](#)
 - [Attachment A: Completed Construction Contracts](#)
 - [Attachment B: Uncompleted Construction Contracts](#)
 - [Attachment C: Financial Information](#)

All questions must be answered. Whenever more space is needed to answer any question, or you wish to give further explanation, attach additional pages.

If you have submitted one of the above forms within 12 months of the bid date with any contracting agency, as long as the information remains unchanged and accurate, you may submit a complete certified copy of the form, together with an Affidavit of No Change (see page 4 of 4 of this form), to the State University of New York campus with which you are bidding. A campus may require additional information deemed necessary for its review.

A link to the Financial Statement forms is provided above. For your convenience there is also a Financial Statement form in word format on pages 2 and 3 of this document.

Note, for construction related consultant projects the non-construction forms located on the [OSC website](#) should be used for Vendor Responsibility.

Note that your response to Form UF-15 must contain two parts:

1. Either one of the Vendor Responsibility Questionnaires indicated above, or an Affidavit of No Change
2. The Financial Statement

FINANCIAL STATEMENT

As of _____
(Date)

ASSETS

1. <u>Current Assets</u>		
2. Cash		\$ _____
3. Accounts receivable – less allowance for doubtful accounts		_____
Retainers included in accounts receivable	\$ _____	_____
Claims included in accounts receivable not yet approved or in litigation	_____	_____
4. Notes receivable – due within one year		_____
5. Inventory – materials		_____
6. Contract costs in excess of billings on uncompleted contracts		_____
7. Accrued income receivable		_____
Interest	_____	_____
Other (list) _____	_____	_____
Total accrued income receivable		_____
8. Deposits		_____
Bid and plan _____		_____
Other (list) _____	_____	_____
Total Deposits		_____
9. Prepaid Expenses		_____
Income Taxes	_____	_____
Insurance	_____	_____
Other (list) _____	_____	_____
Total Prepaid Expenses		_____
10. <u>Other Current Assets</u>		_____
(list) _____	_____	_____
Total other current assets		_____
11. Total current assets		_____
12. <u>Investments</u>		_____
Listed securities – present market value	_____	_____
Unlisted securities – present value	_____	_____
13. Total investments		_____
14. <u>Fixed Assets</u>		_____
Land	_____	_____
Building and Improvements	_____	_____
Leasehold improvements	_____	_____
Machinery and equipment	_____	_____
Automotive Equipment	_____	_____
Office furniture and fixtures	_____	_____
Other (list) _____	_____	_____
Total	_____	_____
Less accumulated depreciation	_____	_____
15. Total fixed assets – net		_____
16. <u>Other Assets</u>		_____
Loans receivable - officers	_____	_____
- employees	_____	_____
- shareholders	_____	_____
Cash surrender value of officers' life insurance	_____	_____
Organization expense – net of amortization	_____	_____
Notes receivable – due after one year	_____	_____
Other (list) _____	_____	_____
17. Total Other Assets		_____
18. TOTAL ASSETS		=====

LIABILITIES

19.	<u>Current Liabilities</u>			
20.	Accounts Payable		\$	_____
21.	Loans from shareholders – due within one year			_____
22.	Notes payable – due within one year			_____
23.	Mortgage payable – due within one year			_____
24.	Other payable – due within one year			_____
	(list) _____	\$		_____
	Total other payables – due within one year			_____
25.	Billings in excess of costs and estimated earnings			_____
26.	Accrued expenses payable - salaries and wages			_____
	- payroll taxes			_____
	- employees' benefits			_____
	- insurance			_____
	- other			_____
	Total accrued expenses payable			_____
27.	Dividends payable			_____
28.	Income taxes payable - state			_____
	- federal			_____
	- other			_____
	Total income expenses payable			_____
	Total current liabilities			_____
29.	<u>Deferred Income Taxes Payable</u> - state			_____
	- federal			_____
	- other			_____
	Total deferred income taxes			_____
30.	<u>Long Term Liabilities</u>			_____
	Loans from shareholders – due after one year			_____
	Notes payable – due after one year			_____
	Mortgage – due after one year			_____
	Other payables – due after one year			_____
	(list) _____			_____
	Total long term liabilities			_____
31.	<u>Other Liabilities</u>			_____
	(list) _____			_____
	Total other liabilities			_____
32.	Total Liabilities			_____

