PROJECT MANUAL
Contract Bid Documents and Specifications
for
Interior Asbestos Abatement
of the
Episcopal Church Home

1 Massachusetts Avenue, 823 Busti Avenue, 850 Columbus Parkway, and 24 Rhode Island Street, Buffalo, New York

Prepared for:

Empire State Development

Empire State Development Corp.
95 Perry Street, 5th Floor
Buffalo, New York 14203

Prepared by:

LiRo Engineers, Inc.
690 Delaware Avenue
Buffalo, New York 14209

June 5, 2014

EPISCOPAL CHURCH HOME 5 June 2014
INTERIOR ASBESTOS ABATEMENT
EMPIRE STATE DEVELOPMENT
BUFFALO, NEW YORK

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ADDITIONAL INFORMATION PROVIDED ON COMPACT DISK (CD):

ECH: Inspection Report of Asbestos Containing Materials and Hazardous Materials, Dec 2013
ECH: Record Reference Drawings (provided by previous owner)
ECH: Phase I Environmental Site Assessment, May 2013
ECH: Underground Storage Tank Report, May 2013
ECH: Memo from LiRo Engineers summarizing basement water sampling for Buffalo Sewer Authority Discharge Parameters.

Note: *The additional information and data on Compact Disk are provided for the Contractor's use only and are not considered part of the Contract Documents. Actual site conditions may differ from what is presented. No warranty is made regarding the accuracy and completeness of the information and data provided.*

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NOTICE TO BIDDERS
Empire State Development
Episcopal Church Home – Interior Asbestos Abatement

Bids: Sealed bids will be received and publicly read aloud at the Empire State Development office on 95 Perry Street, Suite 500, Buffalo, New York for the Episcopal Church Home Interior Asbestos Abatement project contract on Wednesday, July 9, 2014, at 2:00 p.m. Each bid must be identified, on the outside of the envelope, with name and address of the bidder and designated as bid for the project titled above. Sealed bids must be received by Wednesday, July 9, 2014 at 2:00 p.m. in order to be considered.

Pre-Bid Meeting: A mandatory pre-bid meeting and site walkover will be held on Thursday, June 12, 2014 at 10:00 a.m. at the Episcopal Church Home. The parking lot at the corner of Columbus Parkway and Massachusetts Avenue will be utilized as a starting point for the walkover. On-site parking will be available. Interior building areas of the site will not be accessible during this initial pre-bid meeting and site walkover.

Optional walkovers will be held on Tuesday June 17, 2014 and Wednesday June 18, 2014 during normal business hours (9 a.m. to 5 p.m.) by appointment, during which access to the interior building areas not accessible during the mandatory pre-bid meeting will be allowed. All representatives entering the buildings are required to possess a current NYSDOL Asbestos License, respiratory fit test and protective equipment, a hard hat, safety glasses, waterproof construction boots, and operating flashlight. Safety equipment is required during the walk through by all bidders and will not be provided by the Owner. Representatives attending either of the optional walkovers must be asbestos credentialed personnel and must arrive on-site with the safety equipment listed above and respiratory protection.

Questions: Questions on this solicitation must be transmitted and received by mail or e-mail no later than Tuesday July 1, 2014 at 4:00 p.m. to the address below:

Stephen Gawlik, Senior Counsel
Empire State Development
95 Perry Street, 5th Floor
Buffalo, New York 14203
sgawlik@esd.ny.gov

Contracts: The project will be constructed using the single contract format. A copy of the contract is included in this bid package. The following contract will be bid at this time:

Contract: Episcopal Church Home Interior Asbestos Abatement

Project Description: The work shall consist primarily of Asbestos Abatement and Hazardous Materials Remediation as detailed in the project documents, and includes Additional Abatement, Demolition and Site Preparation as Bid Alternates.

The Base Bid work includes the complete abatement of all asbestos and universal/hazardous materials from the interior of the following buildings:

a. Robinson Addition (Buildings 2 and 2A)
b. Thornton Building (Building 3A)
c. Russell Building (Building 3B)
d. Robinson Building (Building 4)
e. Hutchinson Chapel (Building 5).

Alternate No.1 adds the complete abatement of all asbestos and universal/hazardous materials and demolition of the following buildings and structures:

a. Canterbury Building (Building 1)
b. Maintenance Building (Building 6).

Alternate No. 1 work also includes furnishing and installing temporary fencing, terminating utilities, protecting designated utilities, and backfilling to defined grades.

Alternate No.2 adds exterior abatement, abatement of concealed or encapsulated asbestos not abated as part of the Base Bid, and demolition for the following buildings and structures:

a. Robinson Addition (Buildings 2 and 2A)
b. Thornton Building (Building 3A)
c. Russell Building (Building 3B)
d. Robinson Building (Building 4)
e. Tunnel between Thornton Building (Building 3A) and Hutchinson Chapel (Building 5).

Alternate No. 2 work also includes removal of a closed underground storage tank, site preparation consisting of resetting of catch basins, protecting remaining utilities, backfilling to defined grades, providing final grading using gravel and soil, replacing sidewalk sections, construction of a landscaped berm, and furnishing and installing temporary and new fencing. Alternate No. 2 work also includes stabilization, providing weather-tight enclosure, and installing a new basement entranceway for the Hutchinson Chapel (Building 5).

Contract Documents: A complete set of all Contract documents may be obtained at the office of LiRo Engineers, Inc., 690 Delaware Avenue, Buffalo, New York 14209, upon payment of $200.00 per set, by certified check or money order, made payable to Empire State Development. The bid deposit is non-refundable. **All Contractors submitting Bids shall purchase a complete bid package from the Construction Manager, prior to bid.** *The bid-deposit is waived for Contractors that purchased a complete bid package for the Episcopal Church Home Abatement, Demolition and Site Preparation Project in April-May of 2014, which was subsequently cancelled.* Contract documents may be examined at the following locations:

- **Empire State Development, 95 Perry Street, 5th Floor, Buffalo, New York 14203, (716) 846-8257**
- **LiRo Engineers, Inc., 690 Delaware Avenue, Buffalo, New York 14209, (716) 882-5476**

Definitions: The Owner shall be defined as the New York State Urban Development Corporation, d/b/a Empire State Development, 95 Perry Street, 5th Floor, Buffalo, New York 14203. The Engineer and Construction Manager shall be defined as LiRo Engineers Inc., 690 Delaware Avenue, Buffalo, New York 14209.

Opening of Bids: At the date and time noted for receipt of proposals, the proposals will be publicly opened and read aloud. Only those bids in the hands of Empire State Development, available to be read at the time and date designated above will be considered.

Bid Guarantee: Each bid shall be accompanied by an acceptable form of bid guarantee in an amount equal to ten percent (10%) of the amount of the base bid payable to Empire State Development as a guarantee that if the bid is accepted, the bidder will execute the Contract, which is provided as part of this Notice to Bidders, within ten (l0) days after receipt of the Contract for execution by the selected bidder.

Owner's Rights: Empire State Development reserves the right to waive any informality or reject any or all bids, or to make any contract which it deems to be in the best interest of Empire State Development.

Bid Withdrawal: No bidder may withdraw his bid within ninety (90) days after actual opening thereof.

Non-Discrimination and Contractor & Supplier Diversity: Empire State Development's Non-Discrimination and Contractor & Supplier Diversity policy will apply. The contractor shall be required to use Good Faith Efforts to achieve Minority/Women-owned Business Enterprise ("M/WBE") participation of not less than 25 % (MBE/WBE) of the total dollar value, 15% MBE and 10% WBE, and not less than 10% Minority and Female Workforce. M/WBE contractors are encouraged to respond. Additional requirements and required forms can be found in the Bid Forms section of bid package.

Qualifications: The low bidder shall demonstrate its responsibility to perform and complete all required work by submitting a statement of its experience and of any subcontractors which the low bidder intends to use to perform the work (see Bidder's Qualifications in the Bid Forms). The low bidder shall include his plan or program for providing sufficient labor and equipment to perform the project as detailed by the project documents, within the allotted time frame and sequencing for the asbestos abatement and alternate demolition phases. Low bidder is encouraged to employ local labor.

The Prime Contractor shall have a valid New York State Department of Labor (NYSDOL) Company asbestos abatement license. The Prime Contractor must identify a Project Manager and a Site Superintendent, currently employed by the Prime Contractor or a teamed qualified Subcontractor, who can demonstrate a minimum 3-year history supervising asbestos abatement work similar to the Episcopal Church Home Interior Asbestos Abatement project under NYSDOL codes, rules, and regulations.

The low bid Prime Contractor or its teamed qualified Subcontractor must demonstrate a minimum of 3 years of experience and the completion of 2 demolition projects of similar scope in an urban setting. Additional qualification requirements and certifications as required by the individual technical specifications must be met by either the Prime Contractor or its teamed qualified Subcontractor.

The Prime Contractor shall obtain bid and performance bonds directly from a Surety Company with a minimum rating by A.M. Best of (A-) in the "Best's Key Rating Guide". The surety firm must be licensed to bond construction projects in the state of New York. The Abatement and/or Demolition Contractor's personnel shall also have OSHA 10-hour Construction Safety & Health certifications and 40-hour HAZWOPER certifications as required by the various elements.

Empire State Development may require the low bidder to further demonstrate its responsibility to perform and complete the work by submitting additional information regarding the low bidder's experience, obtaining labor/work force and financial resources. The prime Contractor shall demonstrate that they have the financial resources to perform the work. If requested by Empire State Development, additional information must be submitted by the low bidder within seven (7) calendar days of the request. All information pertaining to the bidder's financial resources shall be submitted by a Certified Public Accountant.

Permissible Contacts: State Finance Law Sections 139-j and 139-k (collectively, the "Procurement Requirements") apply to this procurement. These Procurement Requirements: (1) govern permissible communications between potential respondents and ESD or other involved governmental entities with respect to this RFP; (2) provide for increased disclosure in the public procurement process through identification of persons or organizations whose function is to influence procurement contracts, public works agreements and real property transactions; and (3) establish sanctions for knowing and willful violations of the provisions of the Procurement Requirements, including disqualification from eligibility for an award of any contract pursuant to this RFP. Compliance with the Procurement Requirements: (1)

all communications regarding this RFP, from the time of its issuance through final award and execution of any resulting contract (the "Restricted Period"), be conducted only with the designated contact persons listed below; (2) the completion by respondents of the Offerer Disclosure of Prior Non-Responsibility Determinations, and the Offerer's Affirmation of Understanding of and Agreement pursuant to State Finance Law (each form is accessible at the Required Forms for Vendors link at the ESD web site under "RFPs/RFQs" and included in the Bid Forms); and (3) periodic updating of such forms during the term of any contract resulting from this RFP. **Respondents must submit the Offerer Disclosure of Prior Non-Responsibility Determinations, and the Offerer's Affirmation of Understanding of and Agreement pursuant to State Finance Law, as part of their submittal.**

The Procurement Requirements also require ESD staff to obtain and report certain information when contacted by prospective bidders during the restricted period, make a determination of the responsibility of bidders and make all such information publicly available in accordance with applicable law. If a prospective bidder is found to have knowingly and willfully violated the State Finance Law provisions, that prospective bidder and its subsidiaries, related or successor entities will be determined to be a non-responsible bidder and will not be awarded any contract issued pursuant to this solicitation. In addition, two such findings of non-responsibility within a four-year period can result in debarment from obtaining any New York State governmental procurement contract.

For the purpose of compliance with State Finance Law Sections 139-j, contact with Stephen Gawlik, ESD Senior Counsel, is considered permissible. Contact information is provided above.

This is not a complete presentation of the provisions of the Procurement Requirements. A copy of State Finance Law Sections 139-j and 139-k can be found at: http://esd.ny.gov/CorporateInformation/RFPs.html (under "ESD Policy Regarding Permissible Contacts under SFL 139"). All potential Respondents are solely responsible for full compliance with the Procurement Requirements. Both the prime consultant and the sub-consultants complete the forms required above.

Other: Contractors performing project work must be duly licensed in the City of Buffalo and by other entities governing work. Contractor's bid is to include an acknowledgment that the Contractor possesses the necessary license or filed a licensing application with the City of Buffalo. Asbestos abatement is to be performed by a licensed abatement contractor. Contractor is responsible to ascertain and obtain any additional licensing needed to perform work, whether such licensing is required by the City of Buffalo or other regulating entity. Insurance and other requirements applicable to the contract(s) are described in detail in the bid documents.

ESD reserves the right to:

1. amend, modify or withdraw this solicitation;
2. revise any requirement of this solicitation;
3. require supplemental statements or information from any responsible party;
4. accept or reject any or all responses hereto;
5. extend the deadline for submission of responses hereto;
6. negotiate or hold discussions with any firm and to correct deficient responses which do not conform to the instructions contained herein;
7. cancel, or reissue in whole or in part, this solicitation, if ESD determines in its sole discretion that it is its best interest to do so; and
8. extend the term of any agreement on terms consistent with this procurement.

BID FORM

Bidder: _____

Bid to: NYS Urban Development Corporation
d/b/a Empire State Development
95 Perry Street, 5th Floor
Buffalo, New York 14203

Bid for: **Episcopal Church Home Interior Asbestos Abatement**

Bid From: Name: _____
Address: _____
_____
_____
Phone Number: _____
Fax Number: _____

Proposal:

The base bid work shall include the complete abatement of all asbestos and universal/hazardous materials from the interior of the following Contract specified buildings and structures:

a. Robinson Addition (Buildings 2 and 2A)
b. Thornton Building (Building 3A)
c. Russell Building (Building 3B)
d. Robinson Building (Building 4)
e. Hutchinson Chapel (Building 5)
f. Tunnel between Thornton Building (Building 3A) and Hutchinson Chapel (Building 5)

The base bid work does not include asbestos abatement of building roof materials and flashing. More specifically the base bid includes all work defined in the Contract Documents for the above referenced buildings and associated structures, utilities, and site amenities.

The Contractor shall comply with the required scheduling requirement. Contractor shall commence the Work upon receipt of a written notice to proceed signed by the Owner. Under the base bid requirement, the Contractor shall be required to perform the contract work in accordance with the following schedule:

Phase I - <u>Abatement of All Asbestos From the Interior of Structures: Robinson Addition (Buildings 2 and 2A); Thornton Building (Building 3A); Russell Building (Building 3B); Robinson Building (Building 4); and Hutchinson Chapel (Building 5) and Tunnel</u>
Work includes: abatement of all asbestos and removal all hazardous materials from inside each structure until clearance by the Project Monitor for the structure interior is achieved. Abatement of exterior roof materials and flashing are not included in the base bid. **All Phase I work for Robinson Addition (Buildings 2 and 2A) and Robinson Building (Building 4) shall be completed no later than 135 calendar days from written notice to proceed. Phase I shall be completed in its entirety no later than 180 calendar days from written notice to proceed.**

The Contractor shall note that liquidated damages of $5,000 per day shall apply should the Contractor not comply with the scheduled substantial completion.

BID FORM

Bidder: _____

We have examined and fully understand the requirements and intent of the Bidding and Contract Documents and all subsequent addenda as listed below, and propose to provide all materials, and all labor, supplies, equipment, transportation and other facilities necessary or proper for, or incidental to the Work, to complete all Work in strict accord with the contract documents and as assigned in the Special Conditions.

Total Lump Sum Base Bid Contract $_____
(Do Not Include Alternate)

Total Lump Sum Base Bid in words: _____

_____

Base Bid Breakdown

LUMP SUM BID SHEET

Item No.	Description	Lump Sum ($USD)
Phase I - Abatement of All Asbestos from the Interior of Structures: Robinson Addition; Thornton Building; Russell Building; Robinson Building ; Hutchinson Chapel, and Tunnel		
1.1	Interior Asbestos Abatement and Removal of Hazardous Waste, Robinson Addition (Buildings 2 and 2A)	$
1.2	Interior Asbestos Abatement and Removal of Hazardous Waste, Robinson Building (Building 4)	$
1.3	Interior Asbestos Abatement and Removal of Hazardous Waste, Thornton Building (Building 3A), Russell Building (Building 3B), Hutchinson Chapel (Building 5) and Tunnel	$
	Lump Sum Base Bid, Phase I Total	$

Alternate No. 1

Alternate No.1 adds complete abatement and demolition of the Canterbury Building (Building 1) and Maintenance Building (Building 6). Alternate No. 1 work shall include the complete abatement of all asbestos and universal/hazardous materials and demolition of the following Contract specified buildings and structures:

a. Canterbury Building (Building 1)
b. Maintenance Building (Building 6).

Alternate No. 1 work shall also include furnishing and installing temporary fencing, terminating utilities, protecting designated utilities, and backfilling to defined grades. More specifically Alternate No. 1 includes all work defined in the Contract Documents and work identified as pertaining to Alternate No. 1 for the above referenced buildings and associated structures, utilities, and site amenities. This alternate is identified as Alternate No. 1 on the Contract Plans. The Contractor shall provide a lump sum cost to provide all materials, and all labor, supplies,

equipment, transportation and other facilities necessary or proper for, or incidental to the Work, to complete all Work in strict accord with the Contract Documents and as assigned in the Special Conditions for the abatement and demolition of the structures under Alternate No. 1.

If exercised, notice to proceed for Alternate No. 1 is anticipated to be issued within 30 days of the notice to proceed for the base bid work. Work for Alternate No. 1 shall proceed in accordance with the base bid schedule and the additional constraints presented below. If the notice to proceed for Alternate No. 1 is issued greater than 30 calendar days following the notice to proceed for the base bid work, then the completion dates for work elements applicable only to Alternate No. 1 shall be negotiated. Phase II shall be completed in its entirety no later than 180 calendar days from notice to proceed.

Alternate No. 1 Bid Additions Breakdown

Item No.	Description	Lump Sum ($USD)
Phase II – Completely Abate and Demolish: Canterbury Building and Maintenance Building		
2.1	Complete Abatement of Canterbury Building (Building 1) and Maintenance Building (Building 6)	$
2.2	Complete Demolition of Canterbury Building (Building 1) and Maintenance Building (Building 6)	$
	Lump Sum Alternate No. 1 Bid, Phase II Total	$

Total Alternate No. 1 Lump Sum Bid in words: _____

_____

<u>Alternate No 2</u>

Alternate No.2 adds exterior abatement, abatement of concealed or encapsulated asbestos not abated as part of Phase I, and demolition for the following Contract specified buildings:

a. Robinson Addition (Buildings 2 and 2A)
b. Thornton Building (Building 3A)
c. Russell Building (Building 3B)
d. Robinson Building (Building 4)
e. Tunnel between Thornton Building (Building 3A) and Hutchinson Chapel (Building 5).

Alternate No. 2 work shall also include removal of a closed underground storage tank, site preparation consisting of resetting of catch basins, termination of utilities, protecting remaining utilities, backfilling to defined grades, providing final grading using gravel and soil, replacing sidewalk sections, construction of a landscaped berm, and furnishing and installing temporary and new fencing. Alternate No. 2 work also includes stabilization, providing weather-tight enclosure, and installing a new basement entranceway for the Hutchinson Chapel (Building 5). All levels of the tunnel shall be demolished including above grade and below grade portions.

Bidder: _____

More specifically Alternate No. 2 includes all work defined in the Contract Documents and work identified as pertaining to Alternate No. 2 for the above referenced buildings and associated structures, utilities, and site amenities. This alternate is identified as Alternate No. 2 on the Contract Plans. The Contractor shall provide a lump sum cost to provide all materials, and all labor, supplies, equipment, transportation and other facilities necessary or proper for, or incidental to the Work, to complete all Work in strict accord with the Contract Documents and as assigned in the Special Conditions for the abatement, demolition and site preparation of the structures under Alternate No. 2.

If exercised, notice to proceed for Alternate No. 2 is anticipated to be issued within 90 days of the notice to proceed for the base bid work. Work for Alternate No. 1 shall proceed in accordance with the base bid schedule and the additional constraints presented below. If the notice to proceed for Alternate No. 2 is issued greater than 90 calendar days following the notice to proceed for the base bid work, then the completion dates for work elements applicable only to Alternate No. 2 shall be negotiated. Phase IV shall be completed in its entirety no later than 300 calendar days from notice to proceed. Phase V shall be completed no later than 360 calendar days from notice to proceed.

Alternate No. 2 Bid Additions Breakdown

Item No.	Description	Lump Sum ($USD)
Phase III – Repair Drainage Structures, Install Temporary Fencing, Terminate Utilities, and Complete Remaining Asbestos Abatement of Robinson Addition, Thornton Building, Russell Building; Robinson Building, and Tunnel		
3.1	Install Temporary Construction Fencing and Complete Remaining Asbestos Abatement	$
3.2	Repair Drainage Structures and Terminate Utilities	$
	Subtotal Phase III	$
Phase IV – Completely Demolish Robinson Addition, Thornton Building, Russell Building; Robinson Building, and Tunnel		
4.1	Demolish Robinson Addition (Buildings 2 & 2A) and Robinson Building (Building 4)	$
4.2	Demolish Thornton Building (Building 3A), Russell Building (Building 3B), and Tunnel	$
4.3	Backfill and Compaction of Foundations and Voids	
	Subtotal Phase IV	$
Phase V - Stabilization of Hutchinson Chapel (Building 5)		
5.1	Weather Tight Protection and Installation of Basement Entrance	
	Subtotal Phase V	$

BID FORM

Bidder: _____

Phase VI – Site Final Grading and Preparation		
6.1	Final Utility Modifications, Final Grading, and Gravel and Soil Cover	$
6.2	Provide Landscaped Berm	$
6.3	Replace Sidewalk Sections and Install Permanent Perimeter Fencing and Gates	$
	Subtotal Phase IV	
	Lump Sum Alternate No. 2 Bid, Phases III through VI Total	$

Total Alternate No. 2 Lump Sum Bid in words: _____

_____

BID FORM

Bidder: _____

ASBESTOS CONTAINING MATERIALS UNIT COST EVALUATION

Abatement of asbestos containing materials (ACM) in the quantities listed in the Contract Documents shall be included in the lump sum bid price. In the event abatement of additional ACM is added to the Project Scope (see Specification Section 02080), Empire State Development (ESD) intends to negotiate the value of the work. Additional ACM shall be those additional materials requiring abatement as requested by ESD or those material quantities for materials that were manufactured to contain ACM which exceed 15% of the quantities listed in the Contract Documents. Abatement of all materials not contaminated by ACM during manufacture that has been subsequently contaminated by ACM and cannot be practically decontaminated, including but not limited to fiberglass insulation and other porous building materials and debris, shall be included in the lump sum bid price. For evaluation and negotiation purposes, the Bidder shall submit unit pricing for various ACM which may be encountered. The Contractor shall complete the unit cost bid sheet provided below. The quoted costs shall assume that quantities will be consistent with a New York State Department of Labor (NYSDOL) defined "Large Asbestos Project" (160 square feet or more/ 260 linear feet or more) and be inclusive of all equipment, material and labor necessary to perform the additional project required work. ESD may consider the unit pricing provided by the Contractor for ACM abatement in the overall bid evaluation.

Item	Unit Cost – Within Existing Containment	Unit Cost - No Existing Containment
Sprayed-on/troweled-on fireproofing	$ /SF	$ /SF
Ceiling systems	$ /SF	$ /SF
Pipe insulation	$ /LF	$ /LF
Boiler Jacket Insulation	$ /SF	$ /SF
Tank Insulation	$ /SF	$ /SF
Mud pipe fittings and gaskets	$ /Each	$ /Each
Pipe Gaskets	$ /Each	$ /Each
Sink mastic	$ /Sink	$ /Sink
Fuse Box Insulation Paper	$ /SF	$ /SF
Asbestos debris	$ /SF	$ /SF
Floor tile and mastic	$ /SF	$ /SF
Fire doors insulation	$ /Each	$ /Each
Windows with ACM caulk/glaze	$ /Each	$ /Each
Roof felt paper	$ /SF	$ /SF
Roof paint	$ /SF	$ /SF
Roof flashing	$ /LF	$ /LF
Roof vents/drains	$ /Each	$ /Each
Roof tar	$ /LF	$ /LF
Transite pipe	$ /LF	$ /LF
Wall mastics	$ /SF	$ /SF
Drywall	$ /SF	$ /SF
Tar waterproofing on perimeter walls	$ /SF	$ /SF
Various caulks	$ /LF	$ /LF
Wall/ceiling plaster	$ /SF	$ /SF
Cove molding mastic	$ /LF	$ /LF
Wire Insulation	$ /LF	$ /LF

BID FORM

Bidder: _____

Insurance Requirements:

The contractor shall meet the insurance requirements listed in Article 12 of the Owner/Contractor Agreement.

Addenda Received:

Addendum Number	Date
_____	_____
_____	_____
_____	_____
_____	_____

Attachments:

We have enclosed with this proposal, the following attachments, fully executed:

1. Non-Collusive Bidding Certificate
2. Certified Corporate Resolution
3. Non-Discrimination and Contractor & Supplier Diversity Requirements
4. MWBE Schedule A-1
5. Debarment Certificate B
6. Certification Regarding Lobbying
7. Substitution Sheet
8. Buy America Certificates
9. Procurement and Tax Law Requirements - Executive Order 127 & State Finance Law Section 139
   a. Contractor Disclosure of Contacts Form
   b. Offerer's Disclosure of Prior Non-Responsibility Determinations
   c. Offerer's Affirmation of Understanding of Agreement
10. Compliance with NYS Tax Law Section 5-a
11. Compliance with Iran Divestment Act
12. Vendor Responsibility
13. Encouraging Use of NYS Businesses Form
14. Bidders Qualifications

Project Sunlight:

Under the Public Integrity Reform Act of 2011, "appearances" (broadly defined and including any substantive interaction that is meant to have an impact on the decision-making process of a state entity) before a public benefit corporation such as ESD by a person (also broadly defined) for the purposes of procuring a state contract for real property (as contemplated in this RFP) must be reported by ESD to a database maintained by the State Office of General Services that is available to members of the public. If in doubt as to the applicability of Project Sunlight, Respondents and their advisors should consult the Laws of 2011, Ch. 399 for guidance.

We have used no substitutions except as listed in the Substitution Sheet.

BID FORM

Bidder: _____

Signature: **Corporate Seal**

Firm: _____

By: _____
(Signature)

Title: _____

Date: _____

BID FORM

Bidder: _____

Attachment # 1 **Non-Collusive Bidding Certification:**

No bid will be accepted that does not have this form completely executed.

1. 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 their 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 any competitor;

   (b) 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 competitor; and

   (c) 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.

   (d) If the bidder is a corporation, this certificate is and shall be deemed to have been authorized by the board of directors of the bidder, and such authorization is and shall be deemed to include the signing and submission of the bid and the inclusion therein of this certificate of non-collusion as the act and deed of the corporation.

   (e) The attached hereto (if a corporate bidder) is a certified copy of a resolution authorizing the execution of this certification by the signature of this bid or proposal on behalf of the corporate bidder.

2. Pursuant to 103-d, General Municipal Law, a bid shall not be considered for award nor shall any award be made where the above Non-Collusive Certificate, Paragraphs 1, (a), (b), and (c) have not been complied with, unless explained, justified, and legally excused in accordance with said law.

_____

(Individual)

_____

(Corporation)

_____

Dated (Signature of Officer)

<u>This Non-Collusive Bidding Certificate must be submitted with the bid.</u>

BID FORM

Bidder: _____

Attachment #2 **Certified Corporate Resolution:**

RESOLVED THAT _____be authorized to sign and submit the bid or proposal of this corporation for the following project:

_____

(PROJECT NAME)

and to include in such bid the Non-Collusion Bidding Certification required by section one hundred three-d (l03-d) of the General Municipal Law as to the act and deed of such corporation, and for any inaccuracies or misstatements in such certificate this corporate bidder shall be liable under the penalties of perjury.

The foregoing is a true and correct copy of the resolution and adopted by

_____at a meeting of its board of directors held on

the _____day of _____, 200___.

_____

(Secretary)

This Certified Corporate Resolution must be submitted with the bid.

BID FORM

Bidder: _____

Attachment # 3 **Affirmative Action Agreement:**

Firm Name: _____

Business Address: _____

Telephone No. _____

CONTRACTOR REQUIREMENTS AND PROCEDURES FOR BUSINESS PARTICIPATION OPPORTUNITIES FOR NEWYORK STATE CERTIFIED MINORITY AND WOMEN OWNED BUSINESS ENTERPRISES AND EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITY GROUP MEMBERS AND WOMEN

NEW YORK STATE LAW

Pursuant to New York State Executive Law Article 15-A, Empire State Development ("ESD") 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 ESD contracts.

In 2006, the State of New York commissioned a disparity study to evaluate whether minority and women-owned business enterprises had a full and fair opportunity to participate in state contracting. The findings of the study were published on April 29, 2010, under the title "The State of Minority and Women-Owned Business Enterprises: Evidence from New York" ("Disparity Study"). The report found evidence of statistically significant disparities between the level of participation of minority-and women-owned business enterprises in state procurement contracting versus the number of minority-and women-owned business enterprises that were ready, willing and able to participate in state procurements. As a result of these findings, the Disparity Study made recommendations concerning the implementation and operation of the statewide certified minority and women-owned business enterprises program. The recommendations from the Disparity Study culminated in the enactment and the implementation of New York State Executive Law Article 15-A, which requires, among other things, that ESD establishes goals for maximum feasible participation of New York State Certified minority and women-owned business enterprises ("MWBE") and the employment of minority groups members and women in the performance of New York State contracts.

Business Participation Opportunities for MWBEs

For purposes of this solicitation, ESD hereby establishes an overall goal of 25% for MWBE participation, 15% for Minority-Owned Business Enterprises ("MBE") and 10% for Women-Owned Business Enterprises ("WBE") (based on the current availability of qualified MBEs and WBEs). A contractor ("Contractor") on the subject contract ("Contract") must document good faith efforts to provide meaningful participation by MWBEs as subcontractors or suppliers in the performance of the Contract and Contractor agrees that ESD may withhold payment pending receipt of the required MWBE documentation. The directory of New York State Certified MWBEs can be viewed at:

http://ny.newnycontracts.com

For guidance on how ESD will determine a Contractor's "good faith efforts," refer to 5 NYCRR §142.8.

BID FORM

Bidder: _____

In accordance with 5 NYCRR §142.13, Contractor acknowledges that if it is found to have willfully and intentionally failed to comply with the MWBE participation goals set forth in the Contract, such finding constitutes a breach of Contract and ESD may withhold payment from the Contractor as liquidated damages.

Such liquidated damages shall be calculated as an amount equaling the difference between: (1) all sums identified for payment to MWBEs had the Contractor achieved the contractual MWBE goals; and (2) all sums actually paid to MWBEs for work performed or materials supplied under the Contract.

By submitting a bid or proposal, a bidder on the Contract ("Bidder") agrees to submit the following documents and information as evidence of compliance with the foregoing:

A. Bidders are required to submit a MWBE Utilization Plan on OCSD-3 with their bid or proposal. 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 ESD.

B. ESD will review the submitted MWBE Utilization Plan and advise the Bidder of ESD acceptance or issue a notice of deficiency within 30 days of receipt.

C. If a notice of deficiency is issued, Bidder agrees that it shall respond to the notice of deficiency within seven (7) business days of receipt by submitting to the OFFICE OF CONTRACTOR AND SUPPLIER DIVERSITY, EMPIRE STATE DEVELOPMENT CORPORATION, 633 THIRD AVENUE, 33rd FLOOR, NEW YORK, NY 10017, 212-803-3244 (ph), 212-803-3223 (fax), a written remedy in response to the notice of deficiency. If the written remedy that is submitted is not timely or is found by ESD to be inadequate, ESD shall notify the Bidder and direct the Bidder to submit, within five (5) business days, a request for a partial or total waiver of MWBE participation goals on OCSD-4. Failure to file the waiver form in a timely manner may be grounds for disqualification of the bid or proposal.

D. ESD may disqualify a Bidder as being non-responsive under the following circumstances:

   a) If a Bidder fails to submit a MWBE Utilization Plan;
   b) If a Bidder fails to submit a written remedy to a notice of deficiency;
   c) If a Bidder fails to submit a request for waiver; or
   d) If ESD determines that the Bidder has failed to document good faith efforts.

Contractors shall attempt to utilize, in good faith, any MBE or WBE identified within its MWBE Utilization Plan, during the performance of the Contract. Requests for a partial or total waiver of established goal requirements made subsequent to Contract Award may be made at any time during the term of the Contract to ESD, but must be made no later than prior to the submission of a request for final payment on the Contract.

Contractors are required to submit a Contractor's Quarterly M/WBE Contractor Compliance & Payment Report on Form E5 to the OFFICE OF CONTRACTOR AND SUPPLIER DIVERSITY, EMPIRE STATE DEVELOPMENT CORPORATION, 633 THIRD AVENUE, 33RD FLOOR, NEW YORK, NY 10017, 212-803-3244 (ph), 212-803-3223 (fax), by the 10th day following each end of quarter over the term of the Contract documenting the progress made toward achievement of the MWBE goals of the Contract.

BID FORM

Bidder: _____

Equal Employment Opportunity Requirements

By submission of a bid or proposal in response to this solicitation, the Bidder/Contractor agrees with all of the terms and conditions of Exhibit E incorporated into the Owner/Contract Agreement provided as part of the bid doucments regarding participation by minority group members and women with respect to state contracts. 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.

Bidder further agrees, where applicable, to submit with the bid a staffing plan (OCSD-2) identifying the anticipated work force to be utilized on the Contract and if awarded a Contract, will, upon request, submit to the ESD, a workforce utilization report identifying the workforce actually utilized on the Contract if known.

Further, pursuant to Article 15 of the Executive Law (the “Human Rights Law”), all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor and sub-contractors will 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.

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.

All MWBE forms can be found on ESD’s website at:
http://www.empire.state.ny.us/CorporateInformation/RFPs.html

Signature (Authorized): _____

Title: _____

Bidder: _____

Attachment #4 **Schedule A-1**

Can be found at:
http://www.esd.ny.gov/CorporateInformation/Data/RFPs/OCSD_3MWBEUtilizationPlan.pdf

BID FORM

Bidder: _____

Attachment # 5 Debarment Certificate B:

THIS FORM MUST BE COMPLETED BY ALL BIDDERS WHOSE TOTAL BID PRICE EXCEEDS $100,000 AND BY ALL SUBCONTRACTORS AT ANY TIER OF BIDDERS WHOSE SUBCONTRACTED WORK WILL EXCEED $100,000.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION-LOWER TIER COVERED TRANSACTIONS

Instructions for Certification:

1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

3. The prospective lower tier participant shall provide immediate written notice to the person to whom this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

4. The terms covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person primary covered transaction, principal, proposal, and voluntarily excluded, as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

5. The prospective lower tier participant agrees by submitting this proposal that should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

6. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible or voluntarily excluded from the covered transaction; unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals.

Bidder: _____

Each participant may, but is not required to, check the Non-procurement List.

8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITIY AND VOLUNTARY EXCLUSION-LOWER TIER COVERED TRANSACTIONS

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Signature: _____

Title: _____

BID FORM

Bidder: _____

Attachment #6

CERTIFICATION REGARDING LOBBYING

THIS CERTIFICATE MUST BE COMPLETED IF THE AMOUNT OF THIS AGREEMENT EXCEEDS $100,000.

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

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

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the Federal grant funding the work to be performed pursuant to this Agreement, the undersigned shall complete and submit Standard Form --- LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in all subcontracts at all tiers and that all subcontractors shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction, imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

CONTRACTOR

_____

Dated: _____

Title: _____

BID FORM

Bidder: _____

Attachment #7 **Substitution Sheet**

THE FOLLOWING MATERIALS, PRODUCTS OR EQUIPMENT ARE PROPOSED AS SUBSTITUTIONS FOR SPECIFIED ITEMS INDICATED. REQUIRED BACKUP DATA WILL BE SUBMITTED WITHIN 3 WORKING DAYS OF RECEIPT OF REQUEST FOR SAME. WE AGREE TO ABIDE BY THE ARCHITECT'S DECISION AS TO ACCEPTABILITY OF THE PROPOSED SUBSTITUTIONS.