Net Worth

33.	Net Worth (if proprietorship or partnership)			
34.	Stockholders' Equity			_____
	Common stock issued and outstanding			_____
	Preferred stock issued and outstanding			_____
	Retained earnings			_____
	Total			_____
	Less: Treasury stock			_____
	Total stockholders' equity			_____
35.	TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY			_____

NOTE: IF ADDITIONAL SPACE IS REQUIRED, PLEASE NOTE AND ATTACH SCHEDULE TO STATEMENT

36. Dated this _____ day of _____, 20__.

NAME OF ORGANIZATION	BY
	TITLE

**STATE UNIVERSITY OF NEW YORK
AFFIDAVIT OF NO CHANGE**

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

The undersigned, being duly sworn, deposes and says:

1. I am an officer/owner of _____ (hereinafter the "Contractor"), which is currently submitting a bid on a "University" Contract.
2. Contractor previously submitted a New York State Vendor Responsibility Questionnaire for Construction within one year prior to the date hereof to _____ in connection with a bid on another State or "University" Contract.
3. Attached is an accurate and true copy of such previously submitted New York State Vendor Responsibility Questionnaire for Construction.
4. I hereby certify that, with the exception of the information specified in Section III of the Questionnaire, there has been no material change in the information pertaining to the Contractor specified on such attached Questionnaire, except as follows:

5. I hereby certify that there has been no change in the information pertaining to the uncompleted construction contracts of the Contractor specified in Section III of the Questionnaire, except as follows:

Name:
Title:
Date:

Sworn to before me this _____ day
of _____, 20__

Notary Public

NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE FOR-PROFIT CONSTRUCTION (CCA-2)

You have selected the For-Profit Construction questionnaire, commonly known as the “CCA-2,” which may be printed and completed in this format or, **for your convenience, may be completed online using the [New York State VendRep System](#).**

COMPLETION & CERTIFICATION

The person(s) completing the questionnaire must be knowledgeable about the vendor’s business and operations. An owner or official must certify the questionnaire and the signature must be notarized.

NEW YORK STATE VENDOR IDENTIFICATION NUMBER (VENDOR ID)

The Vendor ID is a ten-digit identifier issued by New York State when the vendor is registered on the Statewide Vendor File. This number must now be included on the questionnaire. If the business entity has not obtained a Vendor ID, contact the IT Service Desk at ITServiceDesk@osc.state.ny.us or call 866-370-4672.

DEFINITIONS

All underlined terms are defined in the “New York State Vendor Responsibility Definitions List,” found at <http://www.osc.state.ny.us/vendrep/documents/questionnaire/definitions.pdf>. These terms may not have their ordinary, common or traditional meanings. Each vendor is strongly encouraged to read the respective definitions for any and all underlined terms. By submitting this questionnaire, the vendor agrees to be bound by the terms as defined in the "New York State Vendor Responsibility Definitions List" existing at the time of certification.

RESPONSES

Every question must be answered. Each response must provide all relevant information which can be obtained within the limits of the law. However, information regarding a determination or finding made in error which was subsequently corrected or overturned, and/or was withdrawn by the issuing government entity, is not required. Individuals and Sole Proprietors may use a Social Security Number but are encouraged to obtain and use a federal Employer Identification Number (EIN).

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
FOR-PROFIT CONSTRUCTION (CCA-2)**

BUSINESS ENTITY INFORMATION				
<u>Legal Business Name</u>		<u>EIN</u> _____		
Address of the <u>Principal Place of Business</u> (street, city, state, zip code)		<u>New York State Vendor Identification Number</u>		
		Telephone ext.	Fax	
		Website		
Authorized Contact for this Questionnaire				
Name		Telephone ext.	Fax	
Title		Email		
Additional <u>Business Entity</u> Identities: If applicable, list any other <u>DBA</u> , <u>Trade Name</u> , <u>Former Name</u> , Other Identity, or <u>EIN</u> used in the last five (5) years, the state or county where filed and the status (active or inactive).				
Type	Name	EIN	State or County where filed	Status

I. BUSINESS CHARACTERISTICS				
1.0 <u>Business Entity</u> Type – Check appropriate box and provide additional information:				
a) <input type="checkbox"/> <u>Corporation</u> (including <u>PC</u>)	Date of Incorporation			
b) <input type="checkbox"/> <u>Limited Liability Company</u> (<u>LLC</u> or <u>PLLC</u>)	Date Organized			
c) <input type="checkbox"/> <u>Limited Liability Partnership</u>	Date of Registration			
d) <input type="checkbox"/> <u>Limited Partnership</u>	Date Established			
e) <input type="checkbox"/> <u>General Partnership</u>	Date Established	County (if formed in NYS)		
f) <input type="checkbox"/> <u>Sole Proprietor</u>	How many years in business?			
g) <input type="checkbox"/> Other	Date Established			
If Other, explain:				
1.1 Was the <u>Business Entity</u> formed in New York State?				<input type="checkbox"/> Yes <input type="checkbox"/> No
If “No,” indicate jurisdiction where the <u>Business Entity</u> was formed:				
<input type="checkbox"/> United States	State			
<input type="checkbox"/> Other	Country			

NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE FOR-PROFIT CONSTRUCTION (CCA-2)

I. BUSINESS CHARACTERISTICS			
1.2 Is the <u>Legal Business Entity</u> publicly traded?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
If "Yes," provide the <u>CIK code</u> or Ticker Symbol:			
1.3 Is the <u>Business Entity</u> currently <u>registered to do business in New York State</u> ?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required		
<i>Note: Select "Not Required" if the Business Entity is a Sole Proprietor or General Partnership</i>			
If "No," explain why the <u>Business Entity</u> is not required to be <u>registered to do business in New York State</u> :			
1.4 Is the responding <u>Business Entity</u> a <u>Joint Venture</u> ? Note: If the submitting <u>Business Entity</u> is a <u>Joint Venture</u> , also submit a separate questionnaire for each <u>Business Entity</u> comprising the <u>Joint Venture</u> .	<input type="checkbox"/> Yes <input type="checkbox"/> No		
1.5 If the <u>Business Entity's</u> <u>Principal Place of Business</u> is not in New York State, does the <u>Business Entity</u> maintain an office in New York State?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
<i>(Select "N/A" if <u>Principal Place of Business</u> is in New York State.)</i>			
If "Yes," provide the address and telephone number for one office located in New York State.			
1.6 Is the Business Entity a New York State certified <u>Minority-Owned Business Enterprise</u> , or <u>Women-Owned Business Enterprise</u> , or <u>New York State Small Business</u> , or federally certified <u>Disadvantaged Business Enterprise</u> ?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
If "Yes," check all that apply:			
<input type="checkbox"/> New York State certified <u>Minority-Owned Business Enterprise</u> (MBE)			
<input type="checkbox"/> New York State certified <u>Women-Owned Business Enterprise</u> (WBE)			
<input type="checkbox"/> <u>New York State Small Business</u>			
<input type="checkbox"/> Federally certified <u>Disadvantaged Business Enterprise</u> (DBE)			
1.7 Identify each person or business entity that is, or has been within the past five (5) years, <u>Principal Owner</u> of 5.0% or more of the firm's shares; a <u>Business Entity Official</u> ; or one of the five largest shareholders, if applicable. <i>(Attach additional pages if necessary.)</i>			
<u>Joint Ventures</u> : Provide information for all firms involved.			
Name <i>(For each person, include middle initial)</i>	Title	Percentage of ownership (Enter 0%, if not applicable)	Employment status with the firm
			<input type="checkbox"/> Current <input type="checkbox"/> Former
			<input type="checkbox"/> Current <input type="checkbox"/> Former
			<input type="checkbox"/> Current <input type="checkbox"/> Former
			<input type="checkbox"/> Current <input type="checkbox"/> Former

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
FOR-PROFIT CONSTRUCTION (CCA-2)**