1. Specification Section No.: _____

   Section Article or Paragraph No.: _____

   Specified Item: _____

   Proposed Substitution: _____

2. Specification Section No.: _____

   Section Article or Paragraph No.: _____

   Specified Item: _____

   Proposed Substitution: _____

3. Specification Section No.: _____

   Section Article or Paragraph No.: _____

   Specified Item: _____

   Proposed Substitution: _____

4. Specification Section No.: _____

   Section Article or Paragraph No.: _____

   Specified Item: _____

   Proposed Substitution: _____

ADD SHEETS AS NECESSARY

Bidder: _____

Attachment #8 **Buy American Certificates**

BUY AMERICA CERTIFICATE

This certificate must be completed in the event that the aggregate cost of the steel or manufactured products being procured for this Agreement is greater that $100,000.00.

If steel or manufactured products (as defined in 49 CFR 661.3 and 661.5) are being procured, the appropriate certificate as set forth below shall be completed and submitted by each bidder.

CERTIFICATE OF COMPLIANCE WITH SECTION 165(a)

The bidder hereby certifies that it will comply with the requirements of section 165(a) of the Surface Transportation Assistance Act of 1982, as amended, and the applicable regulations in 49 CFR part 661.

DATE _____

SIGNATURE _____

COMPANY NAME _____

TITLE _____

CERTIFICATE FOR NON-COMPLIANCE WITH SECTION 165(a)

The bidder hereby certifies that it cannot comply with the requirements of section 165(a) of the Surface Transportation Assistance Act of 1982, as amended, but it may qualify for and exception to the requirement pursuant to section 165 (b)(2) or (b)(4) of the Surface Transportation Assistance Act of 1982 and regulations in 49 CFR 661.7.

DATE _____

SIGNATURE _____

COMPANY NAME _____

TITLE _____

BID FORM

Bidder: _____

Attachment # 9 - Procurement and Tax Law Requirements - Executive Order 127 & State Finance Law Section 139 forms

a. Contractor Disclosure of Contacts Form

BID FORM

Bidder: _____

Governmental Entity Report of Contact
Under State Finance Law §139-k(4)

Background:

New York State Finance Law §139-k(4) obligates every Governmental Entity during the Restricted Period of a Procurement Contract to make a written record of any Contacts made. The term "Contact" is defined by statute and refers to those oral, written or electronic communications that a reasonable person would infer are attempts to influence the Governmental Procurement. In addition to obtaining the required identifying information, the Governmental Entity must inquire and record whether the person or organization that made the Contact was the Offerer or was retained, employed or designated on behalf of the Offerer to appear before or Contact the Governmental Entity.

It should be noted that State Finance Law §139-k(6) provides:

> any communications received by a governmental entity from members of the state legislature, or legislative staffs, when acting in their official capacity, shall not be considered to be a "contact" within the meaning of this section and shall not be recorded by a governmental entity pursuant to this section.

Instructions:

This model form is for use by the Governmental Entity and may be used for each Procurement Contract governed by State Finance Law §139-k. All recorded Contacts shall be included in the procurement record for the Procurement Contract. This model form was designed to collect information about initial and subsequent Contacts on the specified procurement contract during the Restricted Period. However, a separate form must be completed for each person or organization that Contacts the Governmental Entity about each Procurement Contract. Additional information and guidance on the "restricted period" and permissible Contacts can be found in the guidelines issued by the Advisory Council on Procurement Lobbying, which can be found on the OGS website at http://www.ogs.state.ny.us/aboutOgs/regulations/defauItAdvisoryCouncil.html.

It is recommended that Governmental Entities advise Offerers and those designated, employed or retained by Offerers of the intention to record the Contact. It is also recommended that information be provided regarding to Offerers and others about the statutory Restricted Period, Designated Contacts and the Permitted Contacts.

While the model form includes a section where the nature of the Contact may be recorded, such information is not statutorily required to be reported. Where such information is recorded, the Governmental Entity may in its discretion conform its collection with its other procurement practices.

BID FORM

Bidder: _____

Governmental Entity Record of Contact
Under State Finance Law §139-k(4)

Was the person making the Contact informed that the Contact would be documented?
[ ]Yes [ ]No

To: Procurement Record Regarding _____
_____

Procurement Contract Number _____

From: _____
(Name and title)

Name of Governmental Entity: _____

Date: _____

Subject: Record of Contact under State Finance Law §139-k(4)

I had Contact with the below named individual regarding the above identified procurement. The term "Contact" is defined in State Finance Law §139-k(1)(c). In accordance with State Finance Law §139-k(4), the following information was obtained.

Name: _____

Address: _____
_____

Telephone Number: _____

Place of Principal Employment: _____

Occupation: _____

Is the above named person or organization the "Offerer" in this governmental procurement?
(Please circle) yes no

If no, was the above named person or organization retained, employed or designated by the "Offerer" to:

- appear before the governmental entity about the governmental procurement?
(Please circle) yes no

- Contact the governmental entity about the governmental procurement?
(Please circle) yes no

BID FORM

Bidder: _____

List date(s) of Contact: _____

_____

_____

(add additional pages as necessary)

Optional
Summarize the form (e.g., email, letter, conversation) and topic of the communication on each date of Contact: _____

_____

_____

_____

_____

(add additional pages or copies of written communications as necessary)

Bidder: _____

Attachment # 9 - Procurement and Tax Law Requirements - Executive Order 127 & State Finance Law Section 139 forms

b. Offerer Disclosure of Prior Non-Responsibility Determinations

BID FORM

Bidder: _____

Offerer Disclosure of Prior Non-Responsibility Determinations

Background:

New York State Finance Law §139-k(2) obligates a Governmental Entity to obtain specific information regarding prior non-responsibility determinations with respect to State Finance Law §139-j. This information must be collected in addition to the information that is separately obtained pursuant to State Finance Law §163(9). In accordance with State Finance Law §139-k, an Offerer must be asked to disclose whether there has been a finding of non-responsibility made within the previous four (4) years by any Governmental Entity due to: (a) a violation of State Finance Law §139-j or (b) the intentional provision of false or incomplete information to a Governmental Entity. The terms "Offerer" and "Governmental Entity" are defined in State Finance Law § 139-k(I). State Finance Law §139-j sets forth detailed requirements about the restrictions on Contacts during the procurement process. A violation of State Finance Law §139-j includes, but is not limited to, an impermissible Contact during the restricted period (for example, contacting a person or entity other than the designated contact person, when such Contact does not fall within one of the exemptions). As part of its responsibility determination, State Finance Law §139-k(3) mandates consideration of whether an Offerer fails to timely disclose accurate or complete information regarding the above non-responsibility determination. In accordance with law, no Procurement Contract shall be awarded to any Offerer that fails to timely disclose accurate or complete information under this section, unless a finding is made that the award of the Procurement Contract to the Offerer is necessary to protect public property or public health safety, and that the Offerer is the only source capable of supplying the required Article of Procurement within the necessary timeframe. See State Finance Law §§ 139-j (1O)(b) and 139-k(3).

Instructions:

A Governmental Entity must include a disclosure request regarding prior non-responsibility determinations in accordance with State Finance Law §139-k in its solicitation of proposals or bid documents or specifications or contract documents, as applicable, for procurement contracts. The attached form is to be completed and submitted by the individual or entity seeking to enter into a Procurement Contract. It shall be submitted to the Governmental Entity conducting the Governmental Procurement.

As an alternative to this form, the Governmental Entity may elect to incorporate this disclosure question into its procurement questionnaire, such as the New York State

Standard Vendor Responsibility Questionnaire set out at
http://www.ogs.state.ny.us/procurecounc/pdfdoc/BestPractice.pdf

BID FORM

Bidder: _____

Offerer Disclosure of Prior Non-Responsibility Determinations

Name of Individual or Entity Seeking to Enter into the Procurement Contract:

_____

Address: _____

_____

Name and Title of Person Submitting this Form: _____

Contract Procurement Number: _____

Date: _____

1. Has any Governmental Entity made a finding of non-responsibility regarding the individual or entity seeking to enter into the Procurement Contract in the previous four years? (Please circle):

   No Yes

   If yes, please answer the next questions:

2. Was the basis for the finding of non-responsibility due to a violation of State Finance Law §139-j (Please circle):

   No Yes

3. Was the basis for the finding of non-responsibility due to the intentional provision of false or incomplete information to a Governmental Entity? (Please circle):

   No Yes

4. If you answered yes to any of the above questions, please provide details regarding the finding of non-responsibility below.

   Governmental Entity: _____

   Date of Finding of Non-responsibility: _____

   Basis of Finding of Non-Responsibility: _____

   _____

   _____

   _____

   _____

   _____

   (Add additional pages as necessary)

5. Has any Governmental Entity or other governmental agency terminated or withheld a Procurement Contract with the above-named individual or entity due to the intentional provision of false or incomplete information? (Please circle):

   No Yes

Bidder: _____

6. If yes, please provide details below.

   Governmental Entity: _____

   Date of Termination or Withholding of Contract: _____

   Basis of Termination or Withholding: _____
   _____
   _____
   _____
   _____
   _____
   (Add additional pages as necessary)

Offerer certifies that all information provided to the Governmental Entity with respect to State Finance Law §139-k is complete, true and accurate.

By: _____ Date: _____
Signature

Name: _____

Title: _____

Bidder: _____

Attachment # 9 - Procurement and Tax Law Requirements - Executive Order 127 & State Finance Law Section 139 forms

c. Offerer's Affirmation of Understanding of and Agreement

BID FORM

Bidder: _____

Offerer's Affirmation of Understanding of and Agreement pursuant to State Finance Law §139-j (3) and §139-j (6) (b)

Background:

State Finance Law §139-j(6)(b) provides that:

> Every Governmental Entity shall seek written affirmations from all Offerers as to the Offerer's understanding of and agreement to comply with the Governmental Entity's procedures relating to permissible contacts during a Governmental Procurement pursuant to subdivision three of this section.

Instructions:

A Governmental Entity must obtain the required affirmation of understanding and agreement to comply with procedures on procurement lobbying restrictions regarding permissible Contacts in the restricted period for a procurement contract in accordance with State Finance Law §§139-j and 139-k. It is recommended that this affirmation be obtained as early as possible in the procurement process, such as when the Offerer submits its proposal or bid. The following language can be used to obtain the affirmation.

Offerer affirms that it understands and agrees to comply with the procedures of the Government Entity relative to permissible Contacts as required by State Finance Law §139-j (3) and §139-j (6) (b).

By: _____ Date: _____

Name: _____

Title: _____

Contractor Name: _____

Contractor Address: _____

_____

_____

Bidder: _____

Attachment # 10 – Compliance with NYS Tax Law Section 5-a

Any contract resulting from this solicitation is also subject to the requirements of State Tax Law Section 5-a ("STL 5-a"). STL 5-a prohibits ESD from approving any such contract with any entity if that entity or any of its affiliates, subcontractors or affiliates of any subcontractor makes sales within New York State of tangible personal property or taxable services having a value over $300,000 and is not registered for sales and compensating use tax purposes. **To comply with STL 5-a, all respondents to this solicitation must include in their responses a properly completed Form ST-220-CA or an affidavit that the Respondent is not required to be registered with the State Department of Taxation and Finance. A copy of each form can be found in Appendix A.**

Also in accordance with the requirements of STL 5-a, any contract resulting from this solicitation will require periodic updating of the certifications contained in Form ST-220-CA. Solicitation responses that do not include a properly completed ST-220-CA will be considered incomplete and non-responsive and will not be considered for contract award. Only the prime consultant completes Form ST 220-CA, but Schedule A to Form ST 220-CA requires detailed information from the sub-consultants, such as tax ID number, etc., if applicable. Moreover, if applicable, certificates of authority must be attached by the prime consultant and all the sub-consultants.

BID FORM

Bidder: _____

Attachment # 11 – Compliance with Iran Divestment Act

Every bid or proposal made to ESD pursuant to a competitive solicitation must contain the following statement, signed by the bidder or respondent on company letterhead and affirmed as true under penalty of perjury:

> *"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 that each bidder is not on the list created pursuant to paragraph (b) of subdivision 3 of section 165-a of the state finance law."*

The list in question is maintained by the NYS Office of General Services. No bid that fails to certify compliance with this requirement may be accepted as responsive, unless the bidder includes a statement in compliance with the Iran Divestment Act.

BID FORM

Bidder: _____

Attachment # 12 – Vendor Responsibility

ESD encourages vendors to register in the State's Vendor Responsibility System (VendRep System). The VendRep System allows business entities to enter and maintain their Vendor Responsibility Questionnaire information in a secure, centralized database. New York State Procurement Law requires that state agencies award contracts only to responsible vendors. Vendors are invited to file the required Vendor Responsibility Questionnaire online via the New York State VendRep System or may choose to complete and submit a paper questionnaire. To enroll in and use the New York State VendRep System, see the VendRep System Instructions available at www.osc.state.ny.us/vendrep or go directly to the VendRep system online at https://portal.osc.state.ny.us. For direct VendRep System user assistance, the OSC Help Desk may be reached at 866-370-4672 or 518-408-4672 or by email at helpdesk@osc.state.ny.us.

Vendors opting to file a paper questionnaire can obtain the appropriate questionnaire from the VendRep website http://www.osc.state.ny.us/vendrep/forms_vendor.htm and execute accordingly pertaining to the company's trade industry.

Bidder: _____

Attachment # 13 - Encouraging Use of NYS Businesses Form

ENCOURAGING USE OF NEW YORK STATE BUSINESSES IN CONTRACT PERFORMANCE

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 ("NYS"), bidders/proposers for this ESD contract for commodities, services or technology are strongly encouraged and expected to consider NYS businesses in the fulfillment of the requirements of the contract. Such partnering may be as sub-contractors, suppliers, protégés or other supporting roles (herein collectively called "Subcontractors").

Bidders/proposers need to be aware that, if selected through this ESD solicitation, they will be strongly encouraged, to the maximum extent practical and consistent with legal requirements, to use responsible and responsive NYS Subcontractors in performing the contract, including without limitation: (i) purchasing commodities; and (ii) utilizing services and technology. Further, bidders/proposers 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 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 NYS business partners. NYS businesses will promote the contractor's optimal performance under the contract, thereby benefiting 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. The State therefore encourages bidders/proposers to provide maximum assistance to NYS businesses in their use of the contract. The potential participation by all kinds of NYS businesses will deliver great value to the State and its taxpayers.

Bidders/proposers can demonstrate their commitment to the use of NYS businesses by responding to the questions below (negative responses will not adversely affect contract selection):

(A) Do you anticipate the need for Subcontractors fulfilling the requirements of this ESD contract?
Yes ☐ No ☐

(B) Do you anticipate that NYS businesses will be used in the performance of this ESD contract as Subcontractors? Yes ☐ No ☐

<u>NOTE</u>: If the answer to question (B) is Yes, please identify NYS businesses that will be used and attach identifying information such as name, address, contact information, nature of business. Please also be prepared to provide ESD on a regular basis (at least quarterly) with the amounts paid to NY businesses.

BID FORM

Bidder: _____

Attachment # 14 – Statement of Bidder's Qualifications

PLEASE NOTE: All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

The Statement of Bidder's Qualification must be submitted along with all other required Bid Documents at the location and on the date and time called for in the Advertisement.

Bid Package:

1. Name of Bidder:_____ Phone No.:_____

2. Federal Tax Payer Identification No. _____

3. Permanent Main Office Address:

4. When Organized: _____

5. Check Type of Organization:

   Individual Proprietorship ____ Partnership ____ Corporation ____

6. If a corporation, where incorporated:

7. How many years have you been engaged in the contracting business as a construction contractor under your present firm or trade name? _____

8. a. Contracts on hand: (Schedule these, showing amount of each contract and the owner, the owner's phone number and the approximate anticipated dates of completion.)

   b. Contracts scheduled for next six months.

BID FORM

Bidder: _____

9. Financial Net Worth $ _____

10. Bonding Capacity $ _____

11. Credit Available: $ _____

12. Describe the general character of work performed by your company.

13. A New York State Department of Labor (NYSDOL) Asbestos Contractors License is required for this Project.
Provide your current NYSDOL Asbestos Contractors License as an attachment.
List any Notices of Violations -_____

14. Have you ever failed to complete any work awarded to you? _____

If so, where and why?

15. Have you ever defaulted on a contract? _____

If so, where and why?

16. List the more important contracts completed in the last three years by your company, stating the owner, owner's phone number, approximate cost for each, and month and year completed.

17. List your major equipment available for this contract. Indicate whether the equipment is owned or leased. List trucking resources, or trucking subcontractor.

BID FORM

Bidder: _____

18. Cite two (2) demolition projects performed by you or your teamed subcontractor, similar in kind and scope to this contract. Specifically, these projects must be performed in an urban setting.

19. List background and experience of the principal members of your organization including the officers. Provide resumes of President, Project Manager, and Site Superintendents (including asbestos abatement superintendent). The Project Manager and Superintendents cannot be removed without the written approval of ESD.

20. Give bank reference:

21. List all of the Parties of Interest in the Business Entity and the extent of their respective interest and, in the event any other parties have a beneficial interest, their names and the extent of such interest.

22. List landfills and/or disposal sites to be utilized for disposal of asbestos and construction wastes, along with universal and hazardous materials such as fluorescent lamps, ballasts, and mercury-filled switches, oils, petroleum-contaminated soils and thermostats.

23. Provide other Licenses for Contracting (if applicable).

Bidder: _____

24. Furnish Demolition Plan. Plan to include detailed schedule of events, equipment resources, and personnel assigned to this project including all labor sources. (To include Subcontractors).

BID FORM

Bidder: _____

The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by ESD in verification of the recitals comprising this Statement of Bidder's Qualifications.

Dated this _____ day of _____, 20 _____.

_____
Bidder

By _____

Title _____

State of _____)
)
) SS
)
County of _____)

_____ being duly sworn deposes and says that he is _____ of _____ and that the answers to the foregoing questions and all statements therein contained are true and correct.

Subscribed and sworn to before me this _____day of _____, 20 ____.

_____
Notary

My commission expires _____, 20 ____.

BID FORM

Bidder: _____

Attachment # 14 – Statement of Asbestos Abatement Contractor's (Subcontractor's) Qualifications

PLEASE NOTE: All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Contractor (Subcontractor) may submit any additional information he desires.

The Statement of Bidder's Qualification must be submitted along with all other required Bid Documents at the location and on the date and time called for in the Advertisement.

Bid Package:

1. Name of Contractor (Subcontractor): _____

   Phone No.: _____

2. Federal Tax Payer Identification No. _____

3. Permanent Main Office Address:

4. When Organized: _____

5. Check Type of Organization:

   Individual Proprietorship ____ Partnership ____ Corporation ____

6. If a corporation, where incorporated:

7. How many years have you been engaged in the contracting business as an asbestos abatement contractor under your present firm or trade name? _____

8. a. Contracts on hand: (Schedule these, showing amount of each contract and the owner, the owner's phone number and the approximate anticipated dates of completion.)

b. Contracts scheduled for next four months.

9. Financial Net Worth $ _____

10. Bonding Capacity $ _____

11. Credit Available: $ _____

12. Describe the general character of work performed by your company.

13. Have you ever failed to complete any work awarded to you? _____

    If so, where and why?

14. Have you ever defaulted or been fined on a contract? __

    If so, where and why?

Bidder: _____

15. List the more important contracts completed in the last three years by your company, stating the owner, owner's phone number, approximate cost for each, and month and year completed.

16. List your major equipment available for this contract (subcontract). Indicate whether the equipment is owned or leased.

17. List background and experience of the principal members of your organization including the officers. Provide resumes of President, Project Manager, and Superintendents (including asbestos abatement superintendent). The Project Manager and Superintendents cannot be removed without the written approval of ESD.

18. Give bank reference:

BID FORM

Bidder: _____

19. List all of the Parties of Interest in the Business Entity and the extent of their respective interest and, in the event any other parties have a beneficial interest, their names and the extent of such interest.

20. List landfills and/or disposal sites to be used for disposal of asbestos and construction wastes, fluorescent lamps, ballasts, and mercury-filled switches and thermostats.

21. Provide Licenses for Contracting (if applicable).

22. Provide Asbestos Abatement Contractor Licenses.

23. Furnish Hazardous Abatement Plan. Plan to include detailed schedule of events, equipment resources, and personnel assigned to this project including all labor sources. (To include Subcontractors).

24. Furnish (5) references with contact person and phone number.

BID FORM

Bidder: _____

The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by ESD in verification of the recitals comprising this Statement of Bidder's Qualifications.

Dated this _____ day of _____, 20 _____.

_____
Contractor (Subcontractor)

By _____

Title _____

State of _____)
)
) SS
)
County of _____)

_____ being duly sworn deposes and says that he is _____ of _____ and that the answers to the foregoing questions and all statements therein contained are true and correct.

Subscribed and sworn to before me this _____day of _____, 20 ____.

_____
Notary

My commission expires _____, 2 ___

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OWNER / CONTRACTOR AGREEMENT

BETWEEN

NEW YORK STATE URBAN DEVELOPMENT CORPORATION
D/B/A EMPIRE STATE DEVELOPMENT

AND

"CONTRACTOR"

FOR

EPISCOPAL CHURCH HOME INTERIOR ASBESTOS ABATEMENT

Dated: TBD

CONSTRUCTION AGREEMENT

ARTICLE 1 CONTRACT PRICE

ARTICLE 2 SCOPE OF WORK, MATERIALS AND LABOR

ARTICLE 3 COMMENCEMENT AND COMPLETION OF WORK AND OCCUPANCY

ARTICLE 4 METHOD, SCHEDULE AND TERMS OF PAYMENT

ARTICLE 5 CONTRACTOR

ARTICLE 6 CONTRACT ADMINISTRATION

ARTICLE 7 INSPECTION AND ACCEPTANCE

ARTICLE 8 CHANGES IN WORK

ARTICLE 9 SUBCONTRACTS AND PURCHASE ORDERS

ARTICLE 10 ASSIGNMENT

ARTICLE 11 MECHANICS' LIENS AND CLAIMS

ARTICLE 12 INSURANCE AND CONTRACT SECURITY

ARTICLE 13 DISPUTES

ARTICLE 14 TERMINATION

ARTICLE 15 INDEMNITY AND PROTECTION OF RIGHTS, PERSONS AND PROPERTY

ARTICLE 16 USE OR OCCUPANCY PRIOR TO ACCEPTANCE BY THE OWNER

ARTICLE 17 EXEMPTION FROM SALES AND COMPENSATING USE TAX

ARTICLE 18 WARRANTIES AND GUARANTEES

ARTICLE 19 PATENTS AND ROYALTIES

ARTICLE 20 AS-BUILT DRAWINGS

ARTICLE 21 SHOP DRAWINGS AND SAMPLES

ARTICLE 22 NOTICES

ARTICLE 23 NON-DISCRIMINATION AND AFFIRMATIVE ACTION

ARTICLE 24 RIGHTS OF ESD

ARTICLE 25 STANDARD PROVISIONS

Exhibit A-	**Performance Bond**
Exhibit B-	**Labor and Material Payment Bond**
Exhibit C-	**Contract Change Order Form**
Exhibit D-	**Certificate of Solvency**
Exhibit E-	**Schedule of Drawings and Specifications**
Exhibit F-	**Affirmative Action & Non-Discrimination**
Exhibit G-	**Monthly Employment Utilization Report**
Exhibit H-	**Table of Approved Authority and Facsimile Signatures**
Exhibit I-	**Prevailing Wage Rates**
Exhibit J-	**Request for Payment**
Exhibit K-	**Contractor's Receipt and Waiver of Lien**
Exhibit L-	**Subcontractor's Receipt and Waiver of Lien**
Exhibit M-	**Affidavit and Final Waiver of Claims and Liens and Release Rights**
Exhibit N-	**Contract Payment Breakdown**
Exhibit O-	**Approved List of Subcontractors**
Exhibit P-	**Bid Proposal**
Exhibit Q-	**Additional Insureds**
Exhibit R-	**Project Manual and Addenda(s)**
Exhibit S-	**Contractors Certification ST-220**
Exhibit T-	**W-9**
Drawings	

CONSTRUCTION AGREEMENT

This Agreement made this (date) of _____ 2014 between _____ ("Contractor") a corporation authorized to do business in the State of New York, having an office at _____ and the New York State Urban Development Corporation d/b/a Empire State Development ("ESD" of "Owner") a public benefit corporation and political subdivision of the State of New York, having an office at 633 Third Avenue, New York, NY 10017.

W I T N E S S E T H :

WHEREAS, the Owner and Contractor for the consideration named agree to perform under the terms and conditions set forth herein,

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth, Contractor and the Owner hereby agree as follows:

ARTICLE 1

CONTRACT PRICE

Contractor has been selected to provide construction services as denoted in the Drawings, Project Manuals and all other Contract Documents referenced herein (the "Episcopal Church Home Interior Asbestos Abatement") upon the terms and conditions hereinafter provided and agrees to perform all work and labor required, necessary, proper for or incidental to the work and to furnish all supplies and materials required, necessary, proper for or incidental to the work for the total not to exceed the sum of ___ _____ (the "Contract Price"), which sum shall be deemed to be in full consideration for the performance by Contractor of all the duties and obligations of Contractor under the Contract (the "Project").

ARTICLE 2

SCOPE OF WORK, MATERIALS AND LABOR

2.1 Owner's Representative

The Owner may designate a representative to act on its behalf with respect to certain obligations and duties under this agreement (the "Owner's Representative"). The Owner's Representative may be an employee of the Owner, or an independent consultant. The Owner may change the designation of the Owner's Representative, in its sole discretion, with written notice to the Contractor. The Owner's Representative shall be the only individual with authority to bind the Owner under the terms of this Agreement. More than one Owner's Representative may be designated by the Owner from time to time during the Project unless otherwise noted, the Owner's Representative shall be LiRo Engineers, Inc.

2.2 Architect

(a) For the purposes of this Agreement, the term "LiRo Engineers, Inc." shall deem to be the Architect/Engineer retained by the Owner to provide design or consulting services related to Contractor's Work as the Owner may designate from time to time.

2.3 Definition of Work

(a) All materials to be furnished and labor and work to be performed and completed by Contractor and all duties and obligations of Contractor as required in the Contract Documents are herein collectively referred to as the "Work". Contractor shall perform and complete for the Owner all Work required by and in conformity with the Contract Documents for this contract.

(b) Pursuant to section 220 (3-a) of the New York State Labor Law, each Contractor and Subcontractor shall maintain payroll records, subscribed and affirmed by him as true, showing the hours and days worked by each worker, laborer, or mechanic, the occupation at which he worked, the hourly wage rate paid and the supplements paid or provided for this Project. The Contractor shall submit such payroll records for himself and each of his Subcontractors, 30 days after the issuance of the first payroll and every 30 days thereafter until submission of the last payroll for this project, including weeks not worked. Failure to submit payroll records in the accordance with Section 220 (3-2) of the New York State Labor Law shall be sufficient condition to withhold progress payments, until compliance. The payroll records shall be submitted to the Owners Representative

2.4 Contract Documents

The "Contract Documents" shall consist of the following:

(a) This instrument (the "Agreement").

(b) Drawings and revisions, if any, as identified in Exhibit E (such Drawings and revisions, as the same may be revised from time to time, are herein referred to as the "Drawings").

(c) Project Manual and Addenda, if any, as identified in the project manual (such Specifications and Addenda, as the same may be amended from time to time, are herein referred to as the "Specifications").

(d) The Payment Bond and Performance Bond in Exhibit A and B.

(e) Notice to Bidders.

(f) Information to Bidders.

(g) Special Conditions

(h) Bid Form including alternates and unit prices accepted by the Owner as applicable.

(i) Change Orders adopted pursuant to this Agreement.

The Contract Documents form the contract between the Owner and Contractor. Reference in the Contract Documents to "the Contract", "the contract", "this contract", or "the Construction Contract" shall be deemed to include all of the Contract Documents. References to "this Agreement", "the Agreement", or "the agreement" shall refer to this instrument, which is one of the Contract Documents.

2.5 Intent of Contract Documents

(a) The intent of the Contract Documents is to include in the Work all labor and materials, insurance, tools, equipment, permits, licenses, taxes, approvals, transportation, surveys, testing, field engineering, and other professional services water, heat, utilities, transportation and other professional services (other than the services of the architect, engineers, attorneys and the inspection, survey and testing services of the Owner) whether temporary or permanent and whether or not incorporated or to be incorporated in the Work and any other items required to execute and complete the Work satisfactorily and in accordance with the Contract Documents.

Contractor shall perform and complete the Work in accordance with this intent and shall perform all work incidental thereto or as is usually performed in connection therewith, or as is reasonably inferable therefrom, it being the intention that all work usually performed by the trade covered by this Agreement and necessary to produce the intended result be performed by Contractor whether or not specifically covered by the Contract Documents.

(b) The Contract Documents are complementary and what is called for one shall be as binding as if called for by all.

(c) If any conflicts or ambiguities are found or between the Drawings and Specifications, or among any of the Contract Documents, they shall be brought to the attention of the Architect and the Owner's Representative immediately for resolution. The Contract Documents will be interpreted so as to secure in all cases the most substantial and complete performance of the Work as is most consistent with the needs and requirements of the Work such that the best quality or greatest quantity of labor or material is provided. *In the event of a conflict between any of the Contract Documents, the intent as interpreted by the Architect/Engineer, shall govern.*

(d) Addenda to parts of the Contract Documents are for the purpose of varying, modifying, rescinding or adding to portions of the Contract Documents. Where an addendum modifies a portion of a paragraph or a section, the remaining paragraphs, sections or portions thereof shall remain in force, unless otherwise stated in the addendum.

(e) Captions, headings, cover pages and table of contents contained in the Contract Documents are inserted only to facilitate reference and for convenience and in no way define, limit or describe the scope, intent or meaning of any provision of the Contract.

(f) Words and abbreviations which have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.

(g) A typical or representative detail indicated on the Drawings shall constitute the standard for workmanship and material throughout corresponding parts of the Work. Where necessary, and where reasonably inferable from the Drawings or Specifications, Contractor shall adapt such representative detail for application to such corresponding parts of the Work. The details of such adaption shall be subject to prior approval by Architect. Repetitive features shown in outline on the Drawings shall be in exact accordance with corresponding features completely shown.

(h) The layout of utilities, mechanical and electrical systems, equipment, fixtures, piping, ductwork, conduit, specialty items and accessories indicated on the Drawings is diagrammatic and is not complete. Contractor shall be responsible for locating all such items.

(i) (Intentionally Deleted)

2.6 <u>Completion of Drawings and Specifications</u>

Contractor acknowledges that there are items of Work which may not be drawn or specified with complete detail in the Drawings and Specifications but which are required for the completion of the Work. Any such item, when identified as part of the reasonable development of the Work, shall be drawn or specified by Architect in consultation with Contractor. When such drawing or specification is approved by the Owner, the Drawing or Specification so approved shall thereupon be part of the Contract Documents and the item of Work shall be performed by Contractor as part of the Work without further action or order of the Owner and without any increase in the Contract Price as if such Drawing and Specification were originally included in the Contract Documents.

2.7 Title to Materials – (INTENTIONALLY DELETED)

2.8 Contractor's Obligations

(a) Contractor shall in a good and workmanlike manner perform all the Work required by the Contract Documents in accordance with the highest standards on the construction industry on projects of similar complexity and direct the Work using its best skill and attention. Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures within the scope of Contractor's Work.

(b) Contractor shall be responsible for the safety, efficiency and adequacy of Contractor's plant, equipment, appliances and methods, and for damage which may result from failure or improper construction, maintenance or operation of such plant, equipment, appliances and methods. Contractor shall comply with all terms of the Contract Documents do, carry on and complete the entire Work under the direction of and to the satisfaction of the Owner.

(c) Contractor shall provide any engineering services, scaffolding, hoists, or any temporary structures, such as bracing and supports, light, heat, power, toilets, water or temporary connections which are required by this Agreement or necessary to perform the Work.

(d) Contractor shall deliver all materials at such times and in such quantities as will insure the speedy and uninterrupted progress of the Work. Contractor shall handle and take care of all materials used in performance of the Work whether furnished by Contractor of the Owner, as the same are delivered to the site and shall be solely responsible for the loss, damage, theft, security and condition of the same. After final completion and acceptance of the Work, or sooner if requested by the Owner, Contractor shall remove all surplus materials (excluding any attic stock required by the Contract Documents) and scaffolding furnished by it which have not been incorporated in the Work.

(e) Unless otherwise provided in the Contract Documents, Contractor shall secure and pay for all permits and governmental fees, licenses and inspections necessary for the proper execution and completion of the Work. Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the variance with any applicable laws in any respect. Contractor shall promptly notify the Owner, in writing, and any necessary changes shall be accomplished by appropriate modification. If Contractor performs any Work contrary to such laws, ordinances, rules and regulations, it shall assume full responsibility therefore and shall bear all costs attributable to correcting such deficiencies in the Work.

(f) Contractor shall be responsible for keeping the site neat and broom clean on a regular basis.

2.9 "Or Equal" Clause – (INTENTIONALLY DELETED)

2.10 Dust Hazards

If in the construction of the Work, a harmful dust hazard is created for which appliances or methods of elimination of harmful dust hazards have been approved by the Board of Standards and Appeals, Contractor shall install, maintain and operate said appliances or methods.

Cutting and Patching

Contractor shall be responsible for all cutting, fitting or patching that may be required to complete the Work, to make its several parts fit together properly and to make the Work fit together properly with previous and surrounding work. The requirement to cut, fit or patch shall be determined by the Owner; provided, that structural elements of the Project shall not be cut, patched or otherwise altered or repaired without prior authorization by Architect. Authorization to proceed with remedial operations on any damaged or defective element or portion of the Project shall not constitute a limitation or a waiver of the Owner's or Architect's right to require the removal and replacement of any Work which fails to fulfill the requirements of the Contract Documents.

2.11 Nomenclature

The terms Construct, Construction, Build, Work, etc. shall be construed to include all work shown on the plans. The terms Architect, Engineer, Project Architect, Corporation's Representative, the Owner, Corporation, the Owner's Representative, Construction Manager, and similar derivations exist within the Contract Documents and shall be construed to mean the Owner's Representative.

2.12 Construction Parking

Parking will be allowed on the Project site as approved by the Architect/Engineer.

2.13 Construction Traffic

Contractor shall submit a construction traffic plan to the Owner's Representative for approval. The plan must show routes that all construction traffic will follow to minimize any impacts on the adjacent community.

2.14 Hazardous Waste Disposal Transportation

Contractors shall, as part of its Work, in addition to complying with any and all applicable laws, rules or regulations concerning the removal, abatement, handling, transportation and disposal of all hazardous waste (as that term is most broadly defined under local, state or federal laws) encountered in the performance of its Work, be responsible to pay all fees, taxes, levies or assessments; obtain and execute all permits, licenses, manifests, logs, reports, certifications or other documents necessary to effectuate the lawful removal and disposal of such hazardous waste; and obtain an identification number from the United States Environmental Protection Agency or any other necessary identifying information, all in a timely manner to permit the timely performance of the work. The obligations of Contractor under this Section shall be performed as part of the Contract Price without any additional compensation from the Owner. Contractor shall be aware of the presence of contaminated materials and should refer to the Technical Specifications of the Project Manual for procedures.