II. AFFILIATE and JOINT VENTURE RELATIONSHIPS		
2.0 Are there any other <u>construction</u> -related firms in which, now or in the past five years, the submitting <u>Business Entity</u> or any of the individuals or business entities listed in question 1.7 either owned or owns 5.0% or more of the shares of, or was or is one of the five largest shareholders or a director, officer, partner or proprietor of said other firm? <i>(Attach additional pages if necessary.)</i>		<input type="checkbox"/> Yes <input type="checkbox"/> No
Firm/Company Name	Firm/Company EIN (If available)	Firm/Company's Primary Business Activity
Firm/Company Address		
Explain relationship with the firm and indicate percent of ownership, if applicable (enter N/A, if not applicable):		
Are there any shareholders, directors, officers, owners, partners or proprietors that the submitting <u>Business Entity</u> has in common with this firm?		<input type="checkbox"/> Yes <input type="checkbox"/> No
Individual's Name <i>(Include middle initial)</i>	Position/Title with Firm/Company	
2.1 Does the <u>Business Entity</u> have any <u>construction</u> -related <u>affiliates</u> not identified in the response to question 2.0 above? <i>(Attach additional pages if necessary.)</i>		<input type="checkbox"/> Yes <input type="checkbox"/> No
Affiliate Name	Affiliate EIN (If available)	Affiliate's Primary Business Activity
Affiliate Address		
Explain relationship with the affiliate and indicate percent of ownership, if applicable <i>(enter N/A, if not applicable)</i> :		
Are there any shareholders, directors, officers, owners, partners or proprietors that the submitting Business Entity has in common with this affiliate?		<input type="checkbox"/> Yes <input type="checkbox"/> No
Individual's Name <i>(Include middle initial)</i>	Position/Title with Firm/Company	
2.2 Has the <u>Business Entity</u> participated in any <u>construction</u> -related <u>Joint Ventures</u> within the past three (3) years? <i>(Attach additional pages if necessary.)</i>		<input type="checkbox"/> Yes <input type="checkbox"/> No
Joint Venture Name	Joint Venture EIN (If available)	Identify parties to the Joint Venture

NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE FOR-PROFIT CONSTRUCTION (CCA-2)

III. CONTRACT HISTORY

3.0 Has the Business Entity completed any construction contracts? Yes No

If "Yes," list the ten most recent construction contracts the Business Entity has completed using Attachment A – Completed Construction Contracts, found at www.osc.state.ny.us/vendrep/documents/questionnaire/ac3294s.doc.

If less than ten, include most recent subcontracts on projects up to that number.

3.1 Does the Business Entity currently have uncompleted construction contracts? Yes No

If "Yes," list all current uncompleted construction contracts by using Attachment B – Uncompleted Construction Contracts, found at www.osc.state.ny.us/vendrep/documents/questionnaire/ac3295s.doc.

Note: Ongoing projects must be included.

IV. INTEGRITY – CONTRACT BIDDING

Within the past five (5) years, has the Business Entity, an affiliate, or any predecessor company or entity:

4.0 Been suspended or debarred from any government contracting process or been disqualified on any government procurement? Yes No

4.1 Been subject to a denial or revocation of a government prequalification? Yes No

4.2 Had any bid rejected by a government entity for lack of qualifications, responsibility or because of the submission of an informal, non-responsive or incomplete bid? Yes No

4.3 Had a proposed subcontract rejected by a government entity for lack of qualifications, responsibility or because of the submission of an informal, non-responsive or incomplete bid? Yes No

4.4 Had a low bid rejected on a government contract for failure to make good faith efforts on any Minority-Owned Business Enterprise, Women-Owned Business Enterprise or Disadvantaged Business Enterprise goal or statutory affirmative action requirements on a previously held contract? Yes No

4.5 Agreed to a voluntary exclusion from bidding/contracting with a government entity? Yes No

4.6 Initiated a request to withdraw a bid submitted to a government entity or made any claim of an error on a bid submitted to a government entity? Yes No

For each "Yes," provide an explanation of the issue(s), the Business Entity involved, the relationship to the submitting Business Entity, the government entity involved, project(s), relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer(s) below or attach additional sheets with numbered responses.

V. INTEGRITY – CONTRACT AWARD

Within the past five (5) years, has the Business Entity, an affiliate, or any predecessor company or entity:

5.0 Defaulted on or been suspended, cancelled or terminated for cause on any contract? Yes No

5.1 Been subject to an administrative proceeding or civil action seeking specific performance or restitution (except any disputed work proceeding) in connection with any government contract? Yes No

5.2 Entered into a formal monitoring agreement, consent decree or stipulation settlement as specified by, or agreed to with, any government entity? Yes No

5.3 Had its surety called upon to complete any contract whether government or private sector? Yes No

5.4 Forfeited all or part of a standby letter of credit in connection with any government contract? Yes No

NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE FOR-PROFIT CONSTRUCTION (CCA-2)

V. INTEGRITY – CONTRACT AWARD

Within the past five (5) years, has the Business Entity, an affiliate, or any predecessor company or entity:

For each “Yes,” provide an explanation of the issue(s), the Business Entity involved, the relationship to the submitting Business Entity, the government entity/owners involved, project(s), contract number(s), relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer(s) below or attach additional sheets with numbered responses.

VI. CERTIFICATIONS/LICENSES

Within the past five (5) years, has the Business Entity, an affiliate, or any predecessor company or entity:

- | | |
|--|--|
| 6.0 Had a revocation or <u>suspension</u> of any business or professional permit and/or license? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 6.1 Had a denial, decertification, revocation or forfeiture of New York State certification of <u>Minority-Owned Business Enterprise</u> , <u>Women-Owned Business Enterprise</u> or a federal certification of <u>Disadvantaged Business Enterprise</u> status, for other than a change of ownership? | <input type="checkbox"/> Yes <input type="checkbox"/> No |

For each “Yes,” provide an explanation of the issue(s), the Business Entity involved, the relationship to the submitting Business Entity, the government entity involved, relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer(s) below or attach additional sheets with numbered responses.

VII. LEGAL PROCEEDINGS/GOVERNMENT INVESTIGATIONS

Within the past five (5) years, has the Business Entity, an affiliate, or any predecessor company or entity:

- | | |
|--|--|
| 7.0 Been the subject of a criminal <u>investigation</u> , whether open or closed, or an indictment for any business-related conduct constituting a crime under local, state or <u>federal</u> law? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 7.1 Been the subject of:
(i.) An indictment, grant of immunity, <u>judgment</u> or conviction (including entering into a plea bargain) for conduct constituting a crime; or
(ii.) Any criminal <u>investigation</u> , felony indictment or conviction concerning the formation of, or any business association with, an allegedly false or fraudulent <u>Minority-Owned Business Enterprise</u> , <u>Women-Owned Business Enterprise</u> , or a <u>Disadvantaged Business Enterprise</u> ? | <input type="checkbox"/> Yes <input type="checkbox"/> No

<input type="checkbox"/> Yes <input type="checkbox"/> No |
| 7.2 Received any <u>OSHA</u> citation, which resulted in a final determination classified as <u>serious</u> or <u>willful</u> ? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 7.3 Had a <u>government entity</u> find a willful prevailing wage or supplemental payment violation? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 7.4 Had a New York State Labor Law violation deemed willful? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 7.5 Entered into a consent order with the New York State Department of Environmental Conservation, or a <u>federal</u> , state or local government enforcement determination involving a violation of <u>federal</u> , state or local environmental laws? | <input type="checkbox"/> Yes <input type="checkbox"/> No |

NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE FOR-PROFIT CONSTRUCTION (CCA-2)

VII. LEGAL PROCEEDINGS/GOVERNMENT INVESTIGATIONS

Within the past five (5) years, has the Business Entity, an affiliate, or any predecessor company or entity:

7.6 Other than previously disclosed, been the subject of any <u>citations</u> , notices or violation orders; a pending administrative hearing, proceeding or determination of a violation of: <ul style="list-style-type: none"> • <u>Federal</u>, state or local health laws, rules or regulations; • <u>Federal</u>, state or local environmental laws, rules or regulations; • Unemployment insurance or workers compensation coverage or <u>claim</u> requirements; • Any labor law or regulation, which was deemed willful; • Employee Retirement Income Security Act (ERISA); • <u>Federal</u>, state or local human rights laws; • <u>Federal</u>, state or local security laws? 	<input type="checkbox"/> Yes <input type="checkbox"/> No
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For each "Yes," provide an explanation of the issue(s), the Business Entity involved, the relationship to the submitting Business Entity, the government entity involved, relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer(s) below or attach additional sheets with numbered responses.