ARTICLE 3

COMMENCEMENT AND COMPLETION OF WORK AND OCCUPANCY

3.1 Start of Work and Completion

(a) Contractor shall commence the Work upon receipt of a written notice to proceed signed by the Owner. Contractor shall thereafter prosecute the Work to be performed hereunder diligently, without interruption, and in accordance with the time requirements of the Project as determined and directed by the Owner.

(b) Contractor shall Substantially Complete, as defined by Section 7.6, all of the Work in accordance with the Contract Documents to the satisfaction of Architect and the Owner on or before August 15, 2015:

Failure to complete work by time specified date of substantial completion shall subject Contractor to payment of Liquidated Damages as set forth below. Contractor hereby acknowledges that the time for the performance of its Work is of the essence. Contractor acknowledges that any failure by it to timely complete the performance of its Work under this Contract will cause significant consequential damages to be incurred by the Owner. The Completion Date shall not be extended except by Change Order issued and signed by the Owner in accordance with this Agreement. Liquidated Damages will be charged for unexcused delay of Work beyond the date of completion and/or substantial completion. As actual damages for any delay in completion of the work which the Contractor is required to perform under this Contract are impossible to determine, the Contractor shall be liable for and shall pay to the Owner the sum of Five Thousand Dollars ($ 5,000.00) as fixed, agreed and Liquidated Damages for each calendar day of delay from the date stipulated for completion or substantial completion of the Work.

The proposed phasing of the project as described below is shown on the Contract Plans. Individual deadlines for specific buildings and structures shall be incorporated into the Contractor's project schedule and met in accordance with Article 3, Section 3.2 (Project Scheduling) of the Construction Agreement.

Base Bid

Phase I - Abatement of All Asbestos From the Interior of Structures: Robinson Addition (Buildings 2 and 2A); Thornton Building (Building 3A); Russell Building (Building 3B); Robinson Building (Building 4); and Hutchinson Chapel (Building 5) and Tunnel
Work includes: abatement of all asbestos and removal all hazardous materials from inside each structure until clearance by the Project Monitor for the structure interior is achieved. Abatement of exterior roof materials and flashing are not included in the base bid. All Phase I work for Robinson Addition (Buildings 2 and 2A) and Robinson Building (Building 4) shall be completed no later than 135 calendar days from written notice to proceed. Phase I shall be completed in its entirety no later than 180 calendar days from written notice to proceed.

Alternate No. 1

Phase II - Completely Abate and Demolish: Canterbury Building and Maintenance Building
Work includes: Complete abatement of all asbestos and universal/hazardous materials and demolition of the Canterbury Building (Building 1) and Maintenance Building (Building 6). Alternate No. 1 work shall also include furnishing and installing temporary fencing, terminating utilities, protecting designated utilities, and backfilling to defined grades.

If exercised, notice to proceed for Alternate No. 1 is anticipated to be issued within 30 days of the notice to proceed for the base bid work. Work for Alternate No. 1 shall proceed in accordance with the base bid schedule and the additional constraints presented below. If the notice to proceed for Alternate No. 1 is issued greater than 30 calendar days following the notice to proceed for the base bid work, then the completion dates for work elements applicable only to Alternate No. 1 shall be negotiated. Phase II shall be completed in its entirety no later than 180 calendar days from notice to proceed.

Alternate No. 2

Phase III - Repair Drainage Structures, Install Temporary Fencing, Terminate Utilities, and Complete Remaining Asbestos Abatement of Robinson Addition, Thornton Building, Russell Building; Robinson Building, and Tunnel
Work includes: Item 1) Repair drainage structures near Massachusetts and Columbus Avenues and install temporary construction fencing; Item 2) Terminate Utilities; and Item 3) Abate all asbestos on the exterior of each structure including but not limited to concealed or encapsulated asbestos not abated in Phase I, exterior roof materials and flashing.

Phase IV - Completely Demolish Robinson Addition, Thornton Building, Russell Building; Robinson Building, and Tunnel
Work Includes complete demolition of each structure. Completion of demolition shall also include completion of backfill and compaction to grade at each building. This phase also includes demolition of the tunnel between the Thornton Building (Building 3A) and Hutchinson Chapel (Building 5).

Phase V -Stabilization of Hutchinson Chapel (Building 5)
Work includes provision of weather tight protection of windows and openings and installation of a new basement entrance.

Phase VI – Site Final Grading and Preparation
Work includes: Completion of final utility modifications, grubbing, grading with gravel and soil cover, constructing a landscaped berm, replacing sidewalk sections, and installing permanent fencing.

If exercised, notice to proceed for Alternate No. 2 is anticipated to be issued within 90 days of the notice to proceed for the base bid work. Work for Alternate No. 1 shall proceed in accordance with the base bid schedule and the additional constraints presented below. If the notice to proceed for Alternate No. 2 is issued greater than 90 calendar days following the notice to proceed for the base bid work, then the completion dates for work elements applicable only to Alternate No. 2 shall be negotiated. Phase IV shall be completed in its entirety no later than 300 calendar days from notice to proceed. Phase V shall be completed no later than 330 calendar days from notice to proceed.

3.2 Project Scheduling

(a) Contractor shall prepare a schedule showing times for performance of all major activities of the Work (the “Project Schedule”) within seven (7) days of commencing the Work for review and approval by the Owner. Contractor shall attend all scheduled meetings as directed by the Owner or the Owner’s Representative and update the Project Schedule at intervals required by the Owner.

(b) If, in the opinion of the Owner, Contractor falls behind the Project Schedule, Contractor shall take all steps that are necessary to improve its progress and shall, if requested by the Owner, submit operational plans in a CPM schedule format demonstrating how the lost time may be regained subject to the Owner’s approval. Contractor is responsible to maintain its schedule so as not to delay the progress of the Project or the schedules of other contractors. If Contractor delays the progress of its Work or the work of other contractors, it shall be the responsibility of Contractor to increase the number of tradesmen, the number of shifts, the days of work and to the extent permitted by law, to institute or increase overtime operations, all without additional costs to the Owner in order to regain lost time and maintain the Project Schedule then in effect as approved by the Owner. All expenses incurred by the Owner attributable to Contractor’s efforts to regain lost time shall be the responsibility of Contractor.

(c) Refer to the Special Conditions and Division 1 – General Requirements for additional requirements.

3.3 Cooperation with other Contractors

(a) During the progress of the Work, other contractors may be engaged in performing work for the Owner. Contractor shall cooperate and coordinate its Work with the work of said other contractors, as applicable, and in such manner as the Owner may direct.

(b) If the Owner shall determine that Contractor is failing to coordinate the Work with the work of other contractors:

1. The Owner shall have the right to withhold any payments due under the Contract until its directives are complied with by Contractor; and

2. Contractor shall indemnify and hold the Owner harmless from any and all claims or judgments for damages and from any costs or damages to which the Owner may be subjected or which the Owner may suffer or incur by reason of Contractor's failure to coordinate its Work with that of other contractors.

(c) If Contractor notifies the Owner in writing that another contractor on the site is failing to coordinate the work of said contractor with Contractor's Work, the Owner shall investigate the charge. If the Owner finds it to be true, the Owner shall promptly issue such directions to the other contractor with respect thereto as the situation may require. The Owner shall not be liable for any damages suffered by Contractor by reason of the other contractor's failure to promptly comply with the directions so issued by the Owner or by reason of another contractor's default in coordinating its work with that of Contractor.

(d) Should Contractor sustain any damage through any act or omission of any other contractor having a contract with the Owner or through any act or omission of any subcontractor of said other contractor, Contractor shall have no claim against the Owner for said damage.

(e) Should any other contractor having, or who shall have, a contract with the Owner, sustain damage through any act or omission of Contractor or through any act or omission of a subcontractor, Contractor shall reimburse said other contractor for all said damages and shall indemnify and hold the Owner harmless from all said claims.

(f) The Owner does not guarantee the performance of any contractor. Contractor acknowledges these conditions and agrees to bear the risk of all delays including, but not limited to, delays caused by the presence of operations of other contractors and the Owner shall not incur any liability by reason of any delay to Contractor's Work by reason of the performance of work or defaults by other contractors.

(g) Where the Contractor shall perform Work in close proximity to work of other contractors, the Contractor shall assist in arranging space conditions to make satisfactory adjustment for the performance of any work in such areas. If the Contractor's Work interferes with work of other contractors, the Contractor shall make changes necessary to correct such conditions.

3.4 Notice of Delay

In addition to any information required elsewhere in this Agreement and without limiting any other provision of this Agreement including Contractor's obligation to Substantially Complete the Work by the Completion Date, should Contractor be, or anticipate being delayed or disrupted in

performing the Work hereunder for any reason, including without limitation, its financial condition or Contractor's general non-payment of its debts as such debts become due, it shall within three (3) days after the commencement of any condition which is causing or is threatening to cause such delay or disruption, notify the Owner in writing of the effect of such condition upon the Completion Date. Contractor shall state why and in what respects the condition is causing or is threatening to cause delay, identify specific contract milestones that will be affected and provide as estimate of the duration of the delay. Failure to strictly comply with this notice requirement shall be sufficient cause to deny Contractor's change in the Project Schedule and/or Completion Date. Nothing in this section or Contractor's compliance with its terms should be deemed to obligate the Owner to grant a change in the Project Schedule or the Completion Date or to restrict the Owner's right to recover damages for delay.

3.5 Extension of Time

Contractor may be entitled to an extension of time for delays in the performance of the Work caused solely by the acts or omissions of Architect or the Owner, or unforeseeable causes beyond the control and without the fault or contributing negligence of Contractor including, but not limited to, acts of God, acts of the public enemy, unforeseen or unforeseeable acts of any Government body, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes or unusually severe weather; provided Contractor shall have used its best efforts and diligently sought to have minimized any such period of delay, by taking whatever measures are necessary, including with limitation, if applicable, seeking alternate sources of materials, other subcontractors or other facilities in which to perform the required construction operations; and provided, further, that notice is given to the Owner pursuant to the requirements of the immediately preceding paragraph.

3.6 No Claim for Delay Damages

Contractor agrees to make no claim for damages for delay in the performance of this Contract occasioned by any act or omission to act, including active interference, of the Owner or any of its agents, other contractors, or representatives and agrees that any such claim shall be fully compensated for by an extension of time to complete performance of such Work that is delayed in accordance with the provisions for obtaining an extension of time specified herein. Contractor alone hereby specifically assumes the risk of all delays, obstructions, or interferences of any kind or duration whatsoever, whether or not within the contemplation of the parties, and whether or not foreseeable or unforeseeable and agrees that its sole remedy is an extension of time where applicable.

ARTICLE 4

METHOD, SCHEDULE AND TERMS OF PAYMENT

4.1 Contract Payment Breakdown and Requisition

(a) Contractor's applications for partial payments ("Requisitions") and its application for final payment ("Final Requisition") are to be submitted to the Owner, or its designee, and Architect in (6) copies in the manner hereinafter provided (see Exhibit J). Each Requisition must be supported by such data substantiating Contractor's right to payment as the Owner may require.

(b) Prior to the submission of the first Requisition, Contractor shall present to the Owner for approval a contract payment breakdown (the "Contract Payment Breakdown") (See Exhibit N) itemizing the dollar values for the various trades which comprise the Work, including quantities where applicable, which in the aggregate equal the Contract Price. The Contract Payment Breakdown shall be prepared in such form as included in the Contract Documents and supported by such data to substantiate its correctness as the

Owner may require. It is understood and Contractor acknowledges that the model contract payment breakdown is included with the Contract Documents as an administrative tool for the purpose of illustrating a format and minimum level of detail required for the Contract Payment Breakdown shall not be changed or revised in any way without the Owner's written consent and shall become part of this Agreement.

(c) On any Requisition, Contractor shall be entitled to partial payment on account of the Contract Price in an amount equal to the value of the portions of the Work completed and acceptable to the Owner and approved by the Owner's Representative based upon the percentage of completion of each item specified on the Contract Payment Breakdown, less Retainage specified under Section 4.5 on the total amount so computed, and less any additional withholdings deemed necessary by the Owner pursuant to Section 4.8 hereof, less the total amount of prior partial payments.

4.2 Receipts and Releases of Liens

With each Requisition, Contractor shall furnish the following documents:

(a) Contractor's Receipt and Waiver of Lien (See Exhibit K)

(b) Subcontractor's Receipt and Waiver of Lien (See Exhibit L)

(c) Any other documentation required elsewhere in the Specifications

The Owner may also require Contractor to attach to each Requisition the consent of the surety issuing the Payment and Performance Bonds to such payment.

In addition to the documents required to be furnished by the immediately preceding paragraph, with the Final Requisition, Contractor shall furnish:

(a) Affidavit and Final Waiver of Claims and Liens and Release Rights (See Exhibit M); and

(b) Releases from all subcontractors and materialmen who provided labor or materials for the Project.

Should any such subcontractor or materialmen fail or refuse to furnish such release, Contractor will be required to furnish a bond satisfactory to the Owner to indemnify it against any such lien, claim or demand. If any such lien, claim or demand is asserted or remains unsatisfied after Final Payment is made to the Contractor, Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such lien, claim or demand including all costs, expenses and attorney's fees which the Owner may incur in connection therewith.

4.3 Release and Consent of Surety

Notwithstanding any other provision of the Agreement to the contrary, Final Payment shall not become due pursuant to this Agreement until Contractor submits to the Owner a General Release and a consent of Surety to said payment both in form and content acceptable to the Owner.

4.4 Time of Payment

Requisitions shall be submitted by Contractor to the Owner by the thirtieth day of each month for Work completed up to the last day of the previous month, and if such Requisition is properly supported, payment shall be made within thirty (30) days after approval of the Requisition by the Owner. All requisitions shall be subject to the approval of the Owner's Representative and Owner. Contractor shall submit to and review with the Owner a draft copy of each Requisition on or around the twenty fifth of the month. Contractor shall only be entitled to payment in the amount approved by the Owner with respect to such Requisition. Each Requisition must be signed by the

Owner before payment is due to Contractor. The value of any Work included in a Requisition for partial payment which is found unacceptable by the Owner shall be deducted from that or any subsequent Requisition.

4.5 Retainage

The Owner shall retain five (5%) percent of the portion of the Contract Price covered by each Requisition submitted by Contractor (the "Retainage"). The Owner has the right to increase the amount of retainage held if any breach of the Contract is deemed by the Owner to remain uncorrected after notice of such breach has been provided to Contractor.

Reduction of Retainage

(a) Upon Substantial Completion, the Retainage shall be reduced to two and one-half (2 1/2%) percent of the Contract Price until any remaining items of Work to be completed or corrected on the Final Punch-List, as defined in Section 7.6; and

(b) An amount necessary to satisfy any and all claims, liens or judgments against Contractor.

The Final Punch-List may be expanded to include additional items of Work to be corrected or completed until final acceptance of the Work by the Owner. Additional sums may be withheld in the manner prescribed above to cover the value of these items pursuant to this Section.

4.6 Final Payment

(a) The final balance due Contractor under this Agreement shall be payable to Contractor by the Owner, as final payment hereunder, within thirty (30) days after all of the following have taken place:

1. Final inspection and acceptance by the Owner as evidenced by the Certificate of Completion being delivered to Contractor.

2. Contractor's Final Requisition has been submitted by Contractor and approved by the Owner and Architect.

3. The affidavit attached as Exhibit M hereof has been submitted by Contractor, and any other documents or actions expressly specified in the Contract Documents as preconditions to Final Payment have been submitted or completed.

4. Any inspection or approvals with respect to any of the Work that the Owner deems appropriate or which is required by governmental authorities or by the applicable Board of Fire Underwriters, have been performed or obtained.

(b) Contractor's acceptance of Final Payment will constitute full and final settlement of all obligations of the Owner to Contractor with respect to payments required by this Agreement.

4.7 Withholding of Payments

(a) The Owner may withhold from Contractor any part of any payment as may, in the judgment of the Owner, be necessary:

1. To assure payment of just claims of any persons supplying labor or materials for the Work;

2. To protect the Owner from loss due to defective Work and unsatisfactory work not remedied;

3. To protect the Owner and its representatives from loss due to death or injury to persons or damage to the Work or property of other contractors, subcontractors or others caused by the act or neglect of Contractor or any subcontractors;

4. In the event that there is reasonable evidence that the Work will not be completed for the unpaid balance of the Contract Price;

5. In the event that there is reasonable evidence that the Work will not be completed within the Project Schedule; or

6. In the event that Contractor persistently fails to perform the Work in accordance with the Contract Documents.

In any of such events, the Owner shall have the right to apply any such amounts so withheld in such manner as the Owner may deem proper to satisfy such claims, to secure such protection, complete the Work or to compensate the Owner for any loss suffered by reason on Contractor's delay. Such application shall be deemed payment for the account of Contractor. In the event that the Owner gives Contractor notice that it intends to make such application, Contractor shall be stopped from disputing liability or the amount of liability unless, within three days after receipt of such notice, it indicates to the Owner in writing that it is not liable or that the amount of its liability is different from that set forth in the notice.

(b) The provision of this Section 4.8 is solely for the benefit of the Owner, and any action or non-action by the Owner shall not give rise to any liability on the part of the Owner.

4.8 Right to Audit

Contractor shall maintain and shall keep for a period of at least three years after the date of final acceptance of the Work all records and other data relating to the Work.

The Owner or its designees shall have the right to inspect and audit all records, subcontracts, purchase orders and other data of Contractor relating to the Work at any time and from time to time until the end of such three (3) year period. Contractor shall promptly respond to any inquires of the Owner or any representative of the Owner arising out of any such inspection or audit. If an audit reveals an overpayment by the Owner exceeding two (2%) percent, Contractor shall be responsible to pay the costs associated with the audit incurred by the Owner. Any overpayment to Contractor shall immediately be returned to the Owner.

ARTICLE 5

CONTRACTOR

5.1 Superintendence by Contractor

(a) Contractor shall employ a full-time competent construction superintendent who shall be approved by the Owner and shall be in charge of the Work. The construction superintendent shall be devoted full time to the Work, shall be present at the Site during the time the Work is required to be performed and shall have full authority to accept instructions, make decisions and act for Contractor at all times. Contractor shall submit to the Owner for approval the resume of his proposed superintendent.

(b) If at any time the superintendent is not satisfactory to the Owner, Contractor shall, if requested by the Owner, replace the superintendent with another satisfactory to the Owner within five (5) business days of such request.

(c) Contractor shall not remove or replace the superintendent or person-in-charge of the Work without the consent of the Owner unless he or she is discharged by Contractor or resigns from the employ of Contractor.

5.2 Representations of Contractor

Contractor represents and warrants that:

(a) Contractor is financially solvent and is experienced in, and competent to perform the Work;

(b) Contractor is familiar with all Federal, State, City or other laws, ordinances, orders, rules and regulations, which may in any way affect the Work;

(c) Any temporary and permanent Work required by this Agreement can be satisfactorily constructed and such construction will not injure any person or damage any property extraneous to the Work; and

(d) Contractor has carefully examined the Contract Documents and the site and, from Contractor's own investigations, is satisfied as to the nature and location of the Work, the character, quality and quantity of surface and subsurface materials likely to be encountered, the character of equipment and other facilities needed for the performance of the Work, the general and local conditions, and all other conditions or items which may affect the Work. Based on the foregoing, Contractor represents that the Contract Documents are adequate for the complete performance of the Work.

5.3 Verifying Dimensions and Site Conditions

(a) Before proceeding with the Work, Contractor will accurately check all previous and surrounding work and determine the correctness of same.

(b) Contractor shall take, determine, investigate and verify all field measurements, dimensions, field construction criteria and site conditions for the performance of the Work and shall check and coordinate the information contained in the Contract Documents.

(c) Contractor shall be responsible for determining the exact location of and to verify the spatial relationships of all Work. If any conflicts are found in the Contract Documents, or if Contractor has any questions concerning the foregoing, it shall immediately notify the Owner and shall thereafter perform the Work in accordance with directions from the Owner.

(d) Contractor shall be responsible for locating all utilities on or below the site.

5.4 Site or Subsurface Conditions Found Different

(a) The Contractor acknowledges that the Contract amount includes such provisions which the Contractor deems proper for all subsurface or site conditions the Contractor could reasonably anticipate encountering as indicated in the Contract Documents, or borings reports, rock cores, foundation investigation reports, archeological reports, topographical maps or other information available to the Contractor or from the Contractor's inspection and examination of the Site prior to submission of bids.

(b) The Owner assumes no responsibility for the correctness of any boring or other subsurface information and makes no representation whatsoever regarding subsurface conditions and test borings, reports, rock cores, foundation or archeological investigation

and topographical maps which may be made available to the contractor.

(c) Should the Contractor encounter subsurface site conditions at the Site materially differing from those shown on or described in or indicated in the Contract Documents, the Contractor shall immediately give notice to the Owner and the Owner's representative of such conditions and shall not disturb said conditions until authorized to do so by the" Owner or the Owner's Representative.

5.5 Copies of Contract Documents for Contractor

The Owner shall furnish to Contractor, without charge, four (4) sets of the Contract Documents. Any sets in excess of the number mentioned above may be furnished to Contractor for the cost of reproduction and mailing.

5.6 Progress Meetings

(a) Job meetings shall be coordinated and scheduled by the Owner during the course of construction as per specification 01310 – Project Management and Coordination.

(b) Contractor's Project Managers and Superintendents shall attend all meetings as directed by the Owner.

(c) Contractor shall require the appropriate subcontractors to attend such job meetings.

(d) The purpose of the job meeting is to ensure proper coordination, determine construction progress, monitor and update progress schedules, review requisitions and change orders, expedite completion of the Project in accordance with the Contract Documents and review other relevant items.

5.7 Reports and Access

(a) Contractor shall furnish daily manpower reports to the Owner and such other reports as may be required.

(b) (Intentionally Deleted)

(c) The Owner will monitor compliance with the Non-Discrimination, Affirmative Action, Minority Business Enterprise and Minority Workforce Participation Sections of this Agreement. (See Exhibit F)

5.8 Financial Information

Contractor agrees to furnish at the Owner's request, current quarterly and, if available, audited annual financial statements and from time to time, such additional information as the Owner shall deem necessary or desirable to satisfy itself of Contractor's continuing ability to complete the Work.

ARTICLE 6

CONTRACT ADMINISTRATION

6.1 Architect's, and the Owner's Representatives Responsibilities and Functions

(a) Contractor acknowledges that the Owner's Representative, on behalf of the Owner, has immediate responsibility for general administration of the Contract, shall observe the Work for conformity with requirements of the Contract, shall review Contractor's performance of or compliance with other requirements on the Contract and shall issue directives to Contractor in regard to such matters. The Owner's Representative will not be responsible for Contractor's or subcontractor's construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, and the Owner's Representative will not be responsible for Contractor's failure to carry out the Work in accordance with the Contract Documents or its failure to fulfill any requirements of the Contract.

(b) Contractor acknowledges that Architect, on behalf of the Owner, shall review all Shop Drawings and samples and other submittals and shall observe the general quality of construction for reasonable conformance with the design scheme of Architect and adherence to the Contract Documents, and may review Contractor's performance for compliance with the requirements of this Agreement.

(c) Architect's and the Owner's Representative's duties and services shall not in no way supercede or dilute Contractor's obligation to perform and complete the Work in full conformity with the Contract Documents.

ARTICLE 7

INSPECTION AND ACCEPTANCE

7.1 Access to the Work

The Owner, the Owner's Representative, the Construction Manager, Architect/Engineer or any of their authorized agents shall at all times have access to and the right to observe the Work. Contractor shall provide proper facilities for such access and observation, including adequate workspace on site for any designated Owner Representative.

7.2 Required Inspections and Tests

If the Contract Documents, or any laws, rules, ordinances, regulations or any governmental agency requirement, require that any Work be inspected or tested, Contractor shall give the Owner timely notice of readiness of the Work for inspection or testing and the date fixed for such inspection or testing. The responsibility for the cost of inspection and testing shall be in accordance with the provisions of the Specifications and or Project Manual.

7.3 Special Inspections and Tests

Whenever, in the opinion of the Owner or the Owner's Representative, it is desirable to require special inspection or testing of the Work or its individual components, they shall have authority to do so whether or not such Work be then fabricated, installed, covered or completed. If such special inspection or testing reveals a failure of the Work to comply (1) with the requirements of the Contract Documents, or (2) with laws, ordinances, rules, regulations or any order of any public authority having jurisdiction over the Project, Contractor shall bear all costs for the inspection of testing thereof, including Architect's and the Owner's additional services made necessary by such failure and the costs to correct the deficiencies noted; otherwise the Owner shall bear such inspection or testing costs, and an appropriate change order shall be issued.

7.4 Uncovering of Work

(a) If any Work shall be covered or concealed contrary to the request of the Owner, such Work shall, if required by the Owner, be uncovered for examination, inspection or testing. Any examination, testing or inspection shall not relieve Contractor of the responsibility to maintain quality control over the Work. The cost of all such testing including examination, inspection and additional professional services required, and any other expenses incurred by the Owner as a result of such examination, inspection or testing shall be borne by Contractor.

(b) In the event that a typical detail fails inspection or testing, the Owner may require inspection or testing of any or all other such typical details at Contractor's cost and expense.

7.5 Correction of Work

Any Work not approved by the Owner, shall immediately be reconstructed, made good, replaced or corrected by Contractor including all Work of other Contractors destroyed or damaged by such removal or replacement. Rejected material shall be removed immediately from the site. Acceptance of material and workmanship by the Owner shall not relieve Contractor from Contractor's obligation to replace all Work which is not in full compliance with the Contract Documents.

7.6 Certificate of Substantial Work Completion

"Substantial Completion" shall occur when all of the following conditions have been satisfied:

(a) All of the Work has been completed in accordance with the Contract Documents and to the Owner's satisfaction except as noted on the Final Punch List, as defined in Section 7.6 (b), such that the Owner can occupy the site for the intended use and purpose or otherwise take it over for beneficial use;

(b) Contractor and the Owner have agreed in writing upon a comprehensive list of all incomplete, defective or incorrect Work to be completed by Contractor (the "Final Punch List") (or, if they are unable to agree, the Owner shall have prepared and issued the Final Punch List to Contractor).

(c) Contractor has delivered to the Owner a written statement of the Surety (in form and substance satisfactory to the Owner) to the effect that the Owner's payment of unpaid balance of the Contract Price shall not modify or discharge the obligations of the Surety under the Bonds; and

(d) Contractor has submitted written certification that all of the foregoing conditions have been satisfied; and the Owner has approved Contractor's Certification.

7.7 Certificate of Final Completion

Upon receipt of written notice from Contractor stating its belief that the Work is fully performed in conformity with the Contract Documents, and confirming that Contractor has completed any items of Work previously noted to it by the Owner as not being acceptably completed in the Final Punch List or any subsequent punch list, which may amend the Final Punch List, the Owner and Architect shall perform an inspection for purposes of determining whether the Work is finally completed. The Owner and Architect shall commence such inspection within ten (10) days of receipt of such notice and shall pursue and complete it with all due diligence. When Architect and the Owner find, upon inspection, that to the best of their knowledge and belief, the Work is so performed, they shall prepare and sign a Certificate of Final Completion and furnish such Certificate to Contractor. Such Certificate shall specify the date of completion of the Work for purpose of this Agreement and shall constitute final acceptance of the Work by the Owner. The

delivery of a Certificate of Final Completion shall not terminate or alter Contractor's guarantees and other obligations under this Agreement to complete the Work in conformity with the Contract Documents and to fulfill all terms and conditions of this Agreement.

7.8 Acceptance

No inspection shall relieve Contractor of the obligation to perform the Work in strict accordance with the Contract Documents. No payment, either partial or full, by the Owner to Contractor shall be deemed an acceptance of the Work or waiver by the Owner of any terms or conditions of this Agreement.

ARTICLE 8

CHANGES IN THE WORK

8.1 Change Orders

Without invalidating this Agreement, the Owner may order extra work or make changes by altering, adding to, or deducting from the Work, the Contract Price being adjusted accordingly. No claims for extra work shall be allowed unless said extra work is ordered in writing by the Owner or the Owner's Representative. No changes in the Work shall be made unless ordered in writing by the Owner or the Owner's Representative and formalized as a change order (a "Change Order"). In the event that a change directed by the Owner requires Contractor to obtain any special or additional license or permit, the Contractor shall procure the same promptly so as not to impede the progress of the Work. Contractor bears all risk associated with any delay related to obtaining licenses or permits necessary to perform work required by a Change Order. Contractor acknowledges that the Owner has the absolute right to change the sequence of the Work set forth in the Project Schedule for its convenience. If the Owner directs a change to the sequence of the Work for any reason other than due to a default or failure by the Contractor to timely and properly perform the Work, the Contractor shall only be entitled to additional time to complete the Work pursuant to a Change Order, if necessary.

8.2 Changes in Contract Price and Time

(a) The amount by which the Contract Price is to be increased or decreased by any Change Order shall be determined by the Owner by one or more of the following methods;

1. By accepting an amount agreed upon by both parties;

2. By applying the applicable unit price or prices previously bid and approved. This method shall be used if the Contract contains applicable unit prices;

3. By adding to the Contract Price only the amount of the premium portion of overtime pay resulting from an acceleration of the Work, if required by the Owner and not because of a failure by Contractor to maintain the Project Schedule.

4. By receiving from Contractor a detailed breakdown satisfactory to the Owner, including actual time slips and invoices; itemizing the direct cost of labor and material to perform the changed Work and adding thereto fifteen percent (15%) to cover the profit and all indirect and overhead costs, except that where the changed Work is performed by a subcontractor, the direct cost of labor and material to perform the changed Work plus Fifteen percent (15%) for profit and all indirect and overhead costs to subcontractor and an additional sum for all indirect and overhead costs of Contractor equal to five percent (5%). Such percentage shall be applied to direct costs prior to any mark-ups for subcontractor(s). Where

the changed Work involves an increase and a reduction in any contract Work, the above percentage override shall be applied only on the amount, if any, that the cost of the increase exceeds the cost of the reduction. The allowance for overhead and profit shall include supervision (including General Foreman, Foreman and Project Management), field office and general expenses, overhead, and profit.

(b) The compensation specified in a Change Order shall constitute a release and full payment for the extra work covered thereby and for any delay and disruption costs or expense occasioned by reason of said charge in the Work.

(c) No time extension shall be granted Contractor by reason of the issuance of any Change Order unless expressly stated therein.

8.3 Change Order Format

(a) All Change Orders shall be processed, executed and approved on the Owner's Change Order form, (Exhibit C) of this Agreement. No alteration to this form shall be acceptable to the Owner and no payment for extra work shall be due Contractor unless it executes a Change Order on said form.

(b) Five (5) copies of proposed Change Orders shall be submitted to the Owner. All Change Orders shall become part of the Contract only when they are issued and signed by the Owner.

8.4 Changed Conditions

(a) Contractor shall within three (3) days of discovery and before such conditions are disturbed, notify the Owner and its Representative in writing of: (1) subsurface or latent physical conditions differing materially from those indicated in the Contract Documents which could not have been anticipated by Contractor, or (2) unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work provided for in this Agreement. The Owner or the Owner's Representative shall promptly investigate the conditions, and if it finds that such conditions do materially so differ and cause an increase or decrease in Contractor's cost of, or the time required for performance of any part of the Work under this Agreement, adjustments to Contractor's compensation shall be made in the manner provided for payment with respect to any Change Order and a time extension, if warranted, will be granted.

(b) No claim of Contractor under this clause shall be allowed and shall be deemed waived unless Contractor has given written notice required in (a) above.

ARTICLE 9

SUBCONTRACTS AND PURCHASE ORDERS

9.1 Selection of Subcontractor and Material men and Approval of Subcontracts and Purchase Orders

(a) The list of proposed subcontractors submitted by Contractor and approved by the Owner (See Exhibit O) identifies the subcontractors with whom Contractor agrees to contract with respect to the Work and is incorporated by reference herein. Any subcontractor engaged by Contractor shall be skilled and, if necessary, licensed to perform such work that it is retained to perform. Contractor shall incorporate all terms of this Agreement which may be applicable to the subcontractor's work in the subcontract or purchase order for such work.

(b) Any subcontract or purchase order for labor or materials from a person or firm not listed on the above referenced list of proposed subcontractors shall be subject to approval by the Owner. The Owner may approve or disapprove any such subcontract or purchase order by reason of lack of responsibility of the subcontractor or materialmen or failure to conform with the Owner's non-discrimination, affirmative action, training or minority participation policies and programs. Contractor shall submit such information as the Owner may request in a form acceptable to the Owner concerning each such proposed subcontract or purchase order.

9.2 Access by the Owner and Others

Contractor shall include a provision in all subcontracts and purchase orders, except as may otherwise be specified by the Owner with respect to purchase orders for minor purchases (valued at $500 or less), that, in order to permit verification of Contractor's costs, the Owner shall have the right to have its representatives inspect and audit the books of account and records of the subcontractors and materialmen, including the right to make excerpts from such books and records. All payments by Contractor to a subcontractor or materialmen shall be by check specifically indicating that payment is attributable to this Agreement. Contractor shall include a provision in all subcontracts and purchase orders that will enable representatives of the Owner to obtain access during working hours to the appropriate books of account and records of the subcontractors and materialmen relating to the Work to determine if there is a compliance with the requirements of law or this Agreement.

9.3 Retainage

Contractor may provide for a retainage under any of their subcontracts or purchase orders provided that where a subcontract or purchase order provides for a retainage, the retainage shall be no greater in percentage than that provided for under this Agreement hereof with respect to Contractor itself, unless otherwise approved in writing by the Owner. Contractor shall submit with each Requisition a statement setting forth the amounts of all retainage withheld, if any, under its subcontracts and purchase orders.

9.4 Miscellaneous

(a) Contractor shall be fully responsible for the work, supervision, acts and omission of subcontractors and materialmen, and of any person either directly or indirectly employed by subcontractors and materialmen.

(b) Contractor's use of subcontractors and materialmen shall not diminish Contractor's obligation to complete the Work in accordance with the Contract Documents. Contractor shall supervise control and coordinate the Work of subcontractors and materialmen.

(c) Nothing contained in this Agreement shall create any contractual relationship between subcontractors or materialmen and the Owner, nor shall it obligate the Owner to pay or to see to the payment of any sums to any subcontractors or materialmen.

(d) Contractor shall include a provision in all subcontracts and purchase orders requiring the subcontractor, if requested by the Owner until the subcontractor finishes its portion of the Work, to deliver to Contractor unaudited financial statements of the subcontractor similar to the obligation of Contractor hereunder. Promptly upon receipt thereof, Contractor shall deliver copies thereof to the Owner.

ARTICLE 10

ASSIGNMENT

10.1 No Assignment of Duties

Contractor shall not assign this Agreement or the performance of any obligations of Contractor under this Agreement, nor subcontract the Work or any part thereof except in compliance with the terms hereof or with the expressed written consent of the Owner, and each and every such assignment and subcontracting without such compliance or consent shall be void and Contractor shall not be entitled to any compensation for labor or materials provided by its subcontractors in violation of this provision.

10.2 Assignment of Monies

Contractor shall not assign any monies payable hereunder nor execute and deliver any order on payment unless Contractor and the assignee shall have complied with the following terms and conditions: (a) assignee shall be a commercial bank of finance company regularly engaged in the business of providing financing to construction contractors and shall be providing such financing to contractor; and (b) assignee shall, simultaneously with the assignment, execute and deliver to the Owner an undertaking, in favor of the Owner, in form and substance satisfactory to the Owner, providing that (i) assignee will cause Contractor to apply for trust purposes, as defined in Article 3-A of the Lien Law of the State of New York (the "Lien Law"), all funds advanced by assignee to Contractor (ii) assignee will file a copy of the assignment, containing the covenant required by the Lien Law, with the County Clerk of Monroe County, (c) assignee agrees that the Owner and Contractor may modify any of the terms of this Agreement, including any of the terms of payment without the consent of assignee; (d) assignee agrees that after the effective date of the assignment, the Owner may make payment directly to any subcontractor, material or equipment supplier without any liability to assignee; (e) assignee will require and cause Contractor to keep his books and records in the form and manner described in Section 75 of the Lien Law; and (f) assignee will indemnify and hold the Owner harmless from and against all loss, claim or expense incurred as a result of any failure or performance in accordance with the terms of such undertaking.