Note: Information regarding a determination or finding made in error, which was subsequently corrected or overturned, and/or was withdrawn by the issuing government entity, is not required.

VIII. LEADERSHIP INTEGRITY

If the Business Entity is a Joint Venture Entity, answer "N/A - Not Applicable" to questions in this section.

Within the past five (5) years has any individual previously identified or any individual currently or formerly having the authority to sign, execute or approve bids, proposals, contracts or supporting documentation on behalf of the Business Entity with any government entity been:

8.0 <u>Sanctioned</u> relative to any business or professional permit and/or license?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
8.1 <u>Suspended, debarred or disqualified</u> from any <u>government contracting process</u> ?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
8.2 The subject of a criminal <u>investigation</u> , whether open or closed, or an indictment for any business-related conduct constituting a crime under local, state or <u>federal</u> law?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
8.3 Charged with a misdemeanor or felony, indicted, granted immunity, convicted of a crime or subject to a judgment for: <ul style="list-style-type: none"> (i.) Any business-related activity, including but not limited to fraud, coercion, extortion, bribe or bribe-receiving, giving or accepting unlawful gratuities, immigration or tax fraud, racketeering, mail fraud, wire fraud, price-fixing or collusive bidding; or (ii.) Any crime, whether or not business-related, the underlying conduct of which related to truthfulness, including but not limited to the filing of false documents or false sworn statements, perjury or larceny 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

For each "Yes," provide an explanation of the issue(s), the individual involved, the relationship to the submitting Business Entity, the government entity involved, relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer(s) below or attach additional sheets with numbered responses.

NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE FOR-PROFIT CONSTRUCTION (CCA-2)

IX. FINANCIAL AND ORGANIZATIONAL CAPACITY		
9.0 Within the past five (5) years, has the <u>Business Entity</u> or any <u>affiliate</u> received any <u>formal unsatisfactory performance assessment(s)</u> from any <u>government entity</u> on any contract?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>If "Yes," provide an explanation of the issue(s), the <u>Business Entity</u> involved, the relationship to the submitting <u>Business Entity</u>, the <u>government entity</u> involved, relevant dates, any remedial or corrective action(s) taken and the current status of the issue(s). Provide answer below or attach additional sheets with numbered responses.</i>		
9.1 Within the past five (5) years, has the <u>Business Entity</u> or any <u>affiliate</u> had any <u>liquidated damages</u> assessed over \$25,000?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>If "Yes," provide an explanation of the issue(s), the <u>Business Entity</u> involved, the relationship to the submitting <u>Business Entity</u>, relevant dates, the contracting party involved, the amount assessed and the current status of the issue(s). Provide answer below or attach additional sheets with numbered responses.</i>		
9.2 Within the past five (5) years, has the <u>Business Entity</u> or any <u>affiliate</u> had any <u>liens, claims</u> or <u>judgments</u> over \$25,000 filed against the <u>Business Entity</u> which remain undischarged or were unsatisfied for more than 90 days? (Note: Including but not limited to tax warrants or liens. Do not include UCC filings.)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>If "Yes," provide an explanation of the issue(s), the <u>Business Entity</u> involved, the relationship to the submitting <u>Business Entity</u>, relevant dates, the Lien holder or Claimants' name(s), the amount of the <u>lien(s)</u> and the current status of the issue(s). Provide answer below or attach additional sheets with numbered responses.</i>		
9.3 In the last seven (7) years, has the <u>Business Entity</u> or any <u>affiliate</u> initiated or been the subject of any bankruptcy proceedings, whether or not closed, or is any bankruptcy proceeding pending?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>If "Yes," provide the <u>Business Entity</u> involved, the relationship to the submitting <u>Business Entity</u>, the bankruptcy chapter number, the court name and the docket number. Indicate the current status of the proceedings as "Initiated," "Pending" or "Closed." Provide answer below or attach additional sheets with numbered responses.</i>		
9.4 What is the <u>Business Entity's</u> Bonding Capacity?		
a. Single Project	b. Aggregate (All Projects)	
9.5 List <u>Business Entity's</u> Gross Sales for the previous three (3) Fiscal Years:		
1st Year (Indicate year) Gross Sales	2nd Year (Indicate year) Gross Sales	3rd Year (Indicate year) Gross Sales
9.6 List <u>Business Entity's</u> Average Backlog for the previous three (3) fiscal years: (Estimated total value of uncompleted work on outstanding contracts)		
1st Year (Indicate year) Amount	2nd Year (Indicate year) Amount	3rd Year (Indicate year) Amount
9.7 Attach <u>Business Entity's</u> most recent annual <u>financial statement</u> and accompanying notes or complete Attachment C – Financial Information, found at www.osc.state.ny.us/vendrep/documents/questionnaire/ac3296s.xls . (This information must be attached.)		

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
FOR-PROFIT CONSTRUCTION (CCA-2)**

X. FREEDOM OF INFORMATION LAW (FOIL)

10.0 Indicate whether any information provided herein is believed to be exempt from disclosure under the Freedom of Information Law (FOIL).

Yes No

Note: A determination of whether such information is exempt from FOIL will be made at the time of any request for disclosure under FOIL. Attach additional pages if necessary.

If "Yes," indicate the question number(s) and explain the basis for the claim.

**NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE
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Certification

The undersigned: (1) recognizes that this questionnaire is submitted for the express purpose of assisting New York State government entities (including the Office of the State Comptroller (OSC)) in making responsibility determinations regarding award or approval of a contract or subcontract and that such government entities will rely on information disclosed in the questionnaire in making responsibility determinations; (2) acknowledges that the New York State government entities and OSC may, in their discretion, by means which they may choose, verify the truth and accuracy of all statements made herein; and (3) acknowledges that intentional submission of false or misleading information may result in criminal penalties under State and/or Federal Law, as well as a finding of non-responsibility, contract suspension or contract termination.

The undersigned certifies that he/she:

- is knowledgeable about the submitting Business Entity’s business and operations;
- has read and understands all of the questions contained in the questionnaire;
- has not altered the content of the questionnaire in any manner;
- has reviewed and/or supplied full and complete responses to each question;
- to the best of his/her knowledge, information and belief, confirms that the Business Entity’s responses are true, accurate and complete, including all attachments, if applicable;
- understands that New York State government entities will rely on the information disclosed in the questionnaire when entering into a contract with the Business Entity; and
- is under an obligation to update the information provided herein to include any material changes to the Business Entity’s responses at the time of bid/proposal submission through the contract award notification, and may be required to update the information at the request of the New York State government entities or OSC prior to the award and/or approval of a contract, or during the term of the contract.