10.3 Assignment to ESD

This Agreement or any rights of Owner under this Agreement, including any guarantees or warranties or workmanship or material, may at any time be assigned by the Owner to ESD, any subsidiary of ESD, any successor of ESD or subsidiary of such successor, or to the State of New York, or any political subdivision or agency of the State.

ARTICLE 11

MECHANIC'S LIENS AND CLAIMS

If any mechanic's lien, public improvement lien, or other claim should be filed for or on account of the Work, Contractor shall, within thirty (30) days after notification thereof, discharge such lien or claim or otherwise make provision satisfactory to the Owner for its satisfaction. If Contractor fails to comply with this provision, the Owner may take any steps it deems appropriate to discharge such lien or other claim and Contractor shall be obligated to indemnify any costs and expenses associated with the discharge or satisfaction of the lien or other claim incurred by the Owner, including reasonable attorney's fees.

ARTICLE 12

INSURANCE AND CONTRACT SECURITY

12.1 Effect of Insurance

Contractor covenants and agrees that, prior to the commencement of Work, Contractor shall provide, or cause to be provided, and thereafter shall keep in full force and effect, or cause to be kept in full force and effect, all insurance required under this Article until Final Acceptance of all the Work, at no cost to the Owner.

12.2 Certificates of Insurance

Contractor shall furnish to the Owner a certificate or certificates in duplicate of the insurance required hereunder. Said certificates shall be in a form satisfactory to the Owner, shall list the various coverages and shall contain a provision that the policies shall not be changed or canceled and that they shall be automatically renewed upon expiration and continued in force until Final Acceptance unless the Owner is given thirty (30) days written notice to the contrary. Upon request, Contractor shall furnish the Owner or the Owner's Representative with a certified copy of each policy.

12.3 Authorized Insurance Companies

All insurance required to be procured and maintained as aforesaid must be procured from insurance companies authorized to do business in the State of New York with a rating by Bests Insurance Reports of A-1X or better.

12.4 Termination of Insurance

If at any time any of the above required insurance policies should be canceled, terminated or modified so that the insurance is not in effect as above required, then, if the Owner shall so direct, Contractor shall suspend performance of the Work. If the Work is so suspended, no extension of time shall be due on account thereof. If the Work is not suspended then the Owner may, at the Owner's option, obtain insurance affording coverage equal to that required herein, the costs of said insurance to be payable by Contractor to the Owner.

12.5 Insurance Requirements

Contractor and each subcontractor shall secure:

(a) Worker's Compensation Insurance providing statutory New York State benefits, including occupational disease and coverage under other similar employee benefit acts, which are applicable, covering all persons employed in connection with the construction at the premises. Limit of insurance shall be at least $500,000.

(b) Commercial General Liability Insurance (CGL) written on a combined single limit occurrence basis in an amount not less than $2,000,000, $4,000,000 in the aggregate, and a $10,000,000 umbrella policy. The limit may be provided through a combination of primary and umbrella/excess liability policies. Such insurance to include operations-premises liability, contractors protective liability, blanket contractual liability, (designating the indemnity provisions contained in this contract), broad form property damage liability, completed operations (minimum of two years), independent contractor's coverage and if Contractor is undertaking foundation excavation or demolition work, an endorsement or wording to the effect that "XCU Exclusions" have been deleted. For all subcontractors, Contractor shall be required to ensure that the Comprehensive General Liability coverage shall not be less than $4,000,000. Such insurance to include, if applicable, operations-premises liability, contractor's protective liability, blanket contractual liability, (designating the indemnity provisions contained in this contract), broad form property damage liability,

completed operations (minimum of two years), worker's compensation insurance providing statutory New York State benefits, including occupational disease and coverage under other similar employee benefit acts, which are applicable, covering all persons employed in connection with the construction at the premises. Limit of insurance shall be at least $500,000. In addition to the above coverages, contractors performing asbestos abatement, lead abatement and/or other environmental work shall provide pollution Liability Insurance to cover their operations with a limit of $5,000,000 per occurrence and aggregate coverage providing coverage for bodily injury and property damage, including loss of use of damage 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 arising from Contractor(s) work. Coverage must be written on an "Occurrence Form" (no claims-made policies) and could be provided by subcontractor with Prime Contractor named as additional insured along with additional insures as identified in paragraph 12.5 e below. If autos are used for transporting hazardous materials: Pollution liability broadened coverage for covered autos (endorsement CA 99 48) as well as proof of MCS 90

(c) Automobile Liability and Property Damage Insurance for all owned, non-owned and hired vehicles to be used by Contractor, its subcontractors or by anyone else on its behalf written on a combined single limit occurrence basis in an amount not less than $2,000,000.

(d) (Intentionally Delete)

(e) Owner, the City of Buffalo and LiRo Engineers as Additional Insured's attached to the Sample Insurance Certificate and providing that such insurance is primary and non contributing insurance as respects the interest of the additional insured and that any other insurance maintained by the additional insured is excess, shall each be named as an additional insured in policies required under paragraphs 12.5 (b) and 12.5 (c) above. Also see Exhibit Q for complete list of Additional Insured.

(f) Policy or policies must be endorsed to be primary as respects the coverage afforded the Additional Insureds and such policy shall be primary to any other insurance maintained by the Owner. Any other insurance maintained by the Owner shall be excess of and shall not contribute with Contractor's or subcontractor's insurance, regardless of the "other insurance" clause contained in the Owner's policy of insurance.

(g) Umbrella and/or Excess Liability policies used to comply with CGL, Automotive Liability and Employers Liability limits shown above may be warranted to be in excess of limits provided by Contractor's primary CGL, Automotive Liability and Employers Liability, but not excess to other insurance maintained by the Owner. All policies listed above shall include a waiver of subrogation in favor of the Owner.

(h) Contractor and/ or subcontractor shall secure, pay for, and maintain Property Insurance necessary for protection against the loss of owned, borrowed or rented capital equipment and tools, including any tools owned by employees, and any tools or equipment, staging towers, and forms owned, borrowed or rented by Contractor and against the loss of any stored materials. The requirement to secure and maintain such insurance is solely for the benefit of Contractor. Failure of Contractor to secure such insurance or to maintain adequate levels of coverage shall not render the Additional Insureds or their agents and employees responsible for any losses; and the Additional Insureds, their agents and employees shall have no such liability.

(i) Liability Insurance Policies shall include coverage for cross liability.

(j) The property insurance carries a deductible of $1,000 and each Contractor is responsible to pay costs not covered because of such deductible.

(k) Items (g) and (h) must be stated on the certificates of insurance.

12.6 Contract Security

Additionally, a "Certificate of Solvency" (Exhibit D) issued by the Superintendent of Insurance, State of New York of the bonding company, which provides any bond or undertaking required by this Agreement will be required. This certificate shall certify that the Surety is authorized to transact the business of insurance in New York State, possesses the necessary capital and funds (not less than $100,000,000) and provides a statement of its loss exposure.

12.7 Additional or Substitute Bond

If at any time the Owner shall become dissatisfied with any surety or sureties then upon the Performance Bond or the Payment Bond, or if for any other reason such bonds shall cease to be adequate security to the Owner, Contractor shall within ten (10) days after the notice from the Owner, substitute an acceptable bond or bonds in such form and sum and signed by such other surety or sureties as may be satisfactory to the Owner, except that the penal sum of said bond shall not exceed the Contract Price as adjusted by Change Orders. The premiums on such bond or bonds shall be paid by Contractor. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished such an acceptable bond or bonds to the Owner.

12.8 Builder's Risk Insurance – (INTENTIONALLY DELETED)

ARTICLE 13

DISPUTES

13.1 Claims for Extra Work

(a) If Contractor is of the opinion that (1) any work which it has been ordered to perform is extra work and not Work as set forth in the Contract Documents, (2) any determination, order or directive of the Owner is contrary to the terms of the Contract Documents and will require the performance of extra work or will cause additional expense to Contractor, or (3) any action or omission of the Owner or Architect is contrary to the terms and provisions of the Contract Documents and will require the performance of extra work or will cause additional expense to Contractor, Contractor shall:

1. Not suspend Work, but promptly comply with such determination, order or directive and proceed diligently with the performance of the Work in accordance with the Owner's instructions;

2. Notify the Owner in writing within 72 hours of such determination, order or directive of its reasons for its opinion and request a final determination thereon by the Owner.

If within three (3) business days the Owner determines that the Work is not extra work, the Contractor, in order to reserve its right to claim compensation resulting from the performance of such work or the compliance with such determination, order or directive, must notify the Owner in writing within three (3) business days after receiving notice of the Owner's determination that it is

performing such work or complying with such determination, order or directive under protest. In addition to the foregoing, Contractor must submit to the Owner within thirty (30) days after it has performed such work or complied with such determination, order or directive, a detailed statement of the extra expense incurred from the performance of such work or the compliance with such determination, order or directive.

(b) No claims for extra work shall be allowed unless the same was done pursuant to written order approved by the Owner. If Contractor fails to comply with any provisions of the Article:

1. It shall constitute a conclusive and binding determination that such action, omission, determination order or directive does not involve extra work, has not caused extra expense to Contractor, and is not contrary to the terms and provision of the Contract Documents; and

2. It shall be deemed to have waived any claim for compensation resulting from the performance of such work or the compliance with such determination, order or directive.

(c) The value of claims for extra work, if allowed shall be determined by the methods described in the Agreement for Change Orders.

ARTICLE 14

TERMINATION

14.1 Termination for Cause

In the event that any material provision of this Contract is breached by Contractor or by any subcontractor, the Owner may serve a three (3) calendar day written notice upon Contractor, and upon Contractor's surety, if any, of the Owner's intention to terminate the Contract. Said notice shall contain the reasons for said intention to terminate the Contract upon a date specified by the Owner. If said breach shall not be cured by Contractor within three (3) calendar days or arrangements satisfactory to the Owner shall not be made, the Contract shall terminate upon the date so specified by the Owner. In the event of any said termination, the Owner may take over the Work and prosecute same to completion for the account and at the expense of Contractor, and Contractor and Contractor's surety shall be liable to the Owner for all costs occasioned the Owner. In the event of said termination the Owner may take possession of and may utilize such materials or equipment as may be on the site and necessary or useful in completing the Work irrespective of whether such materials or equipment were intended to be incorporated in the Project.

14.2 Termination for Convenience of the Owner

The Owner at any time may terminate the Contract in whole or in part for any reason and without cause. Any said termination shall be effected by delivering to Contractor a notice of termination specifying the extent to which performance of Work under the Contract is terminated and the date upon which said termination becomes effective. Upon receipt of the notice of termination, Contractor shall act promptly to minimize the expenses resulting from said termination. The Owner shall pay Contractor the costs actually incurred by Contractor in the performance of the Work up to the effective date of said termination, but in no event shall Contractor be entitled to compensation in excess of the total compensation earned through the date of termination. Contractor shall not be entitled to any compensation for lost profits, which may be attributable to such termination. In the event of said termination, the Owner may take over the Work and prosecute same to completion and may take possession of and may utilize such materials and

equipment as may be on the Site and necessary or useful in completing the Work.

14.3 The Owner's Right to do Work

The Owner may, after notice to Contractor, without terminating the Contract and without prejudice to any other right or remedy the Owner may have, perform, or have performed by others, all of the Work or any part thereof and may deduct the cost thereof from any monies due or to become due Contractor.

14.4 Suspension of Work

The Owner may at any time and for any reason direct Contractor to suspend, stop or interrupt the Work or any part thereof for any period of time. Such direction shall be in writing and shall specify the period during which the Work is to be stopped. Contractor shall resume the Work upon the date specified in such direction or upon such other date as the Owner may thereafter specify in writing. The period during which the Work shall have been suspended, stopped or interrupted may, if warranted, be added to the time fixed for performance of the Work. A suspension for any consecutive period of 120 days or less during any 365-day period of the Work pursuant to this provision shall not give rise to any claim against the Owner by Contractor for additional compensation; otherwise, Contractor may be entitled to an equitable adjustment of the Contract Price in the Owner's sole discretion.

ARTICLE 15

INDEMNITY AND PROTECTION OF RIGHTS, PERSONS AND PROPERTY

15.1 Accident Prevention

Contractor shall at all times take every precaution against injuries to persons or damage to property and for the safety of persons engaged in the performance of the Work.

15.2 Safety Program

Contractor shall be responsible for the initiation, maintenance and supervision of safety precautions and programs in connection with the Work. Contractor shall submit a safety program to be approved by the Owner or the Owner's Representative and designate a Safety Officer to carry out the approved program.

15.3 Protection of Work and Property

Contractor shall at all times guard the Owner's property from damage or loss in connection with the Work. Contractor shall at all times guard and protect the site, the Work and adjacent property. Contractor shall replace or make good any such loss or injury unless such loss or injury is caused directly by the Owner.

15.4 Delay or Failure

Contractor and its sureties shall be responsible for and pay to the Owner all loss, damage and additional cost incurred at the Project by reason or on account of (i) the unexcused delays of Contractor or (ii) Contractor's failure to fully and completely carry out the terms of this Agreement.

15.5 Adjoining Property

Contractor shall protect all adjoining property and shall repair or replace any such property damaged or destroyed during the progress of the Work by Contractor or any of its subcontractors

at Contractor's sole cost and expense.

15.6 Risks Assumed by Contractor

(a) Contractor solely assumes the following distinct and several risks whether such risks arise from acts or omissions (whether negligent or not, and whether supervisory or otherwise) of the Owner, of Architect, of Contractor, of any subcontractor, of third persons or from any other cause, including unforeseen obstacles and difficulties which may be encountered in the prosecution of the Work, whether such risks are within or beyond the control of Contractor and whether such risks involve any legal duty, primary or otherwise, imposed upon the Owner:

1. The risk of loss or damage, direct or indirect, or whatever nature, to the Work or to any materials furnished, used, installed or received by the Owner, Contractor or any subcontractor, materialmen or workmen performing services or furnishing materials for the Work, whether or not such work or materials are stored at the site. Contractor shall bear such risk of loss or damage until final acceptance of the Work by the Owner or until completion or removal of such materials from the site and the vicinity thereof, whichever event occurs last. A portion of the risk of such loss or damage may be insured against under the terms of a "builder's risk" insurance policy maintained by the Owner. Notwithstanding the status of any actual or potential recovery or claim under the said "builder's risk" insurance policy, in the event of any loss or damage, Contractor immediately shall repair, replace or make good any such loss or damage.

2. The risk of claims, just or unjust, by third persons against Contractor, the Owner, ESD, the Owner's Representative, and Architect on account of wrongful death, bodily injuries and property damage, economic loss, direct or consequential, and 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 Contractor of the Work or out of or in connection with Contractor's operations or presence at or in the vicinity of the site. Contractor shall bear such risk for all such deaths, injuries, damages or losses sustained or alleged to have been sustained, including indemnity loss, also.

3a. Contractor assumes the entire responsibility and liability for any and all damage or injury of any kind or nature whatsoever (including death resulting therefrom) to all persons, whether employees of Contractor or otherwise, and to all property caused by, resulting from, arising out of or occurring in connection with the execution of the Work. Contractor shall hold the Owner, ESD, Construction Manager, Architect/Engineer, and their successors, assigns, servants, agents and employees (the "Indemnities") harmless from and shall indemnify them against and for any and all liability, loss, cost, damage or expense, including attorneys' fees, by reason of claims of its employees or employees of its subcontractors for injuries or death, by reason of claims of any other person or persons, including the Indemnities, for injuries to person or property or for death occasioned in whole or in part by any act or omission of Contractor, its subcontractors and their servants, agents or employees. If, however, this indemnification is limited by applicable law, then the said indemnification hereby shall be similarly limited to conform with such law, it being the intention that this indemnification shall be as broad as permitted by applicable law. The Owner may retain any monies due or to become due hereunder sufficient to indemnify the Owner, ESD, Construction Manager, Architect/Engineer, and their servants, agents and employees against such injuries, claims, suits, actions, costs or damages should any such claim arise. Contractor shall, at the sole option of the Owner and upon written demand of the Owner, assume the defense in behalf of

the Indemnities of any action or proceeding commenced against them whether or not Contractor is named as a party therein as part of Contractor's aforementioned obligation to indemnify and hold them harmless.

b. Contractor shall not, without obtaining express advance permission of the Owner, raise any defense involving in any way jurisdiction of the tribunal over Contractor, the Owner or any Additional Insured, the governmental nature of the Owner or any Additional Insured or the provision of any statutes respecting suits against the Owner or any Additional Insured.

c. Contractor's obligations under this Article shall not be deemed waived, limited or discharged by the procurement of any insurance by the Owner or the Contractor.

d. Neither Final Acceptance of the Work nor making any payments shall release Contractor from Contractor's obligations under this Article. The enumeration elsewhere in this Agreement of particular risks assumed by Contractor or of particular claims for which Contractor is responsible shall not be deemed to limit the effect of the provisions of this Article or to imply that Contractor assumes, or is responsible for, only risks or claims of the type enumerated; and neither the enumeration in this Article nor the enumeration elsewhere in this Agreement of particular risks assumed by Contractor or particular claims for which Contractor is responsible shall be deemed to limit the risks which Contractor would assume or the claims for which Contractor would be responsible in the absence of such enumerations. All of the foregoing obligations of Contractor in this Article shall survive the termination of this Agreement for any reason.

ARTICLE 16

16.1 Occupancy Prior to Final Acceptance

(a) If, before Final Acceptance of the Work, the Owner desires occupancy of the Project or any part thereof which is completed or partly completed, or to place or install therein equipment and furnishings, the Owner shall have the right to do so, and Contractor shall in no way interfere with or object to such occupancy by the Owner.

(b) Such occupancy: (1) shall not constitute acceptance of space, systems, materials or elements of the Work, nor shall such occupancy effect the start of any guaranty period; and (2) shall not effect the obligations of Contractor under the Contract Documents.

(c) Contractor shall continue the performance of the Work in manner which shall not unreasonably interfere with such use, occupancy and operation by the Owner.

ARTICLE 17

17.1 Exemption

The Owner is exempt from payment of sales and compensating use taxes of the State of New York and of cities and counties on all materials, which will become an integral component part of the Project pursuant to this Agreement. Contractor and its subcontractors shall be responsible for and shall pay such taxes on any and all items, which will not become an integral component part of the Project.

17.2 Sales Tax Exemption Form Letter

A sales tax exemption form letter is available from the Owner. Owner shall not be responsible for payment of sales tax and Contractor must obtain exemption letter or bear the expense of such

taxes.

17.3 The Contractor's attention is called to the fact that materials not actually incorporated in the Work will not be exempt from payment of a sales tax. This will apply to such things as:

(a) Construction machinery and equipment including rentals or repair parts.

(b) Contractor's office supplies.

(c) Contractor's supplies, tools and miscellaneous equipment including forms, material and scaffolding (whether purchased or rented).

(d) Temporary heat.

(e) Any other items purchased or rented by Contractor for Contractor's use in performing contract and not incorporated into realty.

ARTICLE 18

WARRANTIES AND GUARANTEES

18.1 Guarantees

Contractor shall in all respects guarantee the Work to the Owner and be responsible for all material, equipment and workmanship of the Work. Contractor shall forthwith repair, replace or remedy in a manner approved by the Owner or the Owner's Representative, any said materials, equipment, workmanship, or other part of the Work found by the Owner or the Owner's Representative to be defective or otherwise faulty and not acceptable to the Owner or the Owner's Representative which defect or fault appears during the period of one (1) year from the date of Final Completion as evidenced by the Certificate of Final Completion.

18.2 Specific Guarantees

Specific guarantees shall be as set forth in the Specifications and shall be submitted as indicated.

18.3 (Intentionally Deleted)

18.4 Expenses of Correction of Work

(a) In the event that the Owner is required to incur any expense relating to the correction of the Work even if such expense relates to work on the Project not performed by Contractor, all such expense shall be the sole obligation of Contractor and shall be reimbursed to the Owner upon demand, Contractor hereby acknowledging that the Owner may be required to incur substantial expense if correction involves the uncovering, removal or replacement of paving concrete, wiring and piping installed at the Site. If Contractor shall fail to reimburse the Owner for any such expense which may become payable as provided in this paragraph, the Owner shall be entitled to deduct such expense from any payments required to be made by the Owner to Contractor pursuant to this Agreement. Contractor, upon demand, shall pay for all damage to all other work resulting from such defects and all expenses necessary to remove, replace and repair such other work which may be damaged in removing, replacing or repairing such defects.

(b) If the Owner has requested Contractor to correct any Work and Contractor shall not have completed any correction of the Work as shall be required pursuant to Article 18 within ten (10) working days after receipt of written notice from the Owner specifying the defect or damage required to be removed, repaired and replaced within such ten (10) day period or shall not thereafter with reasonable diligence and in good faith proceed to do such

work, the Owner may employ such other person, firm or corporation as it may choose to perform such removal, replacement and repair, and Contractor shall, upon demand, pay to the Owner all amounts which the Owner expends for such work.

(c) The benefits of this Article 18 shall inure to the benefit of the Owner and its respective successors and assigns. In addition, any bond or guarantee which may be required of Contractor or any subcontractor under the Contract Documents shall inure to the benefit of the Owner and its respective successors and assigns.

(d) The rights and remedies afforded the Owner under this Section are in addition to and not in lieu of and do not in any way affect, limit, change, alter, modify, vary or prejudice any right, remedy or recourse which the Owner may have under other provisions of this Agreement or pursuant to statute, common law, or otherwise.

ARTICLE 19

PATENTS AND ROYALTIES

19.1 Patents & Royalties

(a) In the prosecution of the Work, Contractor will not use or furnish any patented appliance, article, device or method of construction unless it has authorization for such use. Contractor shall pay all royalty and license fees.

(b) Contractor shall indemnify and hold harmless the Owner from claims, demands or liabilities of any kind or nature, including costs and expenses, for or on account of any patented plan, design, invention, article, arrangement, appliance, material, or preparation manufactured, used or followed in the performance of or incidental to the Work hereunder, and shall defend any and all actions arising out of the same. In the event of any injunction or legal action by reason thereof, which shall operate to stop or delay the Work, the Owner shall have the right to substitute such other articles of like kind as will enable it to complete the Project, and all costs and expenses occasioned thereby shall be borne by Contractor.

(c) Contractor hereby and presently grants to the Owner an irrevocable and nonexclusive license to utilize all of Contractor's rights in and to:

1. All United States patents and patents registered in any other foreign country;

2. All proprietary knowledge, data and trade secrets;

3. All engineering data and information in connection with all work performed by Contractor or other contractors hired by the Owner to complete the Work after termination of this Agreement. Each purchase order and subcontract shall contain a similar clause with respect to the rights of the Owner with respect to the subcontractors' rights in and to the foregoing, in form and substance acceptable to the Owner, granting the Owner the aforesaid license. The Owner shall not be obligated to pay any royalties, license fees or any other consideration to Contractor or any subcontractor for this license. Contractor and each subcontractor shall execute a separate license agreement, in form and substance satisfactory to the Owner, concurrently with the execution of this Agreement, or any subcontract or purchase order, or within ten (10) days thereafter embodying the terms of this Section. On request, Contractor and each

subcontractor shall furnish the Owner or the Owner's Representative with copies of all related engineering and technical data required to complete the Work.

ARTICLE 20

AS-BUILT DRAWINGS

(INTENTIONALLY DELETED)

ARTICLE 21

SHOP DRAWINGS AND SAMPLES

21.1 Contractor Submittal

(a) Contractor shall prepare for the Owner's and the Owner's Representative's approval, a submittal schedule, including all information contained in the Project Schedule, for all submittals hereafter required and shall deliver same for approval to the Owner's Representative within seven (7) days of the signing of this Agreement.

(b) Contractor shall submit the Shop Drawings, Product Data and Samples required by the Contract Documents to the Owner's Representative for transmittal to Architect in sufficient time to allow ten (10) calendar days for review by Architect and shall adhere to the approved submittal scheduling requirements with respect thereto. After review of such Shop Drawings, Product Data and Samples by Architect, each of such items shall be returned in accordance with the procedures established herein. If Contractor deviates from the approved submittal schedule, it bears all of the risk for any delay in turn-around by Architect.

(c) Shop Drawings, shall be accompanied by a letter of transmittal to the Owner's Representative requesting review. Contractor shall number transmittals consecutively and indicate, whether the Shop Drawings, are resubmittals, the Owner's Representative's file number of the original submittal. The letter of transmittal shall also set forth the information required in subparagraph (d) thereof.

(d) Each Shop Drawing and letter of transmittal shall contain the following information:

1. The name of the Project.

2. The name of Contractor.

3. The name of the firm or organization preparing the Shop Drawing.

4. The date of submittal.

5. The number of the Shop Drawing.

6. The number and date of each revision, if any.

7. The applicable section of the Specifications.

8. The applicable number of the Contract Drawings and detail.

9. The name of the person and/or persons who prepared the Shop Drawing.

10. Any deviations or changes from the Contract Documents.

11. Each copy of Shop Drawings shall be stamped and signed by Contractor indicating clearly his complete approval and signifying that the Shop Drawings (and product data) do comply with all the Contract Documents.

(e) Shop Drawings shall show the design, dimension, connections and other details necessary to insure an accurate interpretation of the Contract Documents and shall also show adjoining work in such detail as required to provide proper connections with said adjoining work. Where adjoining connected work requires Shop Drawings, such Shop Drawings shall be submitted to the Owner's Representative for transmittal to Architect for review at the same time so that connections can be reviewed.

(f) By submitting Shop Drawings, Product Data and Samples, Contractor represents that it has determined and verified all materials, field measurements and field construction criteria related thereto, that it has checked the Shop Drawings, Product Data and Samples for complete dimensional accuracy, that it has checked to insure that Work contiguous with and having bearing on the Work shown on the Shop Drawings is accurately and clearly shown, that it has checked the Shop Drawings against the composite drawings, that the Work has been coordinated, that the equipment will fit into the assigned spaces and that it has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. Measurements not available prior to submission of Shop Drawings shall be noted on the Shop Drawings as not available and such measurements shall be obtained prior to fabrication.

(g) Contractor shall submit Product Data when necessary or requested by the Owner's Representative or Architect to explain fully apparatus or equipment required by the Work. The Product Data shall be treated as Shop Drawings. Manufacturer's catalogue numbers alone are not acceptable as sufficient information or compliance with this requirement.

(h) Samples shall be accompanied by a letter of transmittal to the Owner's Representative requesting review. Contractor shall number transmittals consecutively in sequence with Shop Drawing transmittals. Where appropriate, test data and/or manufacturers' certificates shall be referenced and forwarded with the letter of transmittal. Samples without accompanying test data or certificates will be returned without action. The letter of transmittal shall also set forth the information required in subparagraph (i) hereof.

(i) Each Sample shall be labeled, tagged or clearly identified and each Sample and letter of transmittal shall contain the following information:

1. The name of the Project.

2. The name of Contractor.

3. The name of subcontractor and/or supplier, manufacturer, fabricator or processor.

4. The trade designation and the grade or quality of the material or product.

5. The date of submittal.

6. The specific identification of each Sample.

7. A precise reference to the section of Specifications, article and paragraph wherein the material, product or element of the Work is specified.

Each label or tag shall have sufficient clear space to permit the application of the approval stamps of Contractor and Architect.

(j) In the event that a range of variations in textures, graining, color or other characteristics may be anticipated in finished materials, assemblies or elements of the Work, a sufficient number of Samples of such materials or products shall be submitted to indicate the full range of characteristics which will be present in the materials or products proposed for the Work. Any such materials or products delivered or erected prior to approval of full range Samples shall be subject to rejection.

(k) Samples shall be submitted from the same source, which shall actually supply the Project. Samples shall be of adequate size to show quality, type, color, range, finish, texture and other specified characteristics.

(l) Samples of materials or products which are normally furnished in containers or packages which bear descriptive labels and/or application or installation instructions shall be submitted with such labels and/or instructions.

(m) Contractor shall submit copies of Shop Drawings, Product Data and Samples in accordance with the submittal procedure listed below. Reproducible prints shall be sepias or ozalid prints with positive side up that will provide good quality readable prints. Black and white prints shall be black line on white background. The following shall be submitted:

1. Shop Drawings: One reproducible print and (six) black and white prints submitted to the Owner's Representative.

2. When Shop Drawings are submitted in the form of brochures, manufacturer's standard drawings or catalogue cuts not readily available in reproducible form, seven (7) copies of each shall be submitted to the Owner's Representative.

3. Three Samples shall be submitted to the Owner's Representative except as otherwise set forth in other sections of the Contract Documents.

(n) Following Architect's review of each Shop Drawing Submission, the Owner's Representative will retain one black and white print and return the reviewed reproducible print to Contractor with Architect's stamp and signature affixed thereto annotated as follows:

1. Refer to Division 1 Sections “Submittals” for review annotations:

(o) After the review of all Product Data and Samples, the procedures set forth below will be followed:

The Owner's Representative will return three Product Data or two (2) Samples of each set to Contractor with Architect's stamp and signature affixed thereto and annotated in accordance with paragraph (n) above.

(p) Contractor shall have available at the Project site all reviewed Shop Drawings, Product Data and Samples at all times for use by Contractor, its subcontractors, Architect, the Owner, or their designees, to insure that all Work is being installed in accordance with the reviewed Shop Drawings, Product Data and Samples.

(q) The Owner shall be furnished copies of all transmittals during the processing of Shop

Drawings. The Owner shall be furnished copies of all "reviewed" (no comments) or "reviewed" (see comments) Shop Drawings and product data by Contractor.

21.2 Contractor's Responsibility

Architect's review of Shop Drawings, Product Data and Samples shall not relieve Contractor of responsibility for any deviation from the requirements of the Contract Documents. Contractor shall be responsible for the accuracy of the Shop Drawings, Product Data and Samples and for the conformity of Shop Drawings, Product Data and Samples with the Contract Documents unless Contractor has notified the Owner's Representative and Architect of the deviations in writing at the time of submission and has received from the Owner's Representative written approval of the specified deviations. Architect's review shall not relieve Contractor of responsibility for dimensions, errors or omissions in the Shop Drawings, Product Data or Samples. Contractor is solely responsible for the fit of all materials and assemblies.

21.3 Prior Approval of Architect

No portion of the Work shall be commenced until required Shop Drawings, Product Data or Samples are reviewed and approved by Architect.

ARTICLE 22

NOTICES

Any notice required or permitted to be given under this Agreement must be in writing and shall be deemed to have been given when delivered personally or by registered or certified mail, return receipt requested, to the party to whom the notice is given at the address designated below or, if any party subsequently designates a different address for this purpose, at such subsequently designated address. Notices to Contractor shall be addressed and delivered to its address stated at the beginning of this Agreement, or to Contractor's superintendent at the site. Notices to the Owner shall be addressed and delivered as follows:

To the Owner:
Attention: Maria Lehman
c/o Empire State Development Corp.
95 Perry Street, Suite 500
Buffalo, NY 14203

With a copy to the Construction Manager:

Attention: Robert Kreuzer
LiRo Engineers, Inc.
690 Delaware Avenue
Buffalo, NY 14209

With a Copy to ESD

Attention: General Counsel
Empire State Development Corporation
633 3rd Avenue
New York, NY 10017

ARTICLE 23

NON-DISCRIMINATION AND AFFIRMATIVE ACTION

23.1 Non-Discrimination

(a) Contractor shall comply with any and all federal, state and local laws, orders, rules and regulations which prohibit discrimination in employment or hiring because of age, race, creed, color, national origin, sex, disability or marital status of any individual.

(b) Contractor shall make a good faith effort to achieve an overall participation by Minority and/or Women-Owned Business Enterprises, as defined in Exhibit F to this Agreement, and shall make a good faith effort to comply with ESD's/Owner Affirmative Action and Non-Discrimination program and policies, as set forth in Exhibit F to this Agreement.

ARTICLE 24

(INTENTIONALLY DELETED)

ARTICLE 25

STANDARD PROVISIONS

25.1 Provisions Required by Law Deemed Inserted

Each and every provision of law and governmental regulation required by law to be inserted in the Contract Documents shall be deemed to be inserted herein and this Agreement shall read and shall be enforced as though so included therein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, this Agreement shall be deemed to be amended to make such insertion or correction. If this Agreement contains any unlawful provision, the same shall be deemed of no effect and shall, upon the application of either party, be deemed stricken from this Agreement without affecting the binding force of the remainder of this Agreement.

25.2 Compliance with Laws, Rules and Regulations

Contractor and each subcontractor shall comply fully with all applicable laws, rules and regulations pertaining to the Project or the Work including, but not limited to, all environmental laws, rules or regulations promulgated by the federal, state and local governments, in effect at the time of the Work. Contractor bears all risk associated with any deviation from such laws, rules or regulations pertaining to the Work and agrees to indemnify and hold the Owner harmless for, from and against any costs, expenses, fines or judgments which may be incurred by the Owner as a result of Contractor's deviation therefrom.

25.3 Laws Governing this Agreement

The Agreement shall be governed by the laws of the State of New York without giving effect to principles of conflicts of law.

25.4 No Third Party Rights

Nothing in this Agreement shall create or shall give to any third parties any claim or right of action against the Owner's Representative, Architect, the Owner, or ESD.

25.5 Protection of Lives and Health

(a) Contractor's and subcontractor's attention is specifically called to the rules and regulations, codes and bulletins of the New York State Department of Labor. Attention is also directed to the standards imposed under the Federal Occupational Safety and Health Act of 1970, as amended.

(b) Contractor shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment of work under this Agreement, and shall immediately notify the Owner in writing of any injury which results in hospitalization or death.

(c) Contractor alone shall be responsible for the safety, efficiency and adequacy of Contractor's Work, plants, equipment, appliances and methods, and for any damage or injury which may result from the failure, or the improper construction, maintenance, or operation of such Work, plant, equipment, appliances and methods.

25.6 Waiver of Immunity Clause

Contractor hereby agrees to the provisions of Section 139-a of the State Finance Law, which section requires that upon the refusal of a person, when called before a grand jury, head of a State department, temporary State Commission, the Organized Crime Task Force in the State Department of Law, or other State agency which is empowered to compel the attendance of witnesses and examine them under oath, to testify in an investigation concerning any transaction or contract had with the State, any political subdivision thereof, or with any public department, agency or official of the State or any political subdivision thereof or a public authority, to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant questions concerning such transaction or contract:

(a) Such person, and any firm partnership or corporation of which such person is a member, partner, director or officer shall be disqualified from thereafter selling to or submitting bids to or receiving awards from or entering into any contracts with the State of any public authority or official thereof, for goods, work or services, for the period of five (5) years after such refusal; and

(b) Any and all contracts made with the State of any public department, agency or official thereof, since the effective date of Section 139-a of the State Finance Law, by such person and by any firm, partnership or corporation of which such person is a member, partner, director or officer may be canceled or terminated for cause without incurring any penalty or damages on account of such cancellation or termination, but any sums owing for goods delivered or work done prior to the cancellation or termination shall be paid.

25.7 Prohibited Interests – (INTENTIONALLY DELETED)

25.8 Labor Provisions

(a) It is hereby agreed that all applicable provisions of the Labor Law of the State of New York shall be carried out in the performance of the Work including, but not limited to, Labor Law Sections 220, 220-d and 220-e, as amended (Exhibit I).

(b) The minimum wage rates, if any, herein specified for apprentices shall apply only to persons working with the tools of the trade which such persons are learning under the direct supervision of journeymen mechanics. Except as otherwise required by law, the number of apprentices in each trade or occupation employed by Contractor or any subcontractor shall not exceed the number permitted by the applicable standards of the New York State Department of Labor, or, in the absence of such standards, the number permitted under the usual practice prevailing between the unions and the employer's association of the respective trades or occupations.

(c) All employees of Contractor and each subcontractor shall be paid in accordance with the provisions of the Labor Law. All payments shall be made in cash, except a payment may be by check upon certification of the Industrial Commissioner of the State of New York.

(d) Contractor agrees that, in case of underpayment of wages to any worker engaged in the Work by Contractor or any subcontractor, the Owner shall withhold from Contractor out of payments due an amount sufficient to pay such worker the difference between the wages required to be paid under the Contract Documents and the wages actually paid such worker for the total number of hours worked, and that the Owner may disburse such amount so withheld by the Owner for and on account of Contractor to the employee to whom such amount is due. Contractor further agrees that the amount to be withheld pursuant to this paragraph may be in addition to the percentages to be retained by the Owner pursuant to other provisions of the Contract documents.

(e) Contractor shall immediately notify the Owner and the Owner's Representative of any actual or impending labor disputes which may effect or are affecting the Project Schedule of Contractor or any other contractor's work. In addition, Contractor shall take all appropriate measures to eliminate or minimize the effect of such labor dispute on the Project Schedule.

(f) Any labor, materials, or means whose employment or utilization during the course of this Contract may tend to or in any way cause or result in strike, work stoppages, delays, suspension of Work or similar troubles by workmen employed by Contractor, its subcontractors or material suppliers, or by any of the trades working in or about the premises where Work is being performed under this Contract, or by other contractors, their subcontractors or material suppliers pursuant to other contracts shall not be allowed. Any violation by Contractor of this requirement may in the sole judgment of the Owner be considered as proper and sufficient cause for declaring Contractor to be in default, and for the Owner to terminate Contractor or take such other action as the Owner may deem proper. Contractor shall include this section in every subcontract and every lower tier subcontract.

25.9 Dispute Procedure

Unless the parties hereto otherwise agree in writing, Contractor shall continue to perform its obligations hereunder, pursue prosecution of the Work and maintain the Project Schedule, if applicable, during any claim, dispute or proceeding arising under or out of this Agreement ("Claim"):

(a) Any Claim not resolved by the parties through negotiation shall be first submitted to non-binding mediation within thirty (30) days of such Claim pursuant to the American Arbitration Association's ("AAA") Construction Industry Dispute Resolution Rules as a condition precedent to litigation in a court of competent jurisdiction in the state and county where the Project is located. If such mediation is not conducted within thirty (30) days of submission to the AAA, the requirement to mediate shall be deemed waived. All disputes not resolved through non-binding mediation may only be submitted to a Court of competent jurisdiction in the state and county where the Project is located.

(b) All sureties of Contractor in connection with the Work shall be bound by any negotiated resolution agreed to by the parties or any judgment rendered by a Court of competent jurisdiction. No such agreement or judgment shall operate in any manner whatsoever to release or discharge any such surety from all or any portion of its liabilities and obligations for which it is a surety.

(c) If the Owner is the prevailing party in any dispute arising under this Agreement, it shall be entitled to recover from Contractor, in addition to any judgment, award or settlement, reasonable attorneys' fees, and expert witness fees, attributable to the prosecution or defense of any Claim.

25.10 Confidentiality

Contractor acknowledges that it or its employees may, in the course of performing its responsibilities under this Agreement, be exposed to or acquire information which is proprietary to or confidential to the Owner, its affiliated entities or third parties to whom the Owner has a duty of confidentiality. Any and all information of any form obtained by Contractor or its employees in the performance of this Agreement shall be deemed to be confidential and proprietary information. Contractor agrees to hold such information in strict confidence and not to disclose such information to third parties or to use such information for any purpose whatsoever other than the provision of services to the Owner as contemplated by this Agreement and to advise each of its employees and subcontractors who may be exposed to such proprietary and confidential information of their obligations to keep such information confidential. Confidential information shall not include information which is: (1) in or becomes part of the public domain other than by disclosure by Contractor in violation of this Agreement; (2) demonstrably known to Contractor previously, without a duty of confidentiality; (3) independently developed by Contractor outside of this Agreement; (4) rightfully obtained by Contractor from third parties without a duty of confidentiality; or (5) which is required to be disclosed by law, statute or regulation. This Section shall survive Final Completion or any earlier termination of this Agreement.

25.11 No Promotion

Contractor agrees that it will not without the prior written consent of the Owner in each instance, (i) use in advertising, publicity, or otherwise, the name of the Owner or any affiliate of the Owner, or any employee of the Owner nor any trade name, trademark, trade device, service mark, symbol or any abbreviation, contraction or simulation thereof owned by the Owner or its affiliates; (ii) take or cause to be taken any photographs of the Project or the site except insofar as same is necessary for the performance of the Work; or (iii) represent, directly or indirectly, that any product or any service provided by Contractor has been approved or endorsed by the Owner. This Section shall survive Final Completion or any earlier termination of this Agreement.

25.12 Limitation on Actions

No action or proceeding shall lie or shall be maintained by Contractor against the Owner unless such action shall be commenced with six (6) months after the date payment is mailed or otherwise made in respect of the Final Requisition or, if this Agreement is terminated by the Owner, unless such action is commenced within six (6) months after the date of such termination. No action or proceeding shall be commenced by Contractor against the Owner and/or the Owner's Representative except in the Supreme Court of the State of New York.

25.13 Waiver of Remedies

Contractor acknowledges that it can be compensated adequately by money damages for any breach of this Agreement which may be committed by the Owner, the Owner's Representative or Architect. Contractor agrees that no default, act or omission of the Owner, the Owner's Representative or Architect shall constitute a material breach of contract entitling Contractor to cancel or rescind this Agreement or to suspend or abandon performance thereof, other than the failure of the Owner to make a payment of the Contract Price in accordance with the terms hereof solely because sufficient funds to pay the Contract Price have not been appropriated or will otherwise not be made available to the Owner. Except as provided in this paragraph, Contractor hereby waives all rights and remedies to which Contractor might otherwise be or become entitled to become of any wrongful act or omission of the Owner, the Owner's Representative or Architect saving only Contractor's rights to money damages.

25.14 Modification of Agreement

No change in or modification, termination or discharge of this Agreement in any form whatsoever

shall be valid or enforceable unless it is in writing and signed by the party to be charged therewith or its duly authorized representative, provided, however, that any change in or modification, termination or discharge of this Agreement expressly provided for in this Agreement shall be effective as so provided.

25.15 Signs and Parking

Contractor agrees that it shall not display on or about the Site any sign, trademark or other advertisement without the written approval of the Owner and to remove the same when so directed by the Owner. Contractor shall not permit any of its subcontractor or materialmen to park vehicles on the Site. Contractor shall be obligated to display at the Site any signage as required by the Owner.

25.16 Entire Agreement

The Contract Documents constitute the entire Agreement between the parties and incorporate all prior understandings in connection with the subject matter hereof.

25.17 Reservation of Rights and Remedies

The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law. No action or failure to act by Architect, the Owner, the Owner's Representative or Contractor including, but not limited to, the making of any payment nor permitting Contractor to continue with the performance of the Work shall constitute a waiver of any right or duty afforded any of them under this Agreement, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

25.18 Review of the New York State Comptroller

This contract shall be subject to review and approval by the Office of the State Comptroller ("OSC") pursuant to Public Authorities Law section 2879-a and the regulations issued thereunder. Such OSC review and approval is required of contracts with a value in excess of one million dollars, or modifications to contracts that result in an aggregate value in excess of one million dollars, where such contracts are paid in whole or in part with monies appropriated by the state, or were awarded on a basis other than a competitive procurement (as that term is defined in the law and regulations). **The contract shall not be valid and enforceable, nor shall the Owner have any liability of any kind arising from or in connection with this contract, unless and until OSC approval has been received."**

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

CONTRACTOR:

(SEAL) BY:_____

TITLE:

THE OWNER: Empire State Development Corporation

(SEAL) BY: _____

TITLE:

ACKNOWLEDGEMENT OF CONTRACTOR

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

On the __ day of _____, in the year two thousand fourteen, before me, the undersigned, personally appeared _____, personally known to me or provided to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the individual, or person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public

ACKNOWLEDGEMENT OF THE OWNER

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

On the ____ day of _____, in the year two thousand fourteen, before me, the undersigned, personally appeared _____, personally known to me or provided to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the individual, or person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public

EXHIBIT A

PERFORMANCE BOND

PLEASE TAKE NOTICE:

That _____ (Here insert the name and address or legal title of Contractor) _____ (hereinafter called the "Principal") and _____(Here insert the legal title of Surety) a Corporation created and existing under the laws of the State of _____ having its principal office in the City of _____ (hereinafter called the "Surety") are held and firmly bound unto Empire State Development Corp., its successors and assigns (hereinafter called the "the Owner"), as Obligee, in the amount of _____ ($_____) Dollars, for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated _____, 2014 entered into a Construction Agreement with the Owner for the following:

Episcopal Church Home Interior Asbestos Abatement - prepared by LiRo Engineers, Inc. which Construction Agreement and all other documents which are defined therein as Contract Documents, are by reference made a part hereof, and are hereinafter referred to as the “Contract”.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain full force and effect.

The Surety hereby waives notice of any alteration in the terms of the Contract or extension of time made by the parties thereto.

Whenever Contractor shall be, and declared by the Obligee, to be in default under the Contract, the Surety may promptly remedy the default, or shall promptly:

(1) Complete the Contract in accordance with its terms and conditions; or

(2) Obtain a bid or bids for submission to the Owner for completing the Contract in accordance with its terms and conditions, and under determination by Surety of the lowest responsible bidder, or, if the Obligee of them elects, under determination by the Obligee, and the Surety jointly of the lowest responsible bidder, for a Contract between such Bidder and Obligee, and make available as Work progress (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in this first paragraph hereof. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by the Obligee, to Contractor under the Contract and any amendment thereto less the amount properly paid by the Obligee to Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment is made under the Contract.

No right of action shall accrue of this bond to or for the use of any person or Corporation other than the Obligee named herein, or the heirs, executor, administrators, successors or assigns of the Obligee, or to other Contractors, as set forth in Section 3.3 of the aforementioned Construction Agreement.

IN TESTIMONY WHEREOF, the said Principal has hereunto set his (their, its) hand and seal and the said Surety has caused this instrument to be signed by its Attorney-in-fact, and its corporate seal to be

hereunto affixed, the day and year first above written.

Signed and sealed this ___ day of _____, 2014

_____ _____

(Witness) (Principal) (Seal)

(Title)

(Witness)

(Surety)

(Seal)

_____ (Title)

ACKNOWLEDGEMENT OF PRINCIPAL, IF A CORPORATION

STATE OF)
) ss.:
COUNTY OF)

On this ___ day of _____ in the year 2014, before me personally came _____, to me known, who being by me duly sworn, did depose and said that he/she resides in_____; that he/she is the _____ of the _____, the Corporation described in an which executed the above instrument; that he knows the seal of said Corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said Corporation, and that he/she signed his/her name thereto by like order.

(SEAL)

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

On this ___ day of _____ in the year 2014, before me personally came _____, to me known, and known to me to be a member of the firm of _____ described in and who executed the foregoing instrument, and he/she duly acknowledged to me that he/she executed the same for and in behalf of said firm for the uses and purpose mentioned herein.

(SEAL)

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

On this ___ day of _____ in the year 2014, before me personally came _____, to me known, and known to me to be the person described in and who executed the foregoing instrument and he/she duly acknowledged that he/she executed the same.

(SEAL)

ACKNOWLEDGMENT OF SURETY

On this ___ day of _____ in the year 2014, 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 that above instrument; that he knows the seal of said Corporation; that the seal affixed to said instrument is such seal; that it was so affixed by order of the Board of Directors of said Corporation and that he/she signed his/her name thereto by like order.

(SEAL)

(Principal) (Seal)

(Witness)

(Title)

_____

(Surety) (Seal)

(Witness)

(Title)

EXHIBIT B

LABOR AND MATERIAL PAYMENT BOND

PLEASE TAKE NOTICE:

That _____(Here insert the name and address of Contractor)_____ _____ (hereinafter called the "Principal") and the _____ a Corporation created and existing under the laws of the State of _____ having its principal office in the City of _____ (hereinafter called the "Surety"), are held and firmly bound unto Empire State Development, its successors and assigns (hereinafter called the "the Owner"), as Obligee, in the full and just sum of _____($_____) Dollars good and lawful money of the United State of America, for the payment of which said sum of money, well and truly to be made and done, the said Principal binds themselves (himself, herself, itself), their (his, her, its) heirs, executors, administrators, successors and assigns, and the said Surety binds itself, its successors and assigns jointly and severally, firmly by these presents: Signed, sealed and dated this _____ A.D.

WHEREAS, said principal has entered into a certain written Contract with the Owner for the following:

EPISCOPAL CHURCH HOME INTERIOR ASBESTOS ABATEMENT which Construction Agreement and all other documents which are defined therein as Contract Documents, are by reference made a part hereof, and are hereinafter referred to as the “Contract” and,

WHEREAS, the Owner 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 condition of the foregoing obligation is 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, that the said Surety for value received, hereby stipulates and agrees that no change, extension, alteration or addition to the terms of the Contract Documents shall in any wise effect its obligation under this Bond, and it does hereby waive notice of any such change, extension, alteration or addition; and further

PROVIDED, HOWEVER, that 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, that 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, and its corporate seal to be hereunto affixed, this day of _____, 2014

Signed and sealed this ___ day of _____, 2014

(Principal) (Seal)

(Witness)

_____
(Title)

(Surety) (Seal)

(Witness)

(Title)

EXHIBIT C

CONTRACT CHANGE ORDER FORM

To be issued to successful contractor

EXHIBIT D

CERTIFICATE OF SOLVENCY

To be provided by Contractors Surety Company in a form acceptable to the Owner.

EXHIBIT E

SCHEDULE OF DRAWINGS AND SPECIFICATIONS

Refer to Drawing Index in Project Manual

EXHIBIT F

PARTICIPATION BY MINORITY GROUP MEMBERS AND WOMEN WITH RESPECT TO STATE CONTRACTS: REQUIREMENTS AND PROCEDURES

I. General Provisions

A. The Empire State Development (ESD) is required to implement the provisions of New York State Executive Law Article 15-A and 5 NYCRR Parts 142-144 ("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.

B. The Contractor to the subject contract (the "Contractor" and the "Contract," respectively) agrees, in addition to any other nondiscrimination provision of the Contract and at no additional cost to the New York State ESD (the "ESD"), to fully comply and cooperate with the ESD in the implementation of New York State Executive Law Article 15-A. These requirements include equal employment opportunities for minority group members and women ("EEO") and contracting opportunities for certified minority and women-owned business enterprises ("MWBEs"). Contractor's demonstration of "good faith efforts" pursuant to 5 NYCRR §142.8 shall be a part of these requirements. These provisions shall be deemed supplementary to, and not in lieu of, the nondiscrimination provisions required by New York State Executive Law Article 15 (the "Human Rights Law") or other applicable federal, state or local laws.

C. 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, liquidated damages pursuant to Section VII of this Appendix or enforcement proceedings as allowed by the Contract.

II. Contract Goals

A. For purposes of this procurement, the ESD hereby establishes an overall goal of 25% for Minority and Women-Owned Business Enterprises ("MWBE") participation: 15% for Minority-owned Business Enterprises (MBE) participation and 10% for Women-owned Business Enterprise (WBE) participation (based on the current availability of qualified MBEs and WBEs).

B. For purposes of providing meaningful participation by MWBEs on the Contract and achieving the Contract Goals established in Section II-A hereof, Contractor should reference the directory of New York State Certified MBWEs found at the following internet address:

https://ny.newnycontracts.com

Additionally, Contractor is encouraged to contact the Division of Minority and Woman Business Development (518-292-5250; 212-803-2414; or 716-846-8200) to discuss additional methods of maximizing participation by MWBEs on the Contract.

C. Where MWBE goals have been established herein, pursuant to 5 NYCRR §142.8, Contractor must document "good faith efforts" to provide meaningful participation by MWBEs as subcontractors or suppliers in the performance of the Contract. In accordance with Section 316-a of Article 15-A and 5 NYCRR §142.13, the Contractor acknowledges that if Contractor is found to have willfully and intentionally failed to comply with the MWBE participation goals set forth in the Contract, such a finding constitutes a breach of contract and the Contractor shall be liable to the ESD for liquidated or other appropriate damages, as set forth herein.

III. Equal Employment Opportunity (EEO)

A. Contractor agrees to be bound by the provisions of Article 15-A and the MWBE Regulations promulgated by the Division of Minority and Women's Business Development of the Department of Economic Development (the "Division"). If any of these terms or provisions conflict with applicable law or regulations, such laws and regulations shall supersede these requirements.

B. Contractor shall comply with the following provisions of Article 15-A:

1. Contractor and Subcontractors shall undertake or continue existing EEO 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, EEO 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.

2. The Contractor shall submit an EEO policy statement to the ESD within seventy two (72) hours after the date of the notice by ESD to award the Contract to the Contractor.

3. If Contractor or Subcontractor does not have an existing EEO policy statement, the ESD may provide the Contractor or Subcontractor a model statement (see Form OCSD-1 – M/WBE Participation/Equal Employment Opportunity Policy Statement).

4. The Contractor's EEO policy statement shall include the following language:

a. The Contractor 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 EEO programs 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.

b. The Contractor 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. 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 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.

d. The Contractor will include the provisions of Subdivisions (a) through (c) of this Subsection 4 and Paragraph "E" of this Section III, which provides for relevant provisions of the Human Rights Law, in every subcontract in such a manner that the requirements of the subdivisions will be binding upon each subcontractor as to work in connection with the Contract.

C. Form OCSD-2 – 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.

D. Form OCSD-3 – Work Force Employment Utilization Report ("Workforce Report")

1. Once a contract has been awarded and during the term of Contract, Contractor is responsible for updating and providing notice to the ESD 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.
2. Separate forms shall be completed by Contractor and any subcontractor performing work on the Contract.
3. 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.

E. 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.

IV. MWBE Utilization Plan

A. The Contractor represents and warrants that Contractor has submitted an MWBE Utilization Plan (Form OCSD-4) either prior to, or at the time of, the execution of the contract.

B. 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.

C. 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, ESD shall be entitled to any remedy provided herein, including but not limited to, a finding of Contractor non-responsiveness.

V. Waivers

A. For Waiver Requests Contractor should use the Waiver Request Form (Form OCSD-5).

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 ESD shall evaluate the request and issue a written notice of acceptance or denial within twenty (20) days of receipt.

C. If the ESD, 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 ESD 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.

VI. Quarterly MWBE Contractor Compliance Report

Contractor is required to submit a Quarterly MWBE Contractor Compliance and Payment Report (Form E6) to the ESD by the 10th 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.

VII. Liquidated Damages - MWBE Participation

A. Where ESD 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 to the ESD liquidated damages.

B. Such liquidated damages shall be calculated as an amount equaling the difference between:

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

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

C. 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 ESD, Contractor shall pay such liquidated damages to the ESD within sixty (60) days after they are assessed by the ESD 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 ESD.

D. In the event the Contractor shall fail to forthwith pay such amounts upon such demand, ESD shall be entitled and empowered to institute such action or proceedings at law or in equity as may be advised by its counsel for the collection of the sums so due and unpaid, and may prosecute any such action or proceedings to judgment or final decree, and may enforce any such judgment or final decree against Contractor and collect, out of the property of Contractor wherever situated in any manner provided by law, money adjudged or decreed to be payable.

EXHIBIT G

MONTHLY EMPLOYMENT UTILIZATION REPORT

Refer to Exhibit F
See following Attachment(s)

Schedule C-1

MONTHLY EMPLOYMENT UTILIZATION REPORT

(See reverse side for instructions)

EMPIRE STATE DEVELOPMENT

COMPANY NAME:	PROJECT NAME:	CONTRACTOR START DATE:
ADDRESS:	PROJECT LOCATION:	ESTIMATED COMPLETION DATE:
	COUNTY: ZIP:	PERCENT OF JOB COMPLETED *(for reporting period)*
TELEPHONE NUMBER:	REPORTING PERIOD: Month Year	CONTRACT NO.:
FEDERAL ID NO.:		CONTRACT AMOUNT:
CHECK IF NOT-FOR-PROFIT:		

CLASSIFICATION	1. WORKER HOURS OF EMPLOYMENT											2. NUMBER OF WORKERS				3. CONSTRUCTION TRADES
	1a. ALL WORKER HOURS			1b. BLACK (Not of Hispanic Origin)		1c. HISPANIC		1d. ASIAN or PACIFIC ISLANDER		1e. NATIVE AMERICAN/ ALASKAN NATIVE		2a. ALL		2b. MINORITY		
	MALE	FEMALE	TOTAL	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	
Supervisory																
Journey Worker																
Apprentice																
Trainee																
Subtotal																
Journey Worker																
Apprentice																
Trainee																
Subtotal																
Journey Worker																
Apprentice																
Trainee																
Subtotal																
TOTAL SUPERVISORS																
TOTAL JOURNEY WORKERS																
TOTAL APPRENTICES																
TOTAL TRAINEES																
GRAND TOTAL																

CERTIFICATION: I, _____ (Print Name), the _____ (Title), do certify that (i) I have read this Monthly Employment Utilization Report and (ii) to the best of my knowledge, information and belief the information contained herein is complete and accurate.

SIGNATURE _____ DATE

EXHIBIT H

TABLE OF APPROVAL AUTHORITY AND FACSIMILE SIGNATURES

See following Attachment(s)

_____
(Name of Project)

Table of Approved Authority and Facsimile Signature

Name/Title/Firm (Examples)	Facsimile Signature	Initials	Documents Requiring Approval (See (A) below for Examples)	Approval Auth ($ Limit)
Construction Superintendent	_____	_____		
Controller	_____	_____		
Vice President	_____	_____		
President	_____	_____		

The above individuals have been delegated authority as stated, in accordance with a meeting of the Board of Directors on _____ .

_____ _____
Secretary

(A) Examples of Documents Requiring Approval
- (1) Construction Payment Requisitions
- (2) Change Orders
- (3) Purchase Orders
- (4) Owner Agreements
- (5) Contracts

S - A - M - P - L - E
ATTACHMENT E-3

TBLAPPV/3

EXHIBIT I

REQUIREMENTS OF ARTICLE 8 SECTION (220-223) OF THE NEW YORK STATE LABOR LAW

PREVAILING WAGE RATES

There are no federal funds involved in this project and work will not be bound by Federal Davis-Bacon wage rules, but instead be under the New York State Labor Department Prevailing Wage Regulations.

Note:
The Contractor is obligated to update and post the schedule on the jobsite and to provide copies of the schedule to all their subcontractors.

Andrew M. Cuomo, Governor

Peter M. Rivera, Commissioner

Empire State Development

Michael Byrne, Project Coordinator
LiRo Engineers Inc.
690 Delaware Avenue
Buffalo NY 14209

Schedule Year	2013 through 2014
Date Requested	09/27/2013
PRC#	2013008873

Location	City of Buffalo
Project ID#	
Project Type	Demolition and Site Preparation

PREVAILING WAGE SCHEDULE FOR ARTICLE 8 PUBLIC WORK PROJECT

Attached is the current schedule(s) of the prevailing wage rates and prevailing hourly supplements for the project referenced above. A unique Prevailing Wage Case Number (PRC#) has been assigned to the schedule(s) for your project.

The schedule is effective from July 2013 through June 2014. All updates, corrections, posted on the 1st business day of each month, and future copies of the annual determination are available on the Department's website www.labor.state.ny.us. Updated PDF copies of your schedule can be accessed by entering your assigned PRC# at the proper location on the website.

It is the responsibility of the contracting agency or its agent to annex and make part, the attached schedule, to the specifications for this project, when it is advertised for bids and /or to forward said schedules to the successful bidder(s), immediately upon receipt, in order to insure the proper payment of wages.

Please refer to the "General Provisions of Laws Covering Workers on Public Work Contracts" provided with this schedule, for the specific details relating to other responsibilities of the Department of Jurisdiction.

Upon completion or cancellation of this project, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

NOTICE OF COMPLETION / CANCELLATION OF PROJECT

Date Completed: _____ Date Cancelled: _____

Name & Title of Representative: _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240

General Provisions of Laws Covering Workers on Article 8 Public Work Contracts

Introduction

The Labor Law requires public work contractors and subcontractors to pay laborers, workers, or mechanics employed in the performance of a public work contract not less than the prevailing rate of wage and supplements (fringe benefits) in the locality where the work is performed.

Responsibilities of the Department of Jurisdiction

A Department of Jurisdiction (Contracting Agency) includes a state department, agency, board or commission: a county, city, town or village; a school district, board of education or board of cooperative educational services; a sewer, water, fire, improvement and other district corporation; a public benefit corporation; and a public authority awarding a public work contract.

The Department of Jurisdiction (Contracting Agency) awarding a public work contract MUST obtain a Prevailing Rate Schedule listing the hourly rates of wages and supplements due the workers to be employed on a public work project. This schedule may be obtained by completing and forwarding a "Request for wage and Supplement Information" form (PW 39) to the Bureau of Public Work. The Prevailing Rate Schedule MUST be included in the specifications for the contract to be awarded and is deemed part of the public work contract.

Upon the awarding of the contract, the law requires that the Department of Jurisdiction (Contracting Agency) furnish the following information to the Bureau: the name and address of the contractor, the date the contract was let and the approximate dollar value of the contract. To facilitate compliance with this provision of the Labor Law, a copy of the Department's "Notice of Contract Award" form (PW 16) is provided with the original Prevailing Rate Schedule.

The Department of Jurisdiction (Contracting Agency) is required to notify the Bureau of the completion or cancellation of any public work project. The Department's PW 200 form is provided for that purpose.

Both the PW 16 and PW 200 forms are available for completion online.

Hours

No laborer, worker, or mechanic in the employ of a contractor or subcontractor engaged in the performance of any public work project shall be permitted to work more than eight hours in any day or more than five days in any week, except in cases of extraordinary emergency. The contractor and the Department of Jurisdiction (Contracting Agency) may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project.

There are very few exceptions to this rule. Complete information regarding these exceptions is available on the "4 Day / 10 Hour Work Schedule" form (PW 30R).

Wages and Supplements

The wages and supplements to be paid and/or provided to laborers, workers, and mechanics employed on a public work project shall be not less than those listed in the current Prevailing Rate Schedule for the locality where the work is performed. If a prime contractor on a public work project has not been provided with a Prevailing Rate Schedule, the contractor must notify the Department of Jurisdiction (Contracting Agency) who in turn must request an original Prevailing Rate Schedule form the Bureau of Public Work. Requests may be submitted by: mail to NYSDOL, Bureau of Public Work, State Office Bldg. Campus, Bldg. 12, Rm. 130, Albany, NY 12240; Fax to Bureau of Public Work (518) 485-1870; or electronically at the NYSDOL website www.labor.state.ny.us.

Upon receiving the original schedule, the Department of Jurisdiction (Contracting Agency) is REQUIRED to provide complete copies to all prime contractors who in turn MUST, by law, provide copies of all applicable county schedules to each subcontractor and obtain from each subcontractor, an affidavit certifying such schedules were received. If the original schedule expired, the contractor may obtain a copy of the new annual determination from the NYSDOL website www.labor.state.ny.us.

The Commissioner of Labor makes an annual determination of the prevailing rates. This determination is in effect from July 1st through June 30th of the following year. The annual determination is available on the NYSDOL website www.labor.state.ny.us.

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. Payrolls must be maintained for at least three (3) years from the project's date of completion. At a minimum, payrolls must show the following information for each person employed on a public work project: Name, Address, Last 4 Digits of Social Security Number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid or provided, and Daily and weekly number of hours worked in each classification.

Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury. The Department of Jurisdiction (Contracting Agency) shall collect, review for facial validity, and maintain such payrolls.

In addition, the Commissioner of Labor may require contractors to furnish, with ten (10) days of a request, payroll records sworn to as their validity and accuracy for public work and private work. Payroll records include, by are not limited to time cards, work description sheets, proof that supplements were provided, cancelled payroll checks and payrolls. Failure to provide the requested information within the allotted ten (10) days will result in the withholding of up to 25% of the contract, not to exceed $100,000.00. If the contractor or subcontractor does not maintain a place of business in New York State and the amount of the contract exceeds $25,000.00, payroll records and certifications must be kept on the project worksite.

The prime contractor is responsible for any underpayments of prevailing wages or supplements by any subcontractor.

All contractors or their subcontractors shall provide to their subcontractors a copy of the Prevailing Rate Schedule specified in the public work contract as well as any subsequently issued schedules. A failure to provide these schedules by a contractor or subcontractor is a violation of Article 8, Section 220-a of the Labor Law.

All subcontractors engaged by a public work project contractor or its subcontractor, upon receipt of the original schedule and any subsequently issued schedules, shall provide to such contractor a verified statement attesting that the subcontractor has received the Prevailing Rate Schedule and will pay or provide the applicable rates of wages and supplements specified therein. (See NYS Labor Laws, Article 8 . Section 220-a).

Determination of Prevailing Wage and Supplement Rate Updates Applicable to All Counties

The wages and supplements contained in the annual determination become effective July 1st whether or not the new determination has been received by a given contractor. Care should be taken to review the rates for obvious errors. Any corrections should be brought to the Department's attention immediately. It is the responsibility of the public work contractor to use the proper rates. If there is a question on the proper classification to be used, please call the district office located nearest the project. Any errors in the annual determination will be corrected and posted to the NYSDOL website on the first business day of each month. Contractors are responsible for paying these updated rates as well, retroactive to July 1st.

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. To the extent possible, the Department posts rates in its possession that cover periods of time beyond the July 1st to June 30th time frame covered by a particular annual determination. Rates that extend beyond that instant time period are informational ONLY and may be updated in future annual determinations that actually cover the then appropriate July 1st to June 30th time period.

Withholding of Payments

When a complaint is filed with the Commissioner of Labor alleging the failure of a contractor or subcontractor to pay or provide the prevailing wages or supplements, or when the Commissioner of Labor believes that unpaid wages or supplements may be due, payments on the public work contract shall be withheld from the prime contractor in a sufficient amount to satisfy the alleged unpaid wages and supplements, including interest and civil penalty, pending a final determination.

When the Bureau of Public Work finds that a contractor or subcontractor on a public work project failed to pay or provide the requisite prevailing wages or supplements, the Bureau is authorized by Sections 220-b and 235.2 of the Labor Law to so notify the financial officer of the Department of Jurisdiction (Contracting Agency) that awarded the public work contract. Such officer MUST then withhold or cause to be withheld from any payment due the prime contractor on account of such contract the amount indicated by the Bureau as sufficient to satisfy the unpaid wages and supplements, including interest and any civil penalty that may be assessed by the Commissioner of Labor. The withholding continues until there is a final determination of the underpayment by the Commissioner of Labor or by the court in the event a legal proceeding is instituted for review of the determination of the Commissioner of Labor.

The Department of Jurisdiction (Contracting Agency) shall comply with this order of the Commissioner of Labor or of the court with respect to the release of the funds so withheld.

Summary of Notice Posting Requirements

The current Prevailing Rate Schedule must be posted in a prominent and accessible place on the site of the public work project. The prevailing wage schedule must be encased in, or constructed of, materials capable of withstanding adverse weather conditions and be titled "PREVAILING RATE OF WAGES" in letters no smaller than two (2) inches by two (2) inches.

The "Public Work Project" notice must be posted at the beginning of the performance of every public work contract, on each job site.

Every employer providing workers. compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers. Compensation Board in a conspicuous place on the jobsite.

Every employer subject to the NYS Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers, notices furnished by the State Division of Human Rights.

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the NYS Department of Labor.

Apprentices

Employees cannot be paid apprentice rates unless they are individually registered in a program registered with the NYS Commissioner of Labor. The allowable ratio of apprentices to journeyworkers in any craft classification can be no greater than the statewide building trade ratios promulgated by the Department of Labor and included with the Prevailing Rate Schedule. An employee listed on a payroll as an apprentice who is not registered as above or is performing work outside the classification of work for which the apprentice is indentured, must be paid the prevailing journeyworker's wage rate for the classification of work the employee is actually performing.

NYSDOL Labor Law, Article 8, Section 220-3, require that only apprentices individually registered with the NYS Department of Labor may be paid apprenticeship rates on a public work project. No other Federal or State Agency of office registers apprentices in New York State.

Persons wishing to verify the apprentice registration of any person must do so in writing by mail, to the NYSDOL Office of Employability Development / Apprenticeship Training, State Office Bldg. Campus, Bldg. 12, Albany, NY 12240 or by Fax to NYSDOL Apprenticeship Training (518) 457-7154. All requests for verification must include the name and social security number of the person for whom the information is requested.

The only conclusive proof of individual apprentice registration is written verification from the NYSDOL Apprenticeship Training Albany Central office. Neither Federal nor State Apprenticeship Training offices outside of Albany can provide conclusive registration information.

It should be noted that the existence of a registered apprenticeship program is not conclusive proof that any person is registered in that program. Furthermore, the existence or possession of wallet cards, identification cards, or copies of state forms is not conclusive proof of the registration of any person as an apprentice.

Interest and Penalties

In the event that an underpayment of wages and/or supplements is found:

- Interest shall be assessed at the rate then in effect as prescribed by the Superintendent of Banks pursuant to section 14-a of the Banking Law, per annum from the date of underpayment to the date restitution is made.
- A Civil Penalty may also be assessed, not to exceed 25% of the total of wages, supplements, and interest due.

Debarment

Any contractor or subcontractor and/or its successor shall be ineligible to submit a bid on or be awarded any public work contract or subcontract with any state, municipal corporation or public body for a period of five (5) years when:

- Two (2) willful determinations have been rendered against that contractor or subcontractor and/or its successor within any consecutive six (6) year period.
- There is any willful determination that involves the falsification of payroll records or the kickback of wages or supplements.

Criminal Sanctions

Willful violations of the Prevailing Wage Law (Article 8 of the Labor Law) may be a felony punishable by fine or imprisonment of up to 15 years, or both.

Discrimination

No employee or applicant for employment may be discriminated against on account of age, race, creed, color, national origin, sex, disability or marital status.

No contractor, subcontractor nor any person acting on its behalf, shall by reason of race, creed, color, disability, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates (NYS Labor Law, Article 8, Section 220-e(a)).

No contractor, subcontractor, nor any person acting on its behalf, shall in any manner, discriminate against or intimidate any employee on account of race, creed, color, disability, sex, or national origin (NYS Labor Law, Article 8, Section 220-e(b)).

The Human Rights Law also prohibits discrimination in employment because of age, marital status, or religion.

There may be deducted from the amount payable to the contractor under the contract a penalty of $50.00 for each calendar day during which such person was discriminated against or intimidated in violation of the provision of the contract (NYS Labor Law, Article 8, Section 220-e(c)).

The contract may be cancelled or terminated by the State or municipality. All monies due or to become due thereunder may be forfeited for a second or any subsequent violation of the terms or conditions of the anti-discrimination sections of the contract (NYS Labor Law, Article 8, Section 220-e(d)).

Every employer subject to the New York State Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers notices furnished by the State Division of Human Rights.

Workers' Compensation

In accordance with Section 142 of the State Finance Law, the contractor shall maintain coverage during the life of the contract for the benefit of such employees as required by the provisions of the New York State Workers' Compensation Law.