Signature of Owner/Official _____

Printed Name of Signatory _____

Title _____

Name of Business _____

Address _____

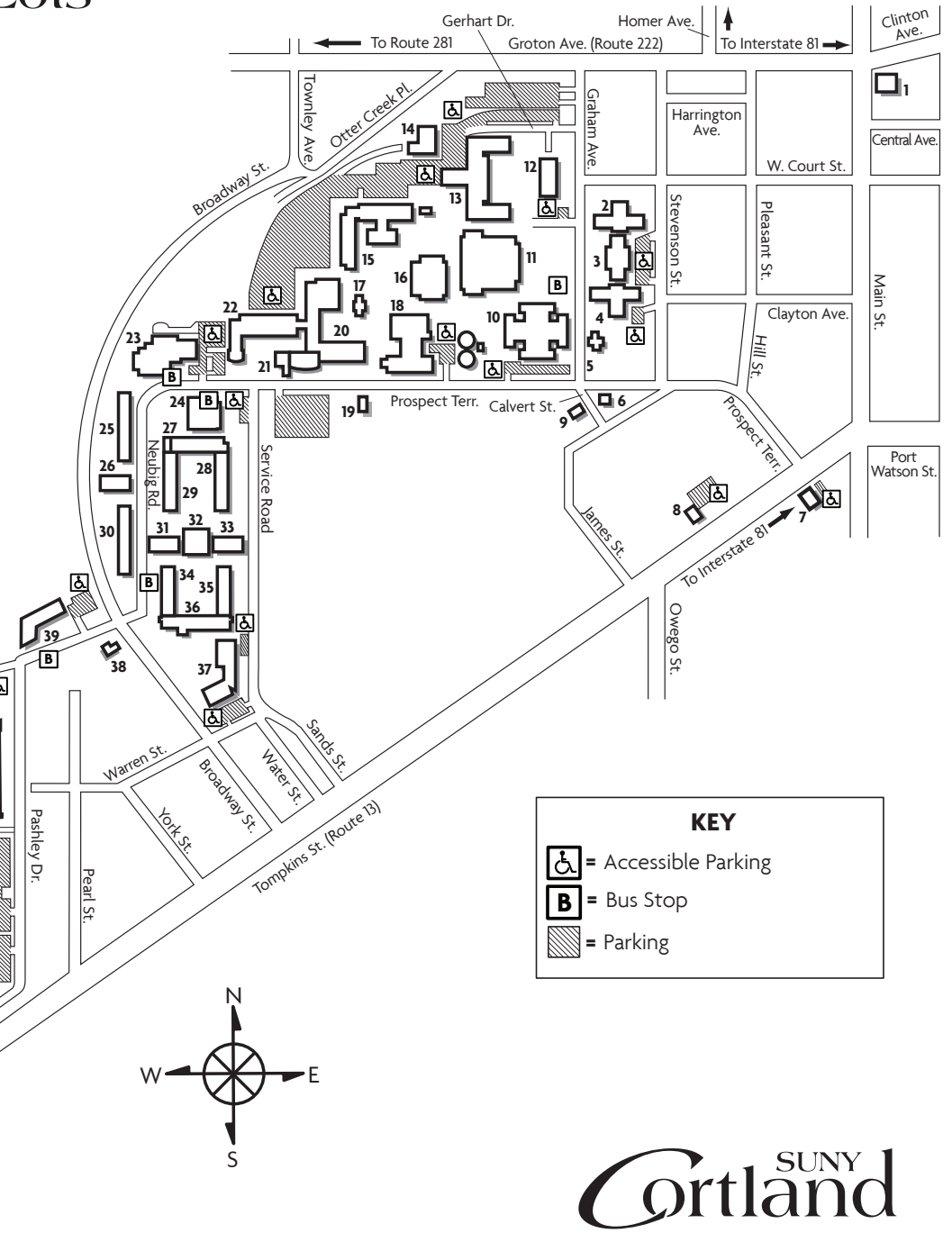
City, State, Zip _____

Sworn to before me this _____ day of _____, 20__;

_____ Notary Public

Campus Buildings and Parking Lots

Bldg. Name	Bldg. No.	Bldg. Name	Bldg. No.
Alger Hall.....	31	McDonald Building	8
Bishop Hall	29	Memorial Library	18
Bowers Hall	15	Miller Building	12
Broadway House.....	38	Moffett Center	11
Brockway Hall.....	3	Neubig Hall	24
Casey Tower	37	Newmark Pavilion	17
Chemical Mgmt. Facility.....	47	O'Heron Newman Hall.....	9
Cheney Hall.....	2	Old Main	13
Clark Hall.....	26	Park Center	43
Commissary/Receiving	46	Parks Alumni House.....	7
Corey Union	23	President's Residence	5
Cornish Hall	20	Professional Studies Building.....	42
DeGroat Hall.....	4	Randall Hall	30
Dowd Fine Arts Center	10	Service Group.....	48
Dragon Hall.....	36	Shea Hall	28
Education Building	21	Smith Tower	37
Fitzgerald Hall	25	Sperry Center.....	16
Glass Tower Hall.....	27	Stadium Complex.....	44
Grounds Service Building	45	Student Life Center.....	40
Hayes Hall.....	34	Van Hoesen Hall.....	22
Heating Plant.....	14	West Campus Apts.....	49
Hendrick Hall.....	35	Whitaker Hall	39
Higgins Hall	33	Winchell Hall.....	32
Interfaith Center.....	6		
Leadership House.....	19		
Lusk Field House.....	41		
Main Street SUNY Cortland.....	1		



KEY

- = Accessible Parking
- = Bus Stop
- = Parking