A contractor who is awarded a public work contract must provide proof of workers' compensation coverage prior to being allowed to begin work.

The insurance policy must be issued by a company authorized to provide workers' compensation coverage in New York State. Proof of coverage must be on form C-105.2 (Certificate of Workers' Compensation Insurance) and must name this agency as a certificate holder.

If New York State coverage is added to an existing out-of-state policy, it can only be added to a policy from a company authorized to write workers' compensation coverage in this state. The coverage must be listed under item 3A of the information page.

The contractor must maintain proof that subcontractors doing work covered under this contract secured and maintained a workers' compensation policy for all employees working in New York State.

Every employer providing worker's compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers' Compensation Board in a conspicuous place on the jobsite.

Unemployment Insurance

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the New York State Department of Labor.

Andrew M. Cuomo, Governor

Peter M. Rivera, Commissioner

Empire State Development

Michael Byrne, Project Coordinator
LiRo Engineers Inc.
690 Delaware Avenue
Buffalo NY 14209

Schedule Year	2013 through 2014
Date Requested	09/27/2013
PRC#	2013008873

Location	City of Buffalo
Project ID#	
Project Type	Demolition and Site Preparation

Notice of Contract Award

New York State Labor Law, Article 8, Section 220.3a requires that certain information regarding the awarding of public work contracts, be furnished to the Commissioner of Labor. One "Notice of Contract Award" (PW 16, which may be photocopied), **MUST** be completed for **EACH** prime contractor on the above referenced project.

Upon notifying the successful bidder(s) of this contract, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

Contractor Information

All information must be supplied

Federal Employer Identification Number: _____

Name: _____

Address: _____

_____

City: _____ State: _____ Zip: _____

Amount of Contract: $_____

Approximate Starting Date: ____/____/____

Approximate Completion Date: ____/____/____

Contract Type:

[ ] (01) General Construction
[ ] (02) Heating/Ventilation
[ ] (03) Electrical
[ ] (04) Plumbing
[ ] (05) Other : _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240

IMPORTANT NOTICE

FOR

CONTRACTORS & CONTRACTING AGENCIES

Social Security Numbers on Certified Payrolls

The Department of Labor is cognizant of the concerns of the potential for misuse or inadvertent disclosure of social security numbers. Identity theft is a growing problem and we are sympathetic to contractors' concerns with regard to inclusion of this information on payrolls if another identifier will suffice.

For these reasons, ***the substitution of the use of the last four digits of the social security number on certified payrolls submitted to contracting agencies on public work projects is now acceptable to the Department of Labor.***

NOTE: This change does not affect the Department's ability to request and receive the entire social security number from employers during the course of its public work / prevailing wage investigations.

To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND

Budget Policy & Reporting Manual

B-610

Public Work Enforcement Fund

effective date December 7, 2005

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1. Purpose and Scope:

This Item describes the Public Work Enforcement Fund (the Fund, PWEF) and its relevance to State agencies and public benefit corporations engaged in construction or reconstruction contracts, maintenance and repair, and announces the recently-enacted increase to the percentage of the dollar value of such contracts that must be deposited into the Fund. This item also describes the roles of the following entities with respect to the Fund:

- New York State Department of Labor (DOL),
- The Office of the State of Comptroller (OSC), and
- State agencies and public benefit corporations.

2. Background and Statutory References:

DOL uses the Fund to enforce the State's Labor Law as it relates to contracts for construction or reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law. State agencies and public benefit corporations participating in such contracts are required to make payments to the Fund.

Chapter 511 of the Laws of 1995 (as amended by Chapter 513 of the Laws of 1997, Chapter 655 of the Laws of 1999, Chapter 376 of the Laws of 2003 and Chapter 407 of the Laws of 2005) established the Fund.

3. Procedures and Agency Responsibilities:

The Fund is supported by transfers and deposits based on the value of contracts for construction and reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law, into which all State agencies and public benefit corporations enter.

Chapter 407 of the Laws of 2005 increased the amount required to be provided to this fund to .10 of one-percent of the total cost of each such contract, to be calculated at the time agencies or public benefit corporations enter into a new contract or if a contract is amended. The provisions of this bill became effective August 2, 2005.

To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND

OSC will report to DOL on all construction-related ("D") contracts approved during the month, including contract amendments, and then DOL will bill agencies the appropriate assessment monthly. An agency may then make a determination if any of the billed contracts are exempt and so note on the bill submitted back to DOL. For any instance where an agency is unsure if a contract is or is not exempt, they can call the Bureau of Public Work at the number noted below for a determination. Payment by check or journal voucher is due to DOL within thirty days from the date of the billing. DOL will verify the amounts and forward them to OSC for processing.

For those contracts which are not approved or administered by the Comptroller, monthly reports and payments for deposit into the Public Work Enforcement Fund must be provided to the Administrative Finance Bureau at the DOL within 30 days of the end of each month or on a payment schedule mutually agreed upon with DOL.

Reports should contain the following information:

- Name and billing address of State agency or public benefit corporation;
- State agency or public benefit corporation contact and phone number;
- Name and address of contractor receiving the award;
- Contract number and effective dates;
- Contract amount and PWEF assessment charge (if contract amount has been amended, reflect increase or decrease to original contract and the adjustment in the PWEF charge); and
- Brief description of the work to be performed under each contract.

Checks and Journal Vouchers, payable to the "New York State Department of Labor" should be sent to:

Department of Labor
Administrative Finance Bureau-PWEF Unit
Building 12, Room 464
State Office Campus
Albany, NY 12240

Any questions regarding billing should be directed to NYSDOL's Administrative Finance Bureau-PWEF Unit at (518) 457-3624 and any questions regarding Public Work Contracts should be directed to the Bureau of Public Work at (518) 457-5589.

Construction Industry
Fair Play Act

Required Posting For Labor Law
Article 25-B § 861-d

Construction industry employers must post the "Construction Industry Fair Play Act" notice in a prominent and accessible place on the job site.

Failure to post the notice can result in penalties of up to $1,500 for a first offense and up to $5,000 for a second offense.

The posting is included as part of this wage schedule. Additional copies may be obtained from the NYS DOL website, www.labor.ny.gov.

If you have any questions concerning the Fair Play Act, please call the State Labor Department toll-free at 1-866-435-1499 or email us at: dol.misclassified@labor.state.ny.us .

New York State Department of Labor
Required Notice under Article 25-B of the Labor Law

ATTENTION ALL EMPLOYEES, CONTRACTORS AND SUBCONTRACTORS:
YOU ARE COVERED BY THE
CONSTRUCTION INDUSTRY FAIR PLAY ACT

The law says that you are an employee unless:

- You are free from direction and control in performing your job AND
- You perform work that is not part of the usual work done by the business that hired you AND
- You have an independently established business

Your employer cannot consider you to be an independent contractor unless all three of these facts apply to your work.

IT IS AGAINST THE LAW FOR AN EMPLOYER TO MISCLASSIFY EMPLOYEES AS INDEPENDENT CONTRACTORS OR PAY EMPLOYEES OFF-THE-BOOKS.

Employee rights. If you are an employee:

- You are entitled to state and federal worker protections such as
  - unemployment benefits, if unemployed through no fault of your own, able to work, and otherwise qualified
  - workers' compensation benefits for on-the-job injuries
  - payment for wages earned, minimum wage, and overtime (under certain conditions)
  - prevailing wages on public work projects
  - the provisions of the National Labor Relations Act and
  - a safe work environment
- It is a violation of this law for employers to retaliate against anyone who asserts their rights under the law. Retaliation subjects an employer to civil penalties, a private lawsuit or both.

Independent Contractors: If you are an independent contractor*:*

- You must pay all taxes required by New York State and Federal Law.

Penalties for paying off-the-books or improperly treating employees as independent contractors:

- **Civil Penalty** — First Offense: up to $2,500 per employee.
  Subsequent Offense(s): up to $5,000 per employee.

- **Criminal Penalty** — First Offense: Misdemeanor - up to 30 days in jail, up to a $25,000 fine and debarment from performing Public Work for up to one year.
  Subsequent Offense(s): Misdemeanor - up to 60 days in jail, up to a $50,000 fine and debarment from performing Public Work for up to 5 years.

If you have questions about your employment status or believe that your employer may have violated your rights and you want to file a complaint, call the Department of Labor at 1(866)435-1499 or send an email to dol.misclassified@labor.state.ny.us. All complaints of fraud and violations are taken seriously and you can remain anonymous.

Employer Name:

IA 999 (09/10)

WORKER NOTIFICATION

(Labor Law §220, paragraph a of subdivision 3-a)

Effective February 24, 2008

This provision is an addition to the existing prevailing wage rate law, Labor Law §220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the *prevailing wage rate* for their particular job classification *on each pay stub**. It also requires contractors and subcontractors to *post a notice* at the beginning of the performance of every public work contract *on each job site* that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rate of wages and/or supplements for his/her particular job classification. The required notification will be provided with each wage schedule, may be downloaded from our website *www.labor.state.ny.us* or made available upon request by contacting the Bureau of Public Work at 518-457-5589.

* In the event that the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.

(11.11)

New York State Department of Labor
Bureau of Public Work

Attention Employees

THIS IS A:

PUBLIC WORK PROJECT

If you are employed on this project as a **worker, laborer, or mechanic** you are entitled to receive the **prevailing wage and supplements rate** for the classification at which you are working.

Chapter 629 of the Labor Laws of 2007:

These wages are set by law and must be posted at the work site. They can also be found at: www.labor.ny.gov

If you feel that you have not received proper wages or benefits, please call our nearest office.*

Albany	(518) 457-2744	Patchogue	(631) 687-4882
Binghamton	(607) 721-8005	Rochester	(585) 258-4505
Buffalo	(716) 847-7159	Syracuse	(315) 428-4056
Garden City	(516) 228-3915	Utica	(315) 793-2314
New York City	(212) 775-3568	White Plains	(914) 997-9507
Newburgh	(845) 568-5287		

* For New York City government agency construction projects, please contact the Office of the NYC Comptroller at (212) 669-4443, or www.comptroller.nyc.gov – click on Bureau of Labor Law.

Contractor Name: _____

Project Location: _____

OSHA 10-hour Construction

Safety and Health Course – S1537-A

Effective July 18, 2008

This provision is an addition to the existing prevailing wage rate law, Labor Law §220, section 220-h. It requires that on all public work projects of at least $250,000.00, all laborers, workers and mechanics working on the site, be certified as having successfully completed the OSHA 10-hour construction safety and health course. It further requires that the advertised bids and contracts for every public work contract of at least $250,000.00, contain a provision of this requirement.

NOTE: ***The OSHA 10 Legislation only applies to workers on a public work project that are required, under Article 8, to receive the prevailing wage.***

Where to find OSHA 10-hour Construction Course

1. NYS Department of Labor website for scheduled outreach training at:

   www.labor.state.ny.us/workerprotection/safetyhealth/DOSH_ONSITE_CONSULTATION.shtm

2. OSHA Training Institute Education Centers:

   Rochester Institute of Technology OSHA Education Center
   Rochester, NY
   Donna Winter
   Fax (585) 475-6292
   e-mail: dlwtpo@rit.edu
   (866) 385-7470 Ext. 2919
   www.rit.edu/~outreach/course.php3?CourseID=54

   Atlantic OSHA Training Center
   UMDNJ – School of Public Health
   Piscataway, NJ
   Janet Crooks
   Fax (732) 235-9460
   e-mail: crooksje@umdnj.edu
   (732) 235-9455
   https://ophp.umdnj.edu/wconnect/ShowSchedule.awp?~~GROUP~AOTCON~10~

   Atlantic OSHA Training Center
   University at Buffalo
   Buffalo, New York
   Joe Syracuse
   Fax (716) 829-2806
   e-mail:mailto:japs@buffalo.edu
   (716) 829-2125
   http://www.smbs.buffalo.edu/CENTERS/trc/schedule_OSHA.php

   Keene State College
   Manchester, NH
   Leslie Singleton
   e-mail: lsingletin@keene.edu
   (800) 449-6742
   www.keene.edu/courses/print/courses_osha.cfm

3. List of trainers and training schedules for OSHA outreach training at:

   www.OutreachTrainers.org

Requirements for OSHA 10 Compliance

Chapter 282 of the Laws of 2007, codified as Labor Law 220-h took effect on July 18, 2008. The statute provides as follows:

The advertised specifications for every contract for public work of $250,000.00 or more must contain a provision requiring that every worker employed in the performance of a public work contract shall be certified as having completed an OSHA 10 safety training course. The clear intent of this provision is to require that all employees of public work contractors, required to be paid prevailing rates, receive such training "prior to the performing any work on the project."

The Bureau will enforce the statute as follows:

All contractors and sub contractors must attach a copy of proof of completion of the OSHA 10 course to the first certified payroll submitted to the contracting agency and on each succeeding payroll where any new or additional employee is first listed.

Proof of completion may include but is not limited to:

- Copies of bona fide course completion card (*Note: Completion cards do not have an expiration date.*)
- Training roster, attendance record of other documentation from the certified trainer pending the issuance of the card.
- Other valid proof

**A certification by the employer attesting that all employees have completed such a course is not sufficient proof that the course has been completed.

Any questions regarding this statute may be directed to the New York State Department of Labor, Bureau of Public Work at 518-485-5696.

WICKS Reform 2008

(For all contracts advertised or solicited for bid on or after 7/1/08)

- Raises the threshold for public work projects subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work. The total project's threshold would increase from $50,000 to: $3 million in Bronx, Kings, New York, Queens and Richmond counties; $1.5 million in Nassau, Suffolk and Westchester counties; and $500,000 in all other counties.

- For projects below the monetary threshold, bidders must submit a sealed list naming each subcontractor for the plumbing, HVAC and electrical work and the amount to be paid to each. The list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs or use of a Project Labor Agreement (PLA), and must be open to public inspection.

- Allows the state and local agencies and authorities to waive the Wicks Law and use a PLA if it will provide the best work at the lowest possible price. If a PLA is used, all contractors shall participate in apprentice training programs in the trades of work it employs that have been approved by the Department of Labor (DOL) for not less than three years. They shall also have at least one graduate in the last three years and use affirmative efforts to retain minority apprentices. PLA's would be exempt from Wicks, but deemed to be public work subject to prevailing wage enforcement.

- The Commissioner of Labor shall have the power to enforce separate specification requirements on projects, and may issue stop-bid orders against public owners for non-compliance.

- Other new monetary thresholds, and similar sealed bidding for non-Wicks projects, would apply to certain public authorities including municipal housing authorities, NYC Construction Fund, Yonkers Educational Construction Fund, NYC Municipal Water Finance Authority, Buffalo Municipal Water Finance Authority, Westchester County Health Care Association, Nassau County Health Care Corp., Clifton-Fine Health Care Corp., Erie County Medical Center Corp., NYC Solid Waste Management Facilities, and the Dormitory Authority.

- Reduces from 15 to 7 days the period in which contractors must pay subcontractors.

IMPORTANT INFORMATION

Regarding Use of Form PW30R

"Employer Registration for Use of 4 Day / 10 Hour Work Schedule"

To use the '4 Day / 10 Hour Work Schedule':

There MUST be a *Dispensation of Hours (PW30)* in place on the project

AND

You MUST register your intent to work 4 / 10 hour days, by completing the PW30R Form.

REMEMBER…

The '4 Day / 10 Hour Work Schedule' applies ONLY to Job Classifications and Counties listed on the PW30R Form.

Do not write in any additional Classifications or Counties.

(**Please note** : For each Job Classification check the individual wage schedule for specific details regarding their 4/10 hour day posting.)

Instructions for Completing Form PW30R

"Employer Registration for Use of 4 Day / 10 Hour Work Schedule"

Before completing Form PW30R check to be sure …

- There is a *Dispensation of Hours* in place on the project.
- The 4 Day / 10 Hour Work Schedule applies to the Job Classifications you will be using.
- The 4 Day / 10 Hour Work Schedule applies to the County / Counties where the work will take place.

Instructions (Type or Print legibly):

Contractor Information:

- Enter the Legal Name of the business, FEIN, Street Address, City, State, Zip Code; the Company's Phone and Fax numbers; and the Company's email address (if applicable)
- Enter the Name of a Contact Person for the Company along with their Phone and Fax numbers, and the personal email address (if applicable)

Project Information:

- Enter the Prevailing Rate Case number (PRC#) assigned to this project
- Enter the Project Name / Type (i.e. Smithtown CSD – Replacement of HS Roof)
- Enter the Exact Location of Project (i.e. Smithtown HS, 143 County Route #2, Smithtown,NY; Bldgs. 1 & 2)
- If you are a Subcontractor, enter the name of the Prime Contractor for which you work
- On the Checklist of Job Classifications -
  - Go to pages 2 and 3 of the form
  - Place a checkmark in the box to the right of the Job Classification you are choosing
  - Mark all Job Classifications that apply

    ****Do not write in any additional Classifications or Counties.****

Requestor Information:

- Enter the name of the person submitting the registration, their title with the company , and the date the registration is filled out

Return Completed Form:

- **Mail** the completed PW30R form (3 pages) to: NYSDOL Bureau of Public Work, SOBC – Bldg.12 – Rm.130, Albany, NY 12240 -***OR -***
- **Fax** the completed PW30R form (3 pages) to: NYSDOL Bureau of Public Work at (518)485-1870

New York State Department of Labor
Bureau of Public Work
W. Averell Harriman State Office Campus
Building 12 - Room 130
Albany, New York 12240
Phone - (518) 457-5589 Fax - (518) 485-1870

Employer Registration for Use of 4 Day / 10 Hour Work Schedule

Before completing Form PW30R check to be sure …
There is a *Dispensation of Hours* in place on the project.
The 4 Day / 10 Hour Work Schedule applies to the Job Classifications you will be using.
The 4 Day / 10 Hour Work Schedule applies to the County / Counties where the work will take place.

Please Type or Print the Requested Information

When completed …
Mail to NYSDOL Bureau of Public Work, SOBC, Bldg. 12, Rm.130, Albany, NY 12240
-or-
Fax to NYSDOL Bureau of Public Work at (518) 485-1870

Contractor Information

Company Name: _____ FEIN: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Phone Number _____ Fax Number: _____ Email Address: _____

Contact Person: _____

Phone No: _____ Fax No: _____ Email: _____

Project Information

Project PRC#: _____ Project Name/Type: _____

Exact Location of Project: _____ County: _____

(If you are Subcontractor)
Prime Contractor Name: _____

Job Classification(s) to Work 4/10 Schedule: *(Choose all that apply on Job Classification Checklist - Pages 2 & 3)*
**** Do not write in any additional Classifications or Counties****

Requestor Information

Name: _____

Title: _____ Date : _____

Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

**** Do not write in any additional Classifications or Counties****

Job Classification	Tag #	Entire Counties	Partial Counties	Check Box
Carpenter-Building	276B-All	Allegany, Cattaraugus, Chautauqua		☐
Carpenter-Building	276B-Cat	Cattaraugus, Erie		☐
Carpenter - Building	276-B-DW-LIV	Livingston, Monroe, Ontario, Wayne	Wyoming	☐
Carpenter-Building	276B-Gen	Genesee, Niagara, Orleans, Wyoming		☐
Carpenter-Floor Layers	276B-FL-Liv	Livingston, Monroe, Ontario, Wayne	Wyoming	☐
Carpenter-Heavy&Highway	276HH-All	Allegany, Cattaraugus, Chautauqua		☐
Carpenter-Heavy&Highway	276HH-All	Erie		☐
Carpenter-Heavy&Highway	276HH-All	Genesee, Niagara, Orleans, Wyoming		☐
Carpenter-Heavy&Highway	276HH-Liv	Livingston, Monroe, Ontario, Wayne		☐
Carpenter-Residential	276R-All	Allegany, Cattaraugus, Chautauqua		☐
Carpenter - Building	277B-CAY	Cayuga, Seneca, Yates		☐
Carpenter - Building	277B-CS	Allegany, Chemung, Cortland, Schuyler, Tompkins		☐
Carpenter - Building	277 JLS	Jefferson, Lewis, St. Lawrence		☐
Carpenter - Building	277 omh	Herkimer, Madison, Oneida		☐
Carpenter - Building	277 On	Onondaga		☐
Carpenter - Building	277 Os	Oswego		☐
Carpenter - Building/Heavy&Highway	277CDO	Chenango, Delaware, Otsego		☐
Carpenter - Heavy/Highway	277HH-BRO	Broome,Cortland, Schuyler, Tioga, Tompkins		☐
Carpenter - Heavy/Highway	277-HH-CAY	Cayuga, Seneca, Yates		☐
Carpenter - Heavy/Highway	277 oneida	Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St. Lawrence		☐
Carpenter - Building	291B-Alb	Albany, Fulton, Greene, Montgomery, Rensselaer, Schenectady, Schoharie		☐
Carpenter - Building	291B-Cli	Clinton, Essex, Franklin		☐
Carpenter - Building	291B-Ham	Hamilton, Warren, Washington		☐
Carpenter - Building	291B-Sar	Saratoga		☐

Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

**** Do not write in any additional Classifications or Counties****

Job Classification	Tag #	Entire Counties	Partial Counties	Check Box
Carpenter - Heavy&Highway	291HH-Sar	Saratoga		☐
Carpenter - Heavy&Highway	291HH-Alb	Albany, Fulton, Greene, Montgomery, Rensselaer, Schenectady, Schoharie		☐
Carpenter - Heavy&Highway	291HH-Alb	Clinton, Essex, Franklin, Hamilton, Warren, Washington		☐
Carpenter - Building	276B-All	Chautauqua	Allegany, Cattaraugus	☐
Carpenter - Heavy&Highway	276HH-All	Allegany, Chautauqua	Cattaraugus	☐
Carpenter - Heavy&Highway	276HH-All	Erie	Cattaraugus	☐
Electrician	25m	Nassau, Suffolk		☐
Electrician-Teledata Cable Splicer	43	Cortland, Herkimer, Madison, Oneida, Onondaga, Oswego,	Cayuga, Chenango, Onondaga, Otsego, Tompkins, Wayne	☐
Electrician	86	Livingston, Monroe	Genesee, Ontario, Orleans, Wayne, Wyoming	☐
Electrician	840Teledata and 840 Z1	Cayuga	Onondaga, Ontario, Seneca, Wayne, Yates	☐
Electrician	910	Clinton, Essex, Franklin, Jefferson, Lewis, St. Lawrence		☐
Electrician Lineman	1049Line/Gas	Nassau, Queens, Suffolk		☐
Electrician Lineman	1249a	Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates		☐
Electrical Lineman	1249a West	Westchester		☐

Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

**** Do not write in any additional Classifications or Counties****

Job Classification	Tag #	Entire Counties	Partial Counties	Check Box
Electrical Lineman	1249LT	Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates		☐
Electrical Lineman	1249REG8LT	Columbia, Dutchess, Orange, Putnam, Rockland, Ulster		☐
Electrical Lineman	1249aWestLT	Westchester		☐
Elevator Constructor	138	Columbia, Dutchess, Greene, Orange, Putnam, Sullivan, Ulster	Delaware, Rockland, Westchester	☐
Elevator Constructor	14	Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming		☐
Elevator Constructor	27	Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates		☐
Elevator Constructor	35	Albany, Clinton, Essex, Fulton, Hamiliton, Herkimer, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington		☐
Elevator Constructor	62.1	Broome, Cayuga, Chenango, Cortland, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St. Lawrence, Tioga, Tompkins	Delaware, Franklin	☐
Glazier	660r	Allegany, Cattaraugus, Chautaugua, Erie, Genesee, Niagara, Orleans, Wyoming		☐
Glazier	660	Allegany, Cattaraugus, Chautaugua, Erie, Genesee, Niagara, Orleans, Wyoming		☐

Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

**** Do not write in any additional Classifications or Counties****

Job Classification	**Tag #**	**Applicable Counties**	Partial Counties	**Check Box**
Glazier	677.1	Jefferson, Lewis, Livingston, Monroe, Ontario, Seneca, St. Lawrence, Wayne, Yates		☐
Glazier	677Z-2	Cayuga, Cortland, Herkimer, Madison, Oneida, Onondaga, Oswego		☐
Glazier	677z3	Broome, Chemung, Chenango, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins		☐
Glazier	677r.2	Cayuga, Cortland, Herkimer, Madison, Oneida, Onondaga, Oswego		☐
Insulator - Heat & Frost	30-Syracuse	Broome, Cayuga, Chemung, Chenango, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Tioga, Tompkins		☐
Laborer - Building	621b	Allegany, Cattaraugus, Chautauqua	Cattaraugus	☐
Laborer - Residential	621r	Allegany, Cattaraugus, Chautauqua	Cattaraugus	☐
Mason-Building	3B-Z1	Genesee, Livingston, Monroe, Ontario, Seneca, Wayne, Wyoming, Yates		☐
Mason-Building	3B-Bing-Z2	Broome, Chenango, Delaware, Otsego, Tioga		☐
Mason-Building	3B-Jam-Z2	Allegany, Cattaraugus, Chautauqua		☐
Mason-Building	3-Co-Z2	Allegany, Chemung, Schuyler, Steuben		☐
Mason-Building	3B-Ith-Z2	Cortland, Tompkins		☐
Mason-Building	3B-Z3	Cattaraugus, Erie, Niagara, Orleans		☐
Mason-Building-Residential	3B-Z1R	Geneseo, Livingston, Monroe, Ontario, Seneca, Wayne, Wyoming, Yates		☐
Mason-Building-Residential	3B-Jam-Z2R	Allegany, Broome, Cattaraugus, Chemung, Chautauqua, Chenango, Cortland, Otsego, Delaware, Schuyler, Steuben, Tioga, Tompkins		☐

Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

**** Do not write in any additional Classifications or Counties****

Job Classification	Tag #	Applicable Counties	Partial Counties	Check Box
Mason-Building-Residential	3B-Z3R	Cattaraugus, Erie, Niagara, Orleans		☐
Mason-Heavy Highway	3h	Allegeny, Broome, Cattaraugus, Chemung, Chautauqua, Chenango, Cortland, Erie, Delaware, Genesee, Livingston, Monroe, Niagara, Ontario, Orleans, Otsego, Schuyler, Seneca, Steuben, Tioga, Tompkin, Wayne, Wyoming, Yates		☐
Mason-Tile Finisher	3TF-Z1	Genesee, Livingston, Monroe, Ontario, Seneca, Wayne, Wyoming, Yates		☐
Mason-Tile Finisher	3TF-Z2	Allegeny, Broome, Cattaraugus, Chemung, Chautauqua, Chenango, Cortland, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins		☐
Mason-Tile Finisher	3TF-Z3	Cattaraugus, Erie, Niagara, Orleans		☐
Mason-Tile Finisher	3TF-Z1R	Genesee, Livingston, Monroe, Ontario, Seneca, Wayne, Wyoming, Yates		☐
Mason-Tile Finisher	3TF-Z2R	Allegany, Broome, Cattaraugus, Chenango, Chautauqua, Cortland, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins		☐
Mason-Tile Finisher	3TF-Z3R	Cattaraugus, Erie, Niagara, Orleans		☐
Mason-Tile Setter	3TS-Z1	Genesee, Livingston, Monroe, Ontario, Seneca, Wayne, Wyoming, Yates		☐
Mason-Tile Setter	3TS-Z2	Allegany, Broome, Cattaraugus, Chemung, Chautauqua, Chenango, Cortland, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins		☐
Mason Tile Setter	3TS-Z3	Cattaraugus, Erie, Niagara, Orleans		☐
Mason-Tile Setter Residential	3TS-Z1R	Genesee, Livingston, Monroe, Ontario, Seneca, Wayne, Wyoming, Yates		☐
Mason-Tile Setter Residential	3TS-Z2R	Allegany, Broome, Cattaraugus, Chemung, Chautauqua, Chenango, Cortland, Delaware, Otsego, Schuyler, Steuben, Tioga, Tompkins		☐
Mason-Tile Setter Residential	3TS-Z3R	Cattaraugus, Erie, Niagara, Orleans		☐
Mason - Building/Heavy&Highway	780	Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk		☐
Operating Engineer - Heavy/Highway	137H/H	Putnam, Westchester	Dutchess	☐
Operating Engineer - Heavy& Highway	832H	Allegany, Chemung, Genesee, Livingston, Monroe, Ontario, Schuyler, Steuben, Wayne, Yates	Genesee	☐
Painter	150	Livingston, Monroe, Ontario, Wayne, Yates	Livingston, Ontario	☐

Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

**** Do not write in any additional Classifications or Counties****

Job Classification	**Tag #**	**Applicable Counties**	Partial Counties	**Check Box**
Painter	178 B	Broome, Chenango, Tioga		☐
Painter	178 E	Chemung, Schuyler, Steuben	Steuben	☐
Painter	178 O	Delaware, Otsego		☐
Painter	31	Cayuga, Herkimer, Lewis, Madison, Oneida, Onondaga, Ontario, Oswego, Seneca	Lewis, Ontario, Oswego	☐
Painter	38.O	Oswego	Oswego	☐
Painter	4-Buf,Nia,Olean	Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Livingston, Niagara, Orleans, Steuben, Wyoming	Cattaraugus, Chautauqua, Livingston, Steuben	☐
Painter	4-Jamestown	Cattaraugus, Chautauqua	Cattaraugus, Chautauqua	☐
Sheetmetal Worker	46	Livingston, Monroe, Ontario, Seneca, Wayne, Yates		☐
Teamsters-Heavy&Highway	294h/h	Albany, Columbia, Fulton, Greene, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington		☐
Teamsters-Heavy&Highway	317bhh	Allegany, Cayuga, Cortland, Seneca, Steuben, Tompkins, Wayne,Yates		☐
Teamsters-Heavy&Highway	693bhh	Broome, Chenango, Delaware, Otsego, Tioga		☐
Teamsters-Building/Heavy&Highway	456	Putnam, Westchester		☐

Introduction to the Prevailing Rate Schedule

Information About Prevailing Rate Schedule

This information is provided to assist you in the interpretation of particular requirements for each classification of worker contained in the attached Schedule of Prevailing Rates.

Classification

It is the duty of the Commissioner of Labor to make the proper classification of workers taking into account whether the work is heavy and highway, building, sewer and water, tunnel work, or residential, and to make a determination of wages and supplements to be paid or provided. It is the responsibility of the public work contractor to use the proper rate. If there is a question on the proper classification to be used, please call the district office located nearest the project. District office locations and phone numbers are listed below.

Prevailing Wage Schedules are issued separately for "General Construction Projects" and "Residential Construction Projects" on a county-by-county basis.

General Construction Rates apply to projects such as: Buildings, Heavy & Highway, and Tunnel and Water & Sewer rates.

Residential Construction Rates generally apply to construction, reconstruction, repair, alteration, or demolition of one family, two family, row housing, or rental type units intended for residential use.

Some rates listed in the Residential Construction Rate Schedule have a very limited applicability listed along with the rate. Rates for occupations or locations not shown on the residential schedule must be obtained from the General Construction Rate Schedule. Please contact the local Bureau of Public Work office before using Residential Rate Schedules, to ensure that the project meets the required criteria.

Paid Holidays

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

Overtime

At a minimum, all work performed on a public work project in excess of eight hours in any one day or more than five days in any workweek is overtime. However, the specific overtime requirements for each trade or occupation on a public work project may differ. Specific overtime requirements for each trade or occupation are contained in the prevailing rate schedules.

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays.

The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Supplemental Benefits

Particular attention should be given to the supplemental benefit requirements. Although in most cases the payment or provision of supplements is for each hour worked, some classifications require the payment or provision of supplements for each hour paid (including paid holidays on which no work is performed) and/or may require supplements to be paid or provided at a premium rate for premium hours worked.

Effective Dates

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. The rate listed is valid until the next effective rate change or until the new annual determination which takes effect on July 1 of each year. All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements. If you have any questions please contact the Bureau of Public Work or visit the New York State Department of Labor website (www.labor.state.ny.us) for current wage rate information.

Apprentice Training Ratios

The following are the allowable ratios of registered Apprentices to Journey-workers.

For example, the ratio 1:1,1:3 indicates the allowable initial ratio is one Apprentice to one Journeyworker. The Journeyworker must be in place on the project before an Apprentice is allowed. Then three additional Journeyworkers are needed before a second Apprentice is allowed. The last ratio repeats indefinitely. Therefore, three more Journeyworkers must be present before a third Apprentice can be hired, and so on.

Please call Apprentice Training Central Office at (518) 457-6820 if you have any questions.

Title (Trade)	Ratio
Boilermaker (Construction)	1:1,1:4
Boilermaker (Shop)	1:1,1:3
Carpenter (Bldg.,H&H, Pile Driver/Dockbuilder)	1:1,1:4
Carpenter (Residential)	1:1,1:3
Electrical (Outside) Lineman	1:1,1:2

Electrician (Inside)	1:1,1:3
Elevator/Escalator Construction & Modernizer	1:1,1:2
Glazier	1:1,1:3
Insulation & Asbestos Worker	1:1,1:3
Iron Worker	1:1,1:4
Laborer	1:1,1:3
Mason	1:1,1:4
Millwright	1:1,1:4
Op Engineer	1:1,1:5
Painter	1:1,1:3
Plumber & Steamfitter	1:1,1:3
Roofer	1:1,1:2
Sheet Metal Worker	1:1,1:3
Sprinkler Fitter	1:1,1:2

If you have any questions concerning the attached schedule or would like additional information, please contact the nearest BUREAU of PUBLIC WORK District Office or write to:

New York State Department of Labor
Bureau of Public Work
State Office Campus, Bldg. 12
Albany, NY 12240

District Office Locations:	Telephone #	FAX #
Bureau of Public Work - Albany	518-457-2744	518-485-0240
Bureau of Public Work - Binghamton	607-721-8005	607-721-8004
Bureau of Public Work - Buffalo	716-847-7159	716-847-7650
Bureau of Public Work - Garden City	516-228-3915	516-794-3518
Bureau of Public Work - Newburgh	845-568-5287	845-568-5332
Bureau of Public Work - New York City	212-775-3568	212-775-3579
Bureau of Public Work - Patchogue	631-687-4882	631-687-4904
Bureau of Public Work - Rochester	585-258-4505	585-258-4708
Bureau of Public Work - Syracuse	315-428-4056	315-428-4671
Bureau of Public Work - Utica	315-793-2314	315-793-2514
Bureau of Public Work - White Plains	914-997-9507	914-997-9523
Bureau of Public Work - Central Office	518-457-5589	518-485-1870

Erie County General Construction

Boilermaker 03/01/2014

JOB DESCRIPTION Boilermaker **DISTRICT** 3

ENTIRE COUNTIES
Allegany, Cattaraugus, Chautauqua, Chemung, Erie, Genesee, Livingston, Monroe, Niagara, Ontario, Orleans, Schuyler, Steuben, Wayne, Wyoming, Yates

WAGES

Per hour:	07/01/2013	01/01/2014	01/01/2015 Additional
Boilermaker	$ 29.97	$ 30.25	$ 1.25

The wage rate will be 90% of the above for Maintenance work on boilers less than 100,000 pph.

SUPPLEMENTAL BENEFITS
Per hour worked:

	$ 25.72**	$ 27.19****

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

1000 hour terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th	5th	6th	7th	8th
65%	65%	70%	75%	80%	85%	90%	95%

Note - add $1.00 per hour to the wage rate for 1st through 6th term.

Supplemental Benefits per hour worked:

1st to 6th	$ 24.72*	$ 26.19***
7th to 8th	25.72**	27.19****

* Note - $23.53 of this amount to be paid at the same premium as the wages.
** Note - $24.53 of this amount to be paid at the same premium as the wages.
*** Note - $25.00 of this amount to be paid at the same premium as the wages.
**** Note - $26.00 of this amount to be paid at the same premium as the wages.

3-7

Carpenter - Building 03/01/2014

JOB DESCRIPTION Carpenter - Building **DISTRICT** 3

ENTIRE COUNTIES
Erie

PARTIAL COUNTIES
Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES

Per hour:	07/01/2013	06/01/2014 Additional
Building:		
Carpenter	$ 29.70	$ 1.92
FloorLayer	29.70	1.92
Certified Welder	30.70	1.92
Hazardous Waste Worker*	31.20	1.92
Diver-Dry Day	30.70	1.92
Diver Tender	30.70	1.92
Diver-Wet Day**	61.25	0.00

* Hazardous sites requiring personal protective equipment.

** Diver rate applies to all hours worked on the day of dive.

Depth pay for divers:	0' to 80'	no additional fee
	81' to 100'	additional $0.50 per foot
	101' to 150'	additional $0.75 per foot

	151' and deeper	additional $1.25 per foot
Penetration pay:	0' to 50'	no additional fee
	51' to 100'	additional $0.75 per foot
	101' and deeper	additional $1.00 per foot

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS
Per hour paid:
$ 25.13

OVERTIME PAY
See (B, E, *E2, Q) on OVERTIME PAGE
*Note - Saturday may be used as a make-up day at straight time when an employee has a unexcused absence during the week (applies only to those employees on a project that lost a day on that same project).

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental benefits per hour paid:

1st	2nd	3rd	4th
$ 9.25	$ 9.25	$ 11.85	$ 11.85

3-276B-Cat

Carpenter - Building / Heavy&Highway 03/01/2014

JOB DESCRIPTION Carpenter - Building / Heavy&Highway **DISTRICT** 1

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Wages per hour:

	07/01/2013	07/01/2014 An Additional
Carpenter - ONLY for Artificial Turf/Synthetic Sport Surface Installer	$ 27.96	$ 0.73*

Note - Does not include the operation of equipment. Please see Operating Engineers rates.

(*)To be allocated at a later date.

SUPPLEMENTAL BENEFITS
Per hour Paid:

	07/01/2013
Journeyman	$ 18.14

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (2, 17) on HOLIDAY PAGE
Overtime: See (5, 6, 16) on HOLIDAY PAGE
Notes:
When a holiday falls upon a Saturday, it shall be observed on the preceding Friday. Whan a holiday falls upon a Sunday, it shall be observed on the following Monday.

An employee taking an unexcused day off the regularly scheduled day before or after a paid Holiday shall not receive Holiday pay.

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental Benefits per hour paid:

	07/01/2013
Carpenter	
1st year term	$ 9.29
2nd year term	9.29
3rd year term	11.89
4th year term	11.89

1-42AtSS

Carpenter - Heavy&Highway 03/01/2014

JOB DESCRIPTION Carpenter - Heavy&Highway **DISTRICT** 3

ENTIRE COUNTIES
Erie

WAGES

Per hour:	07/01/2013	07/01/2014
Building and Heavy Highway:		Additional
Carpenter	$ 31.30	$ 1.99
Certified Welder	32.55	1.99
Diver-Dry Day	32.30	1.99
Diver-Wet Day**	43.75	2.00
Diver Tender	32.30	1.99
Hazardous Material Worker*	33.30	1.99
Piledriver	31.30	1.99
Millwright	32.80	1.99
Effluent & Slurry Diver-Wet Day	65.63	0.00

* Hazardous sites requiring personal protective equipment.

** Diver rate applies to all hours worked on the day of dive.

Depth pay for divers:	0' to 80'	no additional fee
	81'to 100'	additional $0.50 per foot
	101' to 150'	additional $0.75 per foot
	151' and deeper	additional $1.25 per foot
Penetration pay:	0' to 50'	no additional fee
	51' to 100'	additional $0.75 per foot
	101' to deeper	additional $1.00 per foot

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS
Per hour worked:

$ 25.38

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (2, 17) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental benefits per hour worked:

1st	2nd	3rd	4th
$ 9.25	$9.25	$ 11.85	$ 11.85

3-276HH-All

Electrician 03/01/2014

JOB DESCRIPTION Electrician **DISTRICT** 3

ENTIRE COUNTIES
Erie

PARTIAL COUNTIES
Cattaraugus: Only the Townships of Ashford, East Otto, Ellicottville, Farmersville, Freedom, Franklinville, Lyndon, Machias, Mansfield, New Albion, Otto, Perrysburg, Persia and Yorkshire.
Genesee: Only the Townships of Alabama, Alexander, Darien, Oakfield,Pembroke and that portion of the Towns of Batavia and Elba that are west of Little Tonawanda Creek; Tonawanda Creek; the City limits of Batavia (in effect prior to Feb. 1, 1970) and State Highway 98 north of the City of Batavia, then north on Highway 98 to the Orleans County line.
Wyoming: Only the Townships of Arcade, Attica, Bennington, Eagle, Java, Orangeville, Sheldon and Wethersfield.

WAGES

Per hour:	07/01/2013	05/26/2014 Additional
Electrician*	$ 32.94	$ 1.75

* Includes teledata work

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:
17.3% for work from 4:30PM - 1:00AM
31.4% for work from 12:30AM - 9:00AM
Additional $0.50/hr in shafts over 25 ft. deep and in underground tunnels over 75 ft. long.
Additional $0.75/hr for work on toothpicks, structural steel, temporary platforms, swinging scaffolds, boatswain chairs, smoke stacks or water towers 30 ft above the floor or for work on rolling scaffolds and ladders over 50 ft.
Additional $1.50/hr for Cable Splicers on such work as lead, and shielded cable and splices or terminations on cable 5KV and above.
Additional $1.00/hr for Hot work (Atomic plants).
Additional $2.00/hr for work on radio, TV, light towers and floating platforms or climbing ladders in excess of 100 ft. high.

SUPPLEMENTAL BENEFITS
Per hour worked:
$ 20.99*
* NOTE - add 3% of the posted straight time or applicable premium wage rate.

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

Hour terms at the following wages:

0 to 1000	to 2000	to 3500	to 5000	to 6500	to 8000
$ 12.20	$ 13.20	$ 14.80	$ 18.10	$ 23.05	$ 26.35

Supplemental benefits per hour worked:

0 to 2000	to 6500	to 8000
$ 10.35*	$ 18.54*	$ 20.99*

* NOTE - add 3% of the posted straight time or applicable premium wage rate.

3-41

Elevator Constructor 03/01/2014

JOB DESCRIPTION Elevator Constructor **DISTRICT** 3

ENTIRE COUNTIES
Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming

WAGES

Per hour:	07/01/2013	01/01/2014	01/01/2015 Additional
Elevator Constructor	$ 43.49	$ 44.13	$ 2.31
Helper	30.44	30.90	1.87

** IMPORTANT NOTICE - EFFECTIVE 04/01/2009 **
Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS
Per hour worked:

	$ 25.19*	$ 26.79*

* Note - add 6% of regular hourly rate for all hours worked.

OVERTIME PAY
See (D, O) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6, 15, 16) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 16) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
55%	65%	70%	80%

Supplemental benefits per hour worked:

	$ 25.19*	$ 26.79*

* Note - add 6% of regular hourly rate for all hours worked.

3-14

Glazier 03/01/2014

JOB DESCRIPTION Glazier **DISTRICT** 3

ENTIRE COUNTIES
Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming

WAGES

Per hour:	07/01/2013
Glazier	$ 25.45
Working off Suspended Scaffold (Swing Stage)	26.45
Maintenance	11.55*

* Note - This rate to be used only for all repair and replacement work such as glass breakage, glass replacement, door repair and board ups.

** IMPORTANT NOTICE **
Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS
Per hour worked:

Journeymen Glazier	$ 17.07
Maintenance	10.67

OVERTIME PAY
See (B, E2, F, R) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE for Glazier and Glazier Apprentices.
Paid: See (5, 6) on HOLIDAY PAGE for Maintenance
Overtime: See (5, 6) on HOLIDAY PAGE.

REGISTERED APPRENTICES
Wages per hour:

Glazier: 1000 hour terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th	5th	6th	7th	8th
40%	45%	50%	55%	60%	70%	80%	90%

Supplemental benefits per hour worked:

1st & 2nd terms	$ 6.95
3rd & 4th terms	7.80
All other terms	8.70

3-660

Insulator - Heat & Frost 03/01/2014

JOB DESCRIPTION Insulator - Heat & Frost **DISTRICT** 3

ENTIRE COUNTIES
Allegany, Cattaraugus, Chautauqua, Erie, Niagara, Wyoming

PARTIAL COUNTIES
Genesee: Only the Townships of Alabama, Alexander, Darien, Oakfield and Pembroke.

WAGES

Per Hour:	07/01/2013
Heat & Frost Insulator	$ 30.55

SUPPLEMENTAL BENEFITS
Per hour worked:
$ 19.09

OVERTIME PAY
See (B, *E, **Q) on OVERTIME PAGE
* Note - Double time after 10 hours on Saturday.
** Note - Triple time on Labor Day if WORKED.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental Benefits per hour worked:

1st and 2nd	$ 14.79
All other terms	19.09

3-4

Ironworker 03/01/2014

JOB DESCRIPTION Ironworker **DISTRICT** 3

ENTIRE COUNTIES
Cattaraugus, Chautauqua

PARTIAL COUNTIES
Allegany: Entire county except the Towns of Birdsall, Burns and Grove.
Erie: All except the Town of Grand Island north of Whitehaven Road.
Genesee: Only the Townships of Alabama, Alexander, Darien and Pembroke
Steuben: Only the Townships of Canisteo, Freemont, Greenwood,Hartsville, Hornell, Hornellsville, Howard, Jasper, Troupsburg and West Union
Wyoming: Only the Townships of Arcade, Attica, Bennington, Eagle,Gainsville, Java, Orangeville, Pike, Sheldon, Warsaw and Wethersfield.

WAGES

Per hour:	07/01/2013	05/01/2014 Additional
Structural	$ 28.38	$ 1.20
Ornamental	28.38	1.20
Layout	28.38	1.20
Rodmen	28.38	1.20
Reinforcing	28.38	1.20

Welders	28.38	1.20
Riggers & Mach. Movers	28.38	1.20
Window Erector	26.03	1.20
Fence Erector	26.95	1.20

SUPPLEMENTAL BENEFITS
Per hour worked:

Fence erectors	$ 22.42
All others	23.92

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following wage:

1st	2nd	3rd	4th
$ 16.00	$ 18.00	$ 20.00	$ 22.00

Supplemental benefits per hour worked:

1st	2nd	3rd	4th
$ 9.43	$ 17.45	$ 18.60	$ 19.74

3-6

Ironworker 03/01/2014

JOB DESCRIPTION Ironworker **DISTRICT** 3

ENTIRE COUNTIES
Niagara

PARTIAL COUNTIES
Erie: Only that portion of the Township of Grand Island north of Whitehaven Road.
Orleans: Only the Townships of Ridgeway, Shelby and Yates.

WAGES

Per hour:	07/01/2013	05/01/14 Additional
Structural	$ 29.47	$ 1.20
Ornamental	29.47	$ 1.20
Reinforcing	29.47	$ 1.20
Rigger & Mach. Mover	29.47	$ 1.20
Pre-Engineered	29.47	$ 1.20
Fence Erector	29.47	$ 1.20
Pre-Cast Erector	29.47	$ 1.20
Welder	29.47	$ 1.20
Window Erector	29.47	$ 1.20
Sheeter	32.37	$ 1.20

SUPPLEMENTAL BENEFITS
Per hour worked:
$ 23.08

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following wage:

1st term	$ 16.00
2nd term	18.00
3rd term	20.00
4th term	22.00

Supplemental benefits per hour worked:

1st term	$ 9.50
2nd term	15.59
3rd term	16.46
4th term	17.33

3-9

Laborer - Building 03/01/2014

JOB DESCRIPTION Laborer - Building **DISTRICT** 3

ENTIRE COUNTIES
Erie

PARTIAL COUNTIES
Cattaraugus: Only the Townships of Perrysburg and the Village Gowanda.

WAGES
CLASS A: Basic, Safety Man, Flagman, Tool Room Man, Nurseryman, Demolition Worker, Top Man, Wrecker, IBC Barriers Except on Structures, Guard Rail, Asphalt Shovelers, Foundation Laborer over 8' in Depth, Hod Carriers, Plaster Tender, Plaster Scaffold Builder, Pneumatic Gas, Electric Tool Operator including all forms of Busters, Jackhammers and Chipping Guns, Steel Burners.

CLASS B: Mortar Mixer, Asphalt Smoothers, Pneumatic Gas, Electric Tool Operator including all forms of Busters, Jackhammers and Chipping Guns over 8' in depth.

CLASS C: Worker on any Swing Scaffold, Blaster, Plumbing Laborer, Wagon Drill Operator, Bottomman (caisson or cofferdam), Laser Setter, Asphalt Rakers, Asphalt Screed Man.

CLASS D: Stone Cutter, Curb Setter and Flag Layer.

CLASS E: Asbestos Removal, Deleader.

CLASS F: Hazardous Waste Worker.

Per hour: 07/01/2013

Building Laborer:

CLASS A	$ 25.13
CLASS B	25.30
CLASS C	25.41
CLASS D	25.88
CLASS E	26.13
CLASS F	27.13

SUPPLEMENTAL BENEFITS
Per hour worked:
$ 23.15

OVERTIME PAY
See (B, F, R) on OVERTIME PAGE

HOLIDAY
Paid: See (22) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

Hour terms at the following percentage of Journeyman's wage:

0 to 500	to 1000	to 1500	to 2000	to 2500	to 3000	to 4000
55%	60%	65%	70%	75%	80%	90%

Supplemental benefits per hour worked:

$ 23.15

3-210b

Laborer - Heavy&Highway 03/01/2014

JOB DESCRIPTION Laborer - Heavy&Highway **DISTRICT** 3

ENTIRE COUNTIES
Erie

WAGES
Heavy/Highway Laborer:
GROUP A: Basic, Drill Helper, Flagman, Outboard and Hand Boats, Demolition Worker, Nurseryman, IBC Barriers (except on structures), Guard Rails, Road Markers.

GROUP B: Grade Checker, Chain Saw, Concrete Aggregate Bin, Concrete Bootmen, Gin Buggy, Hand or Machine Vibrator, Jack Hammer, Mason Tender, Mortar Mixer, Pavement Breaker, Handlers of Steel Mesh, Small Generators for Laborers' Tools, Pipe Layers, Vibrator Type Rollers, Tamper, Drill Doctor, Tail or Screw Operator on Asphalt Paver, Water Pump Operators (2" and Single Diaphragm), Nozzle (Asphalt, Gunite, Seeding, and Sand Blasting), Laborers on Chain Link Fence Erection, Rock Splitter and Power Unit, Pusher Type Concrete Saw and all other Gas, Electric, Oil and Air Tool Operators, Wrecking Laborer and Laser Man.

GROUP C: All Rock or Drilling Machine Operators (Except Quarry Master and Similar Type), Acetylene Torch Operators, Asphalt Raker, Powderman and Welder.

GROUP D: Blasters, Curb and Flatwork Formsetter not on structures, Stone or Granite Curb Setters and Stone Cutter.

Per hour:	07/01/2013

Heavy/Highway Laborer:

GROUP A	$ 26.66
GROUP B	26.86
GROUP C	27.06
GROUP D	27.26

For all Deleader & Asbestos work add 1.00 to Group A rate.
For all Hazardous waste work add 2.00 to Group A rate.
An additional $1.00 per hour is required when a single irregular work shift starting any time from 5:00PM to 1:00AM is mandated either in the job specification or by the contracting agency.

Sewer/Water Laborer:
GROUP A: Basic, Flagman, Top man, Wreckers.

GROUP B: Foundation, Plaster tender, Scaffold bootman, Pneumatic, gas, electric, tool operator, jackhammer, chipping guns.

GROUP C: Mortar Mixer, over 8 ft. in depth.

GROUP D: Pavement formsetter, Steelburner, Caisson, Wagon Drill Oper., PipeLayer, Swing Scaffold.

GROUP E: Utility pave driver, Laser operator.

GROUP F: Blaster.

Per hour:	07/01/2013

Sewer/Water Laborer:

GROUP A	$ 26.66
GROUP B	26.76
GROUP C	26.81
GROUP D	26.91
GROUP E	27.26
GROUP F	27.66

For all Deleader & Asbestos work add 1.00 to Group A rate.
For all Hazardous waste work add 2.00 to Group A rate.
An additional $1.00 per hour is required when a single irregular work shift starting any time from 5:00PM to 1:00AM is mandated either in the job specification or by the contracting agency.

SUPPLEMENTAL BENEFITS
Per hour worked:
$ 23.15

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid:	See (5, 6) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

Hour terms at the following percentage of Journeyman's wage:

0 to 500	to 1000	to 1500	to 2000	to 2500	to 3000	to 4000
55%	60%	65%	70%	75%	80%	90%

Supplemental benefits per hour worked:

$ 23.15

3-210h

Laborer - Tunnel 03/01/2014

JOB DESCRIPTION Laborer - Tunnel **DISTRICT** 3

ENTIRE COUNTIES
Erie

WAGES
CLASS A: Mole Nipper, Powder Handler, Changehouse Attendant and Top Laborer.

CLASS B: Air Spade, Jackhammer, Pavement Breaker.

CLASS C: Top Bell.

CLASS D: Bottom Bell, Side or Roofbelt Driller, Maintenance men, Burners, Block Layers, Rodmen, Caulkers, Miners helper, Trackmen, Nippers, Derailmen, Electrical Cablemen, Hosemen, Groutmen, Gravelmen, Form Workers, Movers and Shaftmen, Conveyor-men.

CLASS E: Powder Monkey.

CLASS F: Blasters, Ironmen and Cement Worker, Miner, Welder, Heading Driller.

CLASS G: Steel Erectors, Piledriver, Rigger.

Per hour:	07/01/2013
Tunnel Laborer:	
CLASS A	$ 27.16
CLASS B	27.31
CLASS C	27.41
CLASS D	27.91
CLASS E	28.01
CLASS F	28.41
CLASS G	28.66

For all Deleader & Asbestos work add 1.00 to Group A rate.
For all Hazardous waste work add 2.00 to Group A rate.
An additional $1.00 per hour is required when a single irregular work shift starting any time from 5:00PM to 1:00AM is mandated either in the job specification or by the contracting agency.

SUPPLEMENTAL BENEFITS
Per hour worked:
$ 23.15

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

Hour terms at the following percentage of Journeyman's wage:

0 to 500	to 1000	to 1500	to 2000	to 2500	to 3000	to 4000
55%	60%	65%	70%	75%	80%	90%

Supplemental benefits per hour worked:

$ 23.15

3-210t

Lineman Electrician 03/01/2014

JOB DESCRIPTION Lineman Electrician **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Per hour:

NOTE: Includes Teledata Work within ten (10) feet of High Voltage Transmission Lines

Below rates applicable on all overhead and underground distribution and maintenance work, and all overhead and underground transmission line work and the installation of fiber optic cable where no other construction trades are or have been involved. (14.01.01)

	07/01/2013	05/05/2014	05/04/2015
Lineman, Technician	$44.12	$45.51	$46.90
Crane, Crawler Backhoe	44.12	45.51	46.90
Welder, Cable Splicer	44.12	45.51	46.90
Digging Machine Operator	39.71	40.96	42.21
Tractor Trailer Driver	37.50	38.68	39.87
Groundman, Truck Driver	35.30	36.41	37.52
Mechanic 1st Class	35.30	36.41	37.52
Flagman	26.47	27.31	28.14

Additional $1.00 per hour for entire crew when a helicopter is used.

Below rates applicable on all electrical sub-stations, switching structures, fiber optic cable and all other work not defined as "Utility outside electrical work". (14.02.01-A)

Lineman, Technician	$44.12	$45.51	$46.90
Crane, Crawler Backhoe	44.12	45.51	46.90
Cable Splicer-Pipe Type Cable	48.53	50.06	51.59
Cert. Welder-Pipe Type Cable	46.33	47.79	49.25
Digging Machine Operator	39.71	40.96	42.21
Tractor Trailer Driver	37.50	38.68	39.87
Mechanic 1st Class	35.30	36.41	37.52
Groundman, Truck Driver	35.30	36.41	37.52
Flagman	26.47	27.31	28.14

Additional $1.00 per hour for entire crew when a helicopter is used.

Below rates apply on switching structures, maintenance projects, railroad catenary install/maintenance third rail installation, bonding of rails and pipe type cable and installation of fiber optic cable. (14.02.01-B)

Lineman, Technician, Welder	$45.40	$46.80	$48.20
Crane, Crawler Backhoe	45.40	46.80	48.20
Digging Machine Operator	40.86	42.12	43.38
Tractor Trailer Driver	38.59	39.78	40.97
Groundman, Truck Driver	36.32	37.44	38.56
Mechanic 1st Class	36.32	37.44	38.56
Flagman	27.24	28.08	28.92
Cert. Welder-Pipe Type Cable	47.67	49.14	50.61
Cable Splicer-Pipe Type Cable	49.94	51.48	53.02

Additional $1.00 per hour for entire crew when a helicopter is used.

Below rates applicable on all overhead and underground transmission line work & fiber optic cable where other construction trades are or have been involved. This applies to transmission line work only, not other construction. (14.03.01)

Lineman, Technician, Welder	$46.62	$48.02	$49.41
Crane, Crawler Backhoe	46.62	48.02	49.41
Cable Splicer	46.62	48.02	49.41
Digging Machine Operator	41.96	43.22	44.47
Tractor Trailer Driver	39.63	40.82	42.00

Groundman, Truck Driver	37.30	38.42	39.53
Mechanic 1st Class	37.30	38.42	39.53
Flagman	27.97	28.81	29.65

Additional $1.00 per hour for entire crew when a helicopter is used.

** IMPORTANT NOTICE **
Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.
*Effective 05/06/2013, Tuesday thru Friday may be worked with no make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS
Per hour worked including holidays listed below:

The following SUPPLEMENTAL BENEFITS apply to all classification categories of CONSTRUCTION, TRANSMISSION and DISTRIBUTION.

$19.00 *plus 7.5% of hourly wage	$19.75 *plus 7.5% of hourly wage	$20.50 *plus 7.5% of hourly wage

*The 7.5% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY
See (B, E, Q,) on OVERTIME PAGE. *Note* Double time for all emergency work designated by the Dept. of Jurisdiction.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT	8:00 AM to 4:30 PM REGULAR RATE
2ND SHIFT	4:30 PM to 1:00 AM REGULAR RATE PLUS 17.3 %
3RD SHIFT	12:30 AM to 9:00 AM REGULAR RATE PLUS 31.4 %

HOLIDAY

Paid	See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.
Overtime	See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.

SUPPLEMENTS for holidays paid at straight time

REGISTERED APPRENTICES
WAGES: 1000 hour terms at the following percentage of Journeyman's wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS: Same as Journeyman

6-1249a

Lineman Electrician - Teledata 03/01/2014

JOB DESCRIPTION Lineman Electrician - Teledata **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES
Per hour:

FOR OUTSIDE WORK.

	07/01/2013	01/01/2014
Cable Splicer	$28.55	$29.12
Installer, Repairman	27.10	27.64
Teledata Lineman	27.10	27.64
Technician, Equipment Operator	27.10	27.64

Groundman	14.37	14.66

NOTE: EXCLUDES Teledata work within ten (10) feet of High Voltage (600 volts and over) transmission lines. For this work please see LINEMAN.

SUPPLEMENTAL BENEFITS
Per hour worked:

	$ 4.43 *plus 3% of wage paid	$ 4.43 *plus 3% of wage paid

*The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16) on HOLIDAY PAGE

6-1249LT - Teledata

Lineman Electrician - Traffic Signal Lighting 03/01/2014

JOB DESCRIPTION Lineman Electrician - Traffic Signal Lighting **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Lineman/Technician shall perform all overhead aerial work and make all electrical connections.

A Groundman/Groundman Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, a tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chain saws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a ground man/truck driver may install conduit, pipe, cables and equipment.

A flagger's duties shall consist of traffic control only.

Per hour:

	07/01/2013	05/05/2014	05/04/2015	05/02/2016 *Additional
Lineman, Technician	$39.19	$40.12	$41.04	$2.00
Crane, Crawler Backhoe	39.19	40.12	41.04	2.00
Certified Welder	41.15	42.13	43.09	2.00
Digging Machine	35.27	36.11	36.94	2.00
Tractor Trailer Driver	33.31	34.10	34.88	2.00
Groundman, Truck Driver	31.35	32.10	32.83	2.00
Mechanic 1st Class	31.35	32.10	32.83	2.00
Flagman	23.51	24.07	24.62	2.00

* To be allocated at a later date.

Above rates applicable on all Lighting and Traffic Signal Systems with the installation, testing, operation, maintenance and repair of all traffic control and illumination projects, traffic monitoring systems, road weather information systems and the installation of Fiber Optic Cable.

** IMPORTANT NOTICE **
Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.
*Effective 05/06/2013, Tuesday thru Friday may be worked with no make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS
Per hour worked including holidays listed below:

All classifications	$19.00 *plus 7.5% of hourly wage	$19.75 *plus 7.5% of hourly wage	$20.50 *plus 7.5% of hourly wage

*The 7.5% is based on the hourly wage paid, straight time rate or premium rate.
Supplements paid at STRAIGHT TIME rate for holidays.

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE. *Note* Double time for all emergency work designated by the Dept. of Jurisdiction

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT	8:00 AM TO 4:30 PM	REGULAR RATE
2ND SHIFT	4:30 PM TO 1:00 AM	REGULAR RATE PLUS 17.3%
3RD SHIFT	12:30 AM TO 9:00 AM	REGULAR RATE PLUS 31.4%

HOLIDAY

Paid	See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.
Overtime	See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.

REGISTERED APPRENTICES
WAGES: 1000 hour terms at the following percentage of Journeyman's wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS: Same as Journeyman

6-1249a-LT

Lineman Electrician - Tree Trimmer 03/01/2014

JOB DESCRIPTION Lineman Electrician - Tree Trimmer **DISTRICT** 6

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Per hour:

Applies to line clearance, tree work and right-of-way preparation on all new or existing energized overhead or underground electrical, telephone and CATV lines. This also would include stump removal near underground energized electrical lines, including telephone and CATV lines.

	07/01/2013
Tree Trimmer	$ 22.08
Equipment Operator	19.48
Mechanic	19.48
Truck Driver	16.46
Groundman	13.51
Flag person	9.62

SUPPLEMENTAL BENEFITS
Per hour worked including holidays listed below:

$ 8.30
*plus 3% of
hourly wage

* The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid:	See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE
Overtime:	See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE

6-1249TT

Mason - Building 03/01/2014

JOB DESCRIPTION Mason - Building **DISTRICT** 5

ENTIRE COUNTIES
Erie, Niagara, Orleans

PARTIAL COUNTIES
Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES

Per Hour:	07/01/2013	07/01/2014 Additional	07/01/2015 Additional
Bricklayer	$ 30.56	$ 1.40	$ 1.40
Tuck Pointer	30.56	1.40	1.40
Cement Mason*	30.56*	1.40*	1.40*
Plasterer*	30.56*	1.40*	1.40*
Stone Mason	30.56	1.40	1.40

* Applies only to Orleans County, all other areas have seperate rates.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS
Per hour worked:

Journeyman $ 20.82

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

1250 hour terms at the following wage:

1st	2nd	3rd	4th
$ 16.89	$ 17.45	$ 20.66	$ 24.42

Supplemental benefits per hour worked:

1st	2nd	3rd	4th
$ 8.73	$ 14.55	$ 15.93	$ 17.27

5-3B-Z3

Mason - Building 03/01/2014

JOB DESCRIPTION Mason - Building **DISTRICT** 3

ENTIRE COUNTIES
Erie, Niagara

PARTIAL COUNTIES
Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES
Per hour: 07/01/2013

Plasterer $ 28.55
Additional $2.00/hr for work on swing stage over 20 feet.

SUPPLEMENTAL BENEFITS
Per hour worked:
$ 14.84

OVERTIME PAY

Exterior work only See (B, E, E2, Q) on OVERTIME PAGE.
All other work See (B, E, Q) on OVERTIME PAGE.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

Hour terms at the following dollar amounts:

0 to 1000	to 2000	to 3000	to 4000	to 4700	to 5400	to 6000
$ 11.30	$ 12.30	$ 13.30	$ 14.30	$ 16.30	$ 17.30	$ 18.30

Supplemental benefits per hour worked:

Hour terms at the following dollar amounts:

0 to 500	to 4700	to 5400	to 6000
$ 0.00	$ 2.00	$ 3.00	$ 4.00

3-9-Pltr

Mason - Building / Heavy&Highway 03/01/2014

JOB DESCRIPTION Mason - Building / Heavy&Highway **DISTRICT** 3

ENTIRE COUNTIES
Erie

PARTIAL COUNTIES
Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES

Per hour:	07/01/2013	07/01/2014 Additional
Cement Mason	$ 29.45	$ 1.20

Additional $0.25 per hr for Swing scaffold or exterior scaffold 42' or higher.

SUPPLEMENTAL BENEFITS
Per hour paid:
$ 24.27

OVERTIME PAY
See (B, E, Q, V) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

750 hour terms at the following dollar amounts:

1st	2nd	3rd	4th	5th	6th
$ 12.65	$ 13.65	$ 14.65	$ 17.65	$ 19.65	$ 21.65

Supplemental benefits per hour paid:

1st	2nd	3rd	4th	5th	6th
$ 5.26	$ 7.88	$ 9.43	$ 12.37	$ 14.18	$ 17.05

3-111Erie

Mason - Heavy&Highway 03/01/2014

JOB DESCRIPTION Mason - Heavy&Highway **DISTRICT** 5

ENTIRE COUNTIES
Allegany, Broome, Chautauqua, Chemung, Chenango, Cortland, Delaware, Genesee, Livingston, Monroe, Ontario, Orleans, Otsego, Schuyler, Seneca, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

PARTIAL COUNTIES
Cattaraugus: Entire county except in the Township of Perrysburg and the Village of Gowanda only the Bricklayer classification applies.
Erie: Only the Bricklayer classification applies.
Niagara: Only the Bricklayer classification applies.

WAGES

Per hour:	07/01/2013	06/01/2014 Additional	06/01/2015 Additional
Cenment Mason	$29.36	$1.26	$1.26
Bricklayer	29.36	1.26	1.26

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.g scaffold suspended from bridges.

SUPPLEMENTAL BENEFITS
Per hour worked:

Journeyman $ 17.71

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

1500 hour terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental benefits per hour worked:

Appr. 1st term $ 10.21
Appr. 2nd term to 4th term 17.71

5-3h

Mason - Tile Finisher 03/01/2014

JOB DESCRIPTION Mason - Tile Finisher **DISTRICT** 5

ENTIRE COUNTIES
Erie, Niagara, Orleans

PARTIAL COUNTIES
Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES

Per hour:	07/01/2013
Tile Finisher Marble, Slate, Terrazzo and Tile	$ 28.35
Mason Finisher	28.35

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS
Per hour worked: $ 12.75

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
1200 hours 1st and 2nd term and 1300 hours 3rd term at the following wages.

1st	2nd	3rd

$ 14.89	$ 17.37	$ 23.31

Supplemental Benefits per hour worked:

1st	2nd	3rd
$ 5.59	$ 7.23	$ 9.54

5-3TF - Z3

Mason - Tile Setter 03/01/2014

JOB DESCRIPTION Mason - Tile Setter **DISTRICT** 5

ENTIRE COUNTIES
Erie, Niagara, Orleans

PARTIAL COUNTIES
Cattaraugus: Only in the Township of Perrysburg and the Village of Gowanda.

WAGES
Per hour:

	07/01/2013	07/01/2014 Additional	07/01/2015 Additional
Tile Setter:	$ 30.53	$ 1.40	$ 1.40

Marble, Slate, Terrazzo and Tile

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS
Per hour worked: $ 20.35

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

1250 hour terms at the following wage:

1st	2nd	3rd	4th
$ 16.53	$ 17.22	$ 20.35	$ 24.27

Supplemental benefits per hour worked:

1st	2nd	3rd	4th
$ 8.83	$ 14.52	$ 15.88	$ 17.02

5-3TS - Z3

Millwright 03/01/2014

JOB DESCRIPTION Millwright **DISTRICT** 3

ENTIRE COUNTIES
Erie

PARTIAL COUNTIES
Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES
Per hour:

	07/01/2013	07/01/2014 Additional
Millwright	$ 29.81	$ 1.51
Certified Welder	31.06	1.51
Hazardous Waste Work	31.06	1.51

SUPPLEMENTAL BENEFITS

Per hour worked:

$ 25.05

OVERTIME PAY
See (B, E, *E2, Q) on OVERTIME PAGE
*Or other condition beyond the employer's control, such as power failure, fire, or natural disaster.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

1300 hour terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
60%	70%	80%	90%

Supplemental benefits per hour worked:

1st	2nd	3rd	4th
$ 9.40	$ 20.36	$ 21.92	$ 23.49

3-1163-Erie

Operating Engineer - Building 03/01/2014

JOB DESCRIPTION Operating Engineer - Building **DISTRICT** 3

ENTIRE COUNTIES
Cattaraugus, Chautauqua, Erie, Orleans, Wyoming

PARTIAL COUNTIES
Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES
CLASS A: Air Hoist, All Boom Type Equipment, All Pans and Carry-Alls, Archer Hoist, Asphalt Curb and Gutter Machines, Asphalt Roller, Asphalt Spreader or Paver, Automatic Fine Grade Machine (CMI or similar, first and second operator), Backhoe and Pullhoe, Backhoe and Pullhoe (tractor mounted, rubber tired), Back Filling Machine, Belt Placer (CMI or similar type), Bending Machine (Pipe), Bituminous Spreader and Mixer, Blacktop Plants (Automated and Non-automated), Blast or Rotary Drill (Truck or Track Mounted), Blower for Burning Brush, Boiler (when used for power), Boom Truck (excluding pick-up and delivery), Boring Machine, Bulldozer, Cableway, Cage Hoist, Caisson Auger, Central Mix Plant (and all concrete batching plants), Cherry Picker, Concrete Cleaning Decontamination Machine Operator, Concrete Curb and Gutter Machine, Concrete Curing Machine, Concrete Cutters (Vermeer or Similar Type), Concrete Mixer (over 1/2 cu yd.), Concrete Pavement Spreaders and Finishers, Concrete Paver, Concrete Pump, Conveyor, Core Drill, Crane, Crusher, Decon of Equipment, Derrick, Dragline, Dredge, Drill Rig (Tractor Mounted), Dual Drum Paver, Electric Pump used in conjunction with Well Point Systems, Elevating Grader (self propelled or towed), Elevator, Excavator (all purpose, hydraulically operated), Farm Tractor with Accessories, Fine Grade Machine, Forklift, Front End Loader, Generator (10 outlets or more), Gradall, Grader, Grout or Gunite Machine, Head Tower, Heavy Equipment Robotics Operator/Mechanic, Helicopter (when used for hoisting), Hoist (one drum), Hoisting Engine, Horizontal Directional Drill Locator, Horizontal Directional Drill Operator, Hydraulic Boom, Hydraulic Hammer (self-propelled), Hydraulic Pipe Jack Machine (or similar type machine), Hydraulic Rock Expander (or similar type machine), Hydraulic System Pumps, Hydro Crane, Hydro Hammer (or similar type), Industrial Tractor, Jersey Spreader, Kolman Plant Loader (and similar type loaders), Laser Screed, Locomotive, Lubrication Truck, Maintenance Engineer, Maintenance, Lubrication Unit or Truck, Mine Hoist, Mixer for Stabilized Base (self-propelled), Monorail, Motorized Hydraulic Pin Puller, Motorized Hydraulic Seeder, Mucking Machine, Mulching Machine, Multiple Drum Hoist (more than one drum in use), Overhead Crane, Peine Crane (or similar type), Pile Driver, Plant Engineer, Pneumatic Mixer, Post Hole Digger and Driver, Power Broom, Pump Crete, Push Button Hoist, Push or Snatch Cat, Quarry Master or equivalent, Road Widener, Rock Bit Sharpener (all types), Roller (all), Rolling Machine (pipe), Rotomill, Scissors Trucks, Lift, or Boom Lift of any type (when used for hoisting), Scoopmobile, Shovel, SideBoom, Skidsteer/Bobcat (Similar Type), Skimmer, Slip Form Paver (CMI or similar type), Snorkel/Vacuum Truck, Strato-Tower, Stump Chipping Machine, Tire Truck and Drivers performing tire repair (exclude outside vendor), Towed Roller, Tractor Drawn Belt-Type Grader/Loader, Tractor Shovel, Tractor with Towed Accessories, Tractor (when using winch power), Tractors, Trencher, Truck Crane, Truck Mechanic and Helper (exclude Teamsters when repairing their own trucks), Tunnel Shovel, Tube Finisher (CMI and similar type), Ultra High Pressure Waterjet Cutting Tool System Operator/Mechanic, Vacuum Blasting Machine Operator/Mechanic, Vibratory Compactor, Vibro Tamp, Well Drilling Machine, Well Point, Winch, Winch Truck with A Frame.

CLASS B: Aggregate Bin, Aggregate Plant, Apprentice Engineer, Apprentice Engineer Driver, Articulated Off Road Material Hauler, Boiler (used in conjunction with production), CMI and similar type Concrete Spreads (Apprentice Engineer), Cement Bin, Chipping Machine and Chip Spreader, Compressors (4 or less), Compressors (any size, but subject to other provisions for Compressors, Dust Collectors, Generators, Mechanical Heaters, Pumps, Welding Machines - four of any type or combination), Concrete Mixer (1/2 cu. yd. and under), Fireman, Form Tamper, Form Trucks (excluding Teamster or delivery), Fuel Truck or Drivers (exclude Teamster or delivery), Heaters, Heating Boiler (used for temporary heat), Helper on Lubrication Unit or Truck, Jeep Trencher, Power Heaterman, Power Plant in excess of 10 K.W., Pumps, Revinius Widener, Steam Boilers (if manning or license by local law is required), Steam Cleaner (when used for cleaning equipment on the job site), Welding Machine (1 machine over 300 amps or 2 or 3 machines regardless of amps).

Operating Engineer- Building:

Per hour:	07/01/2013	07/01/2014	07/01/15
Master Mechanic	$ 32.25	$ 33.57	$ 34.45
Asst.Master Mechanic	31.61	32.93	33.81
Crane(boom over 100ft)	31.93	33.25	34.13
" (boom over 200ft)	32.18	33.50	34.38
" (boom over 300ft)	32.68	34.00	34.88
CLASS A	31.18	32.50	33.68
CLASS B	26.68	28.00	28.88

Additional $1.00 per hour for tunnel work.
Additional $2.50 per hour for CHEMICAL, HAZARDOUS OR TOXIC WASTE projects.
Additional $3.00 per hour for all lattice boom cranes and any hydraulic crane over 60 ton capacity.

SUPPLEMENTAL BENEFITS

Per hour:			
Journeymen	$ 26.84*	$ 27.12*	$ 27.90*
Apprentice Engineers	26.44*	26.72*	27.50*

*Note: Benefits are paid at the same premium as the wages for overtime hours.

OVERTIME PAY
See (B, E, P, V) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (1) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

New Apprentices, after date of signing, receive the follow wage rates:

First Year:	87.5% of wage rate for the job being performed
Second Year:	90% of wage rate for the job being performed
Third Year:	92.5% of wage rate for the job being performed
Fourth Year:	95% of wage rate for the job being performed

Supplemental benefits per hour:

	$ 26.44*	$ 26.72*	$ 27.50*

*Note: Benefits are paid at the same premium as the wages for overtime hours.

3-17b

Operating Engineer - Heavy&Highway 03/01/2014

JOB DESCRIPTION Operating Engineer - Heavy&Highway **DISTRICT** 3

ENTIRE COUNTIES
Cattaraugus, Chautauqua, Erie, Orleans, Wyoming

PARTIAL COUNTIES
Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES

CLASS A: Air Hoist, All Boom Type Equipment, All Pans and Carry-Alls, Asphalt Curb and Cutter Machines, Asphalt Roller, Asphalt Spreader or Paver, Automatic Fine Grade Machine (CMI or similar, first and second operator), Backhoe and Pullhoe (all), Back Filling Machine, Belt Placer (CMI or similar type), Bending Machine (pipe), Bituminous Spreader and Mixer, Blacktop Plant (all), Blast or Rotary Drill (Truck or Track Mounted), Blower for Burning Brush, Boiler (when used for power), Boom Truck, Boring Machine, Bulldozer, Cableway, Cage Hoist, Caisson Auger, Central Mix Plant (and all Concrete Batching Plants), Cherry Picker, Concrete Cleaning Decontamination Machine, Concrete Curb and Gutter Machine, Concrete Curing Machine, Concrete Mixer (over 1/2 cu. yd.), Concrete Pavement Spreaders and Finishers, Concrete Paver, Concrete Pump, Concrete Saw (self propelled), Conveyor, Convoying Vehicles Convoying Engineer's Equipment, Core Drill, Crane, Crusher, Decontamination of Equipment, Derrick, Dragline, Dredge, Drill Rig (Tractor Mounted), Dual Drum Paver, Electric Pump used in conjunction with Well Point Systems, Elevating Grader (self propelled or towed), Elevator, Excavator (all purpose, hydraulically operated), Farm Tractor with Accessories, Fine Grade Machine, Forklift, Front End Loader, Gradall, Grader, Grout or Gunite Machine, Head Tower, Heavy Equipment Robotics Operator/Mechanic, Hoist (all types), Hoisting Engine, Horizontal Directional Drill Locator, Horizontal Directional Drill Operator, Hydraulic Boom, Hydraulic Hammer (self propelled), Hydraulic Pipe Jack Machine, (or similar type machine), Hydraulic Rock Expander (or similar type machine), Hydraulic System Pumps, Industrial Tractor, Jersey Spreader, Kolman Plant Loader (and similar type Loaders), Laser Screed, Locomotive, Log Skidder (similar type), Maintenance Engineer, Maintenance, Lubrication Unit or Truck, Mine Hoist, Mixer for Stabilized Base (self propelled), Monorail, Motorized Hydraulic Pin Puller, Motorized Hydraulic Seeder, Mucking Machine, Mulching Machine, Overhead Crane, Parts Chasing, Peine Crane (or similar type), Pile Driver, Plant Engineer, Pneumatic Mixer, Post Hole Digger and Post Driver, Power Broom, Pump Crete, Push Button Hoist, Push or Snatch Cat, Quarry Master (or equivalent), Road Widener, Rock Bit Sharpener (all types), Roller (all), Rolling Machine (Pipe), Rotomill, Scoopmobile, Shovel, Side Boom, Skidsteer/Bobcat (similar type), Skimmer, Slip Form Paver (CMI or similar, first and second operator), Snorkel/Vacuum Truck, Strato-Tower, Tire Truck & Repair, Towed Roller, Tractor Drawn Belt-Type Grader/Loader, Tractor Shovel, Tractor with Towed Accessories, Tractors (when using winch power), Trencher, Truck Crane, Tug Boats, Tunnel Shovel, Tube Finisher (CMI and similar), Vacuum Blasting Machine Operator/Mechanic, Vibratory Compactor, Vibro Tamp, Waterjet Cutting Tool System Operator/Mechanic (Ultra High Pressure), Well Drilling Machine, Well Point, Winch, Winch Truck with A Frame.

CLASS B: Aggregate Bin, Aggregate Plant, Apprentice Engineer, Apprentice Engineer Driver, Articulated Off Road Material Hauler, CMI and similar type Concrete Spreads (Apprentice Engineer), Cement Bin, Chipping Machine and Chip Spreader, Compressors (4 or less), Compressors: any size, but subject to other provisions for Compressors, Dust Collectors, Generators, Mechanical Heaters, Pumps, Welding Machines (four of any type or combination), Concrete Mixer (1/2 cu. yd. and under), Fireman, Form Tamper, Fuel Truck, Heating Boiler (used for temporary heat), Helper on Lubrication Unit or Truck, Jeep Trencher, Power Heaterman, Power Plant in excess of 10 K.W., Pumps (4" or over), Revinius Widener, Steam Cleaner, Stump Chipping Machine, Welding Machine (1 machine over 300 amps or 2 or 3 machines regardless of amps).

Operating Engineer- Building Site, Heavy/Highway, Sewer/Water, Tunnel:

Per hour:	07/01/2013
Master Mechanic	$ 33.38
Asst.Master Mechanic	32.74
Crane(boom over 100ft)	33.06
" (boom over 200ft)	33.31
" (boom over 300ft)	33.81
CLASS A	32.31
CLASS B	27.81

Additional $1.00 per hour for tunnel work
Additional $2.50 per hour for CHEMICAL, HAZARDOUS OR TOXIC WASTE projects.
Additional $3.00 per hour for all lattice boom cranes and any hydraulic crane over 60 ton capacity.
For work bid after 05/01/2005 an additional $1.50 per hour when shift work is mandated either in the job specifications or by the contracting agency.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeymen	$ 28.19*
Apprentice Engineers	27.79*

Note: Benefits are paid at the same premium as the wages for overtime hours.
* $ 9.86 of the time and one half premium benefit must be paid as wages.
* $ 19.71 of the double time premium benefit must be paid as wages.

OVERTIME PAY

See (B, E, Q, V) on OVERTIME PAGE

HOLIDAY

Paid:	See (5, 6) on HOLIDAY PAGE
Overtime:	See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Receive $0.40 per hour less than Journeymen with the exception of the Class B rate which is paid in full.

Supplemental benefits per hour worked:

$ 27.79*

Note: Benefits are paid at the same premium as the wages for overtime hours.
* $ 9.86 of the time and one half premium benefit must be paid as wages.
* $ 19.71 of the double time premium benefit must be paid as wages.

3-17 hh/sw/t

Operating Engineer - Marine Construction 03/01/2014

JOB DESCRIPTION Operating Engineer - Marine Construction **DISTRICT** 4

ENTIRE COUNTIES
Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES
Per Hour:

DREDGING OPERATIONS	07/01/2013
CLASS A	
Operator, Leverman, Lead Dredgeman	$ 32.89
CLASS A1 Dozer,Front Loader Operator	To conform to Operating Engineer Prevailing Wage in locality where work is being performed including benefits.
CLASS B	
Spider/Spill Barge Operator, Tug Operator(over1000hp), OperatorII, Fill Placer, Derrick Operator, Engineer, Chief Mate, Electrician, Chief Welder, Maintenance Engineer	$ 28.49
Certified Welder, Boat Operator(licensed)	$ 26.84
CLASS C	
Drag Barge Operator, Steward, Mate, Assistant Fill Placer,	$ 26.14
Welder (please add)$ 0.06	
Boat Operator	$ 25.29
CLASS D	
Shoreman, Deckhand, Rodman, Scowman, Cook, Messman, Porter/Janitor	$ 21.09
Oiler(please add)$ 0.09	

SUPPLEMENTAL BENEFITS
Per Hour:
THE FOLLOWING SUPPLEMENTAL BENEFITS APPLY TO ALL CATEGORIES

	07/01/2013
All Classes A & B	$ 8.45 plus 7% of straight time wage overtime hours add $ 0.63
All Class C	$ 8.10 plus 8% of straight time

	wage overtime hours add $ 0.48
All Class D	$ 7.85 plus 8% of straight time wage overtime hours add $ 0.33

OVERTIME PAY
See (B, F, R) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 26) on HOLIDAY PAGE

4-25a-MarConst

Operating Engineer - Survey Crew 03/01/2014

JOB DESCRIPTION Operating Engineer - Survey Crew **DISTRICT** 3

ENTIRE COUNTIES
Cattaraugus, Chautauqua, Erie, Orleans, Wyoming

PARTIAL COUNTIES
Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES
Per hour:

SURVEY CLASSIFICATIONS:

Party Chief- One who directs a survey party.
Instrument person- One who runs the instrument and assists the Party Chief.
Rod person- One who holds the rods and, in general, assists the survey party.

	07/01/2013	07/01/2014	07/01/2015
Party Chief	$ 33.12	$ 35.09	$ 36.13
Instrument person	30.26	32.13	34.06
Rod person	21.85	23.43	24.06

Additional $3.00 per hr. for work in a Tunnel.
Additional $2.50 per hr. for EPA or DEC certified toxic or hazardous waste work

SUPPLEMENTAL BENEFITS
Per hour worked:

Journeyman	$ 23.15	$ 23.15	$ 24.15

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
WAGES: One year or 1000 hour terms at the following wage rates.

	07/01/2013	07/01/2014	07/01/2015
1st year	$ 13.11	$ 14.06	$ 14.44
2nd year	15.30	16.40	18.23
3rd year	17.48	18.74	19.25

SUPPLEMENTAL BENEFITS per hour worked:

$ 23.15	$ 23.15	$ 24.15

3-545 D.H.H.

Operating Engineer - Survey Crew - Consulting Engineer 03/01/2014

JOB DESCRIPTION Operating Engineer - Survey Crew - Consulting Engineer **DISTRICT** 3

ENTIRE COUNTIES
Cattaraugus, Chautauqua, Erie, Orleans, Wyoming

PARTIAL COUNTIES
Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES
Per hour:

Feasibility and preliminary design surveying, line and grade surveying for inspection or supervision of construction when performed under a Consulting Engineer Agreement.
SURVEY CLASSIFICATIONS: Party Chief- One who directs a survey party.
Instrument Man- One who runs the instrument and assists the Party Chief.
Rodman- One who holds the rods and in general, assists the survey party.

	07/01/2013	07/01/2014	07/01/2015
Survey Rates:			
Party Chief	$ 33.12	$ 35.09	$ 36.13
Instrument	30.26	32.13	34.06
Rodperson	21.85	23.43	24.06

Additional $3.00 per hr. for work in a Tunnel.
Additional $2.50 per hr. for EPA or DEC certified toxic or hazardous waste work

SUPPLEMENTAL BENEFITS
Per hour worked:

$ 23.15	$ 23.15	$ 24.15

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

3-545 DCE

Painter 03/01/2014

JOB DESCRIPTION Painter **DISTRICT** 3

ENTIRE COUNTIES
Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Cortland, Delaware, Erie, Genesee, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

WAGES

Per hour:	07/01/2013	05/01/2014 Additional	05/01/2015 Additional
Bridge*	$ 36.95	$ 2.00	$ 2.25
Tunnel*	36.95	2.00	2.25
Tank*	34.95	2.00	2.25

For Bridge Painting Contracts, ALL WORKERS on and off the bridge (including Flagmen) are to be paid Painter's Rate; the contract must be ONLY for Bridge Painting.

Tank rate applies to indoor and outdoor tanks, tank towers, standpipes, digesters, waste water treatment tanks, chlorinator tanks, etc. Covers all types of tanks including but not limited to steel tanks, concrete tanks, fiberglass tanks, etc.

* Note an additional $1.00 per hour is required when the contracting agency or project specification requires any shift to start prior to 6:00am or after 12:00 noon.

SUPPLEMENTAL BENEFITS
Per hour worked:
$ 22.00

OVERTIME PAY
Exterior work only See (B, E4*, F, R) on OVERTIME PAGE.
All other work See (B, F, R) on OVERTIME PAGE.

* Note - Saturday is payable at straight time if the employee misses work, except where a doctor's or hospital verification of illness is produced Monday through Friday when work was available to the employee.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

750 hour terms at the following percentage of Journeyman's wage rate:

1st	2nd	3rd	4th	5th	6th
50%	55%	60%	65%	75%	85%

Supplemental benefits per hour worked:

1st & 2nd terms	$ 3.02
3rd & 4th terms	5.02
5th & 6th terms	6.02

3-4-Bridge, Tunnel, Tank

Painter 03/01/2014

JOB DESCRIPTION Painter **DISTRICT** 3

ENTIRE COUNTIES
Allegany, Erie, Genesee, Niagara, Orleans, Wyoming

PARTIAL COUNTIES
Cattaraugus: Entire County except the Townships of Conewango, Leon, Napoli, New Albion, Randolph and South Valley.
Chautauqua: Only the Townships of Awkright, Dunkirk, Hanover, Pomfret, Portland, Sheridan and Villenova.
Livingston: Only the Townships of North Dansville, Nunda, Ossian,Portage, Sparta, Spring Water and West Sparta.
Steuben: Only the Townships of Avoca, Canisteo, Cohocton, Dansville,Fremont, Greenwood, Hartsville, Hornellsville, Howard, Jasper, Prattsburg, Pulteney, Troupsburg, Tuscarora, Urbana, Wayland, Wayne, Woodhull, West Union, Wheeler, and the City of Hornell.

WAGES

Per hour:	07/01/2013	05/01/2014 Additional	05/01/2015 Additional
Basic Rate (Brush & Roll)	$ 25.00	$ 1.04	$ 1.09
Spray painting, wallcovering	25.25	1.04	1.09
Abrasive and hyroblasting	25.25	1.04	1.09
Taping/DryWall Finisher	25.50	1.04	1.09
Skeleton Steel*	25.75	1.04	1.09

* Skeleton Steel: No floors, walls or ceiling are constructed, including radio and television towers, flagpoles, smokestacks, cranes and the abatement of coatings with lead, asbestos and/or arsenic, etc. All work within the confines of a plant shall be paid the skeleton steel rate (except in-plant tank work (see Tank Rate)).

** IMPORTANT NOTICE - EFFECTIVE 04/01/2009 **
Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS
Per hour worked:

$ 20.24

OVERTIME PAY
Exterior work only See (B, E4*, F, R) on OVERTIME PAGE.
All other work See (B, F, R) on OVERTIME PAGE.

*Note - Saturday is payable at straight time if the employee misses work, except where a doctor's or hospital verification of illness is produced Monday through Friday when work was available to the employee.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

Painter/Decorator: 750 hour terms at the following percentage of Journeyman's Basic wage rate:

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	90%

Taper/Drywall Finisher: 750 hour terms at the following percentage of Journeyman's Taper wage:

1st	2nd	3rd	4th	5th	6th
50%	55%	60%	65%	75%	85%

Supplemental benefits per hour worked:

Painter/Decorator and Taper/Drywall Finisher:	
1st & 2nd terms	$ 2.02
3rd & 4th terms	5.02
All other terms	6.02

3-4-Buf, Nia, Olean

Painter - Metal Polisher 03/01/2014

JOB DESCRIPTION Painter - Metal Polisher **DISTRICT** 9

ENTIRE COUNTIES
Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

	07/01/2013
Metal Polisher	$ 27.15
Metal Polisher**	$ 28.24
Metal Poilsher***	$ 30.65

**Note: Applies on New Construction & complete renovation
*** Note: Applies when working on scaffolds over 34 feet.

SUPPLEMENTAL BENEFITS

Per Hour:	07/01/2013
Journeyworker:	
All classification	$ 13.61

OVERTIME PAY
See (B, E, E2, P, T) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE
Overtime: See (5, 6, 9, 11, 15, 16, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:
One (1) year term at the following wage rates:

1st	2nd	3rd
$11.00	$12.50	$15.50

Supplentals benefits:
Per hour paid:

1st	2nd	3rd
$ 9.94	$10.31	$10.51

9-8A/28A-MP

Plumber 03/01/2014

JOB DESCRIPTION Plumber **DISTRICT** 3

ENTIRE COUNTIES
Erie, Niagara, Wyoming

PARTIAL COUNTIES
Allegany: Only the Townships of Allen, Angelica, Belfast, Caneadea, Centerville, Granger, Hume, New Hudson and Rushford
Cattaraugus: Only the Townships of Ashford, Dayton, East Otto, Ellicottville, Farmersville, Franklinville, Freedom, Leon, Lyndon, Machias, Mansfield, New Albion, Otto, Perrysburg, Persia and Yorkshire.
Chautauqua: Only the Townships of Arkwright, Charlotte, Cherry Creek, Dunkirk, Hanover, Pomfret, Portland, Ripley, Sheridan, Stockton, Villenova and Westfield.
Genesee: Only the Townships of Alabama, Alexander, Batavia, Darien, Elba, Oakfield, Pembroke and the City of Batavia.
Orleans: Only the Townships of Ridgeway, Shelby and Yates.

WAGES

Per hour:	07/01/2013
Plumber	$ 32.18*

Steamfitter	32.18*

*Note - Add 10% (ten-percent) to wage when HAZMAT training is required or when OSHA compliant respirator protection is required.

SUPPLEMENTAL BENEFITS
Per hour worked:
$ 21.05*
* Note - $2.00 of this amount must be paid at the same premium as the wage.

OVERTIME PAY
See (*B1, Q) on OVERTIME PAGE
* 9th and 10th hour on Saturday to be paid at time and one half.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th	5th
45%	55%	65%	75%	90%

Add $1.00 per hour for Hazmat work.

Supplemental benefits per hour worked:

$ 17.22*
* Note - $2.00 of this amount must be paid at the same premium as the wage.

3-22-Buffalo, Niagara

Roofer 03/01/2014

JOB DESCRIPTION Roofer **DISTRICT** 3

ENTIRE COUNTIES
Erie, Genesee, Niagara, Orleans, Wyoming

WAGES
Per hour: 07/01/2013

Asbestos Removal	$ 28.25
Slate, Tile	25.40
Precast tile / slabs	25.40
Crete / gypsum planks	25.40
Damp and waterproofer	25.25
Composition, spayers,	25.25
Aspalt mastic,	25.25
Steep roofers	25.25

SUPPLEMENTAL BENEFITS
Per hour worked:
$ 18.95

OVERTIME PAY
See (B, *E, **E2, Q) on OVERTIME PAGE
* and ** Double time after 8 hours on Saturday.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

Hour terms at the following percentage of Journeyman's wage:

0 to 1000	to 2000	to 2500	to 3000	to 3500	to 4000	to 4500
50%	55%	60%	65%	70%	75%	80%

Supplemental benefits per hour worked:

0 to 1000	to 2000	to 2500	to 3000	to 3500	to 4000	to 4500
$ 0.00	$ 9.50	$ 14.22	$ 14.73	$ 15.22	$ 15.72	$ 16.21

3-74

Sheetmetal Worker 03/01/2014

JOB DESCRIPTION Sheetmetal Worker **DISTRICT** 3

ENTIRE COUNTIES
Erie, Genesee, Niagara, Orleans, Wyoming

WAGES
Per hour: 07/01/2013
$ 32.50
Additional $0.50 per hour for work 30' above floor on boatswain chair.
Additional $1.00 per hour for work in "Hot" areas of Atomic Laboratories.

SUPPLEMENTAL BENEFITS
Per hour worked:
$ 19.70*
* Note - $14.27 of this amount must be paid at the same premium as the wage.

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour:

One year terms at the following wage:

1st term	$ 14.63
2nd term	18.88
3rd term	20.24
4th term	24.33
5th term	27.05

Supplemental benefits per hour:

1st term	$ 11.49	Note - $6.06 of this amount must be paid at the same premium as the wage.
2nd term	14.11	Note - $8.68 of this amount must be paid at the same premium as the wage.
3rd term	17.34	Note - $11.91 of this amount must be paid at the same premium as the wage.
4th term	18.12	Note - $12.69 of this amount must be paid at the same premium as the wage.
5th term	18.65	Note - $13.22 of this amount must be paid at the same premium as the wage.

3-71

Sprinkler Fitter 03/01/2014

JOB DESCRIPTION Sprinkler Fitter **DISTRICT** 1

ENTIRE COUNTIES
Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

WAGES
Per hour 07/01/2013
Sprinkler Fitter $ 29.83

SUPPLEMENTAL BENEFITS
Per hour worked

Journeyman $ 20.52

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: When a holiday falls on Sunday, the following Monday shall be considered a holiday and all work performed on either day shall be at the double time rate. When a holiday falls on Saturday, the preceding Friday shall be considered a holiday and all work performed on either day shall be at the double time rate.

REGISTERED APPRENTICES
Wages per hour

For Apprentices HIRED PRIOR TO 04/01/2010:

One Half Year terms at the following wage

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
$ 15.08	$ 15.08	$ 16.26	$ 17.77	$ 19.28	$ 20.79	$ 22.29	$ 23.80	$ 25.31	$ 26.82

Supplemental Benefits per hour worked

	07/01/2013
1st & 2nd Terms	$ 8.60
3rd Term	14.87
4th Term	14.91
5th Term	20.21
6th Term	20.25
7th Term	20.30
8th Term	20.34
9th Term	20.39
10th Term	20.43

For Apprentices HIRED ON OR AFTER 04/01/2010:

One Half Year terms at the following wage

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
$ 13.57	$ 15.08	$ 16.26	$ 17.77	$ 19.28	$ 20.79	$ 22.29	$ 23.80	$ 25.31	$ 26.82

Supplemental Benefits per hour worked

	07/01/2013
1st Term	$ 8.56
2nd Term	8.60
3rd Term	14.87
4th Term	14.91
5th Term	15.46
6th Term	15.50
7th Term	15.55
8th Term	15.59
9th Term	15.64
10th Term	15.68

1-669

Teamster - Building / Heavy&Highway 03/01/2014

JOB DESCRIPTION Teamster - Building / Heavy&Highway **DISTRICT** 3

ENTIRE COUNTIES
Erie, Niagara

PARTIAL COUNTIES
Genesee: Only in the Townships of Alabama, Darien and Pembroke.
Orleans: Only the Townships of Ridgeway, Shelby and Yates.
Wyoming: Only in the Townships of Arcade, Bennington, Java and Sheldon.

WAGES
GROUP 1: Warehousemen, Yardmen, Truck Helpers, Pickups, Panel Trucks, Flatboy Material Trucks (straight jobs), Single Axle Dump Trucks, Dumpsters, Material Checkers and Receivers, Greasers, Truck Tiremen, Mechanics Helpers and Parts Chasers.

GROUP 2: Tandems and Batch Trucks, Mechanics, Dispatcher.

GROUP 3: Semi-Trailers, Low-Boy Trucks, Asphalt Distributor Trucks and Agitator, Mixer Trucks and dumpcrete type vehicles, Truck Mechanic, Fuel Trucks

GROUP 4: Specialized Earth Moving Equipment, Euclid type, or similar off-highway, where not self-loading, Straddle (Ross) Carrier, and self -contained concrete mobile truck.

GROUP 5: Off-highway Tandem Back-Dump, Twin Engine Equipment and Double-Hitched Equipment where not self-loading.

Per hour:	07/01/2013	07/01/2014	07/01/2015
All GROUPS	$ 32.61	$ 33.96	$ 35.30

Add $2.00 when required to use personal protection when performing hazardous waste removal work.
An additional $1.00 per hour is required when a single irregular work shift starting any time from 5:00PM to 1:00AM is mandated either in the job specification or by the contracting agency.

SUPPLEMENTAL BENEFITS
Per hour worked:

$ 10.63*	$ 10.98*	$ 11.34*

*Note - Only $ 4.85 per hour needs to be paid for overtime hours.

OVERTIME PAY
See (B, G, P) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

3-449

Teamster - Building / Heavy&Highway 03/01/2014

JOB DESCRIPTION Teamster - Building / Heavy&Highway **DISTRICT** 3

ENTIRE COUNTIES
Erie, Niagara

PARTIAL COUNTIES
Genesee: Only in the Townships of Alabama, Darin and Pembroke.
Orleans: Only the Townships of Ridgeway, Shelby and Yates.
Wyoming: Only in the Townships of Arcade, Bennington, Java and Sheldon.

WAGES

Per hour:	07/01/2013	07/01/2014	07/01/2015
Dump Truck Operator	$ 18.00	$ 18.45	$ 18.95

SUPPLEMENTAL BENEFITS
Per hour worked:
$ 1.59

OVERTIME PAY
See (B, J) on OVERTIME PAGE
Note - Time and one half shall be paid for work in excess of five (5) days per week.

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

3-449d-DT

Welder 03/01/2014

JOB DESCRIPTION Welder **DISTRICT** 1

ENTIRE COUNTIES
Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES
Per hour 07/01/2013

Welder (To be paid the same rate of the mechanic performing the work)

OVERTIME PAY

HOLIDAY

1-As Per Trade

Overtime Codes

Following is an explanation of the code(s) listed in the OVERTIME section of each classification contained in the attached schedule. Additional requirements may also be listed in the HOLIDAY section.

(B1)	Time and one half of the hourly rate for the 9th & 10th hours week days and the 1st 8 hours on Saturday. Double the hourly rate for all additional hours
(A)	Time and one half of the hourly rate after 7 hours per day
(AA)	Time and one half of the hourly rate after 7 and one half hours per day
(E3)	Between November 1st and March 3rd Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather, provided a given employee has worked between 16 and 32 hours that week
(B)	Time and one half of the hourly rate after 8 hours per day
(S1)	Two and one half times the hourly rate the first 8 hours on Sunday or Holidays One and one half times the hourly rate all additional hours.
(E5)	Double time after 8 hours on Saturdays
(B2)	Time and one half of the hourly rate after 40 hours per week
(C)	Double the hourly rate after 7 hours per day
(C1)	Double the hourly rate after 7 and one half hours per day
(D)	Double the hourly rate after 8 hours per day
(D1)	Double the hourly rate after 9 hours per day
(E)	Time and one half of the hourly rate on Saturday
(E1)	Time and one half 1st 4 hours on Saturday Double the hourly rate all additional Saturday hours
(E2)	Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
(E4)	Saturday and Sunday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
(F)	Time and one half of the hourly rate on Saturday and Sunday
(G)	Time and one half of the hourly rate on Saturday and Holidays
(H)	Time and one half of the hourly rate on Saturday, Sunday, and Holidays
(I)	Time and one half of the hourly rate on Sunday
(J)	Time and one half of the hourly rate on Sunday and Holidays
(K)	Time and one half of the hourly rate on Holidays
(L)	Double the hourly rate on Saturday
(M)	Double the hourly rate on Saturday and Sunday
(N)	Double the hourly rate on Saturday and Holidays
(O)	Double the hourly rate on Saturday, Sunday, and Holidays
(P)	Double the hourly rate on Sunday
(Q)	Double the hourly rate on Sunday and Holidays
(R)	Double the hourly rate on Holidays
(S)	Two and one half times the hourly rate for Holidays, if worked

(T) Triple the hourly rate for Holidays, if worked

(U) Four times the hourly rate for Holidays, if worked

(V) Including benefits at SAME PREMIUM as shown for overtime

(W) Time and one half for benefits on all overtime hours.

NOTE:BENEFITS are PER HOUR WORKED,for each hour worked, unless otherwise noted

Holiday Codes

PAID Holidays:

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

OVERTIME Holiday Pay:

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays. The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Following is an explanation of the code(s) listed in the HOLIDAY section of each classification contained in the attached schedule. The Holidays as listed below are to be paid at the wage rates at which the employee is normally classified.

(1)	None
(2)	Labor Day
(3)	Memorial Day and Labor Day
(4)	Memorial Day and July 4th
(5)	Memorial Day, July 4th, and Labor Day
(6)	New Year's, Thanksgiving, and Christmas
(7)	Lincoln's Birthday, Washington's Birthday, and Veterans Day
(8)	Good Friday
(9)	Lincoln's Birthday
(10)	Washington's Birthday
(11)	Columbus Day
(12)	Election Day
(13)	Presidential Election Day
(14)	1/2 Day on Presidential Election Day
(15)	Veterans Day
(16)	Day after Thanksgiving
(17)	July 4th
(18)	1/2 Day before Christmas
(19)	1/2 Day before New Years
(20)	Thanksgiving
(21)	New Year's Day
(22)	Christmas
(23)	Day before Christmas
(24)	Day before New Year's
(25)	Presidents' Day
(26)	Martin Luther King, Jr. Day
(27)	Memorial Day

New York State Department of Labor - Bureau of Public Work
State Office Building Campus
Building 12 - Room 130
Albany, New York 12240

REQUEST FOR WAGE AND SUPPLEMENT INFORMATION

As Required by Articles 8 and 9 of the NYS Labor Law

Fax (518) 485-1870 or mail this form for new schedules or for determination for additional occupations.

This Form Must Be Typed

Submitted By: (Check Only One) ☐ Contracting Agency ☐ Architect or Engineering Firm ☐ Public Work District Office Date:

A. Public Work Contract to be let by: (Enter Data Pertaining to Contracting/Public Agency)

1. Name and complete address ☐ (Check if new or change)

Telephone: ( ) Fax: ( )
E-Mail:

2. NY State Units (see Item 5)

- ☐ 01 DOT
- ☐ 02 OGS
- ☐ 03 Dormitory Authority
- ☐ 04 State University Construction Fund
- ☐ 05 Mental Hygiene Facilities Corp.
- ☐ 06 OTHER N.Y. STATE UNIT
- ☐ 07 City
- ☐ 08 Local School District
- ☐ 09 Special Local District, i.e., Fire, Sewer, Water District
- ☐ 1O Village
- ☐ 11 Town
- ☐ 12 County
- ☐ 13 Other Non-N.Y. State (Describe)

3. SEND REPLY TO (☐ check if new or change)
Name and complete address:

Telephone:( ) Fax: ( )
E-Mail:

4. SERVICE REQUIRED. Check appropriate box and provide project information.

- ☐ New Schedule of Wages and Supplements.

APPROXIMATE BID DATE :

- ☐ Additional Occupation and/or Redetermination

PRC NUMBER ISSUED PREVIOUSLY FOR THIS PROJECT :

OFFICE USE ONLY

B. PROJECT PARTICULARS

5. Project Title _____

Description of Work _____

Contract Identification Number _____

Note: For NYS units, the OSC Contract No. _____

6. Location of Project:
Location on Site _____

Route No/Street Address _____

Village or City _____

Town _____

County _____

7. Nature of Project - Check One:

- ☐ 1. New Building
- ☐ 2. Addition to Existing Structure
- ☐ 3. Heavy and Highway Construction (New and Repair)
- ☐ 4. New Sewer or Waterline
- ☐ 5. Other New Construction (Explain)
- ☐ 6. Other Reconstruction, Maintenance, Repair or Alteration
- ☐ 7. Demolition
- ☐ 8. Building Service Contract

8. OCCUPATION FOR PROJECT :

- ☐ Construction (Building, Heavy Highway/Sewer/Water)
- ☐ Tunnel
- ☐ Residential
- ☐ Landscape Maintenance
- ☐ Elevator maintenance
- ☐ Exterminators, Fumigators
- ☐ Fire Safety Director, NYC Only
- ☐ Guards, Watchmen
- ☐ Janitors, Porters, Cleaners, Elevator Operators
- ☐ Moving furniture and equipment
- ☐ Trash and refuse removal
- ☐ Window cleaners
- ☐ Other (Describe)

9. Has this project been reviewed for compliance with the Wicks Law involving separate bidding? YES ☐ NO ☐

10. Name and Title of Requester

Signature

SEE PAGE TWO FOR LAWS RELATING TO PUBLIC WORK CONTRACTS

NEW YORK STATE DEPARTMENT OF LABOR
Bureau of Public Work - Debarment List

LIST OF EMPLOYERS INELIGIBLE TO BID ON OR BE AWARDED ANY PUBLIC WORK CONTRACT

Under Article 8 and Article 9 of the NYS Labor Law, a contractor, sub-contractor and/or its successor shall be debarred and ineligible to submit a bid on or be awarded any public work or public building service contract/sub-contract with the state, any municipal corporation or public body for a period of five (5) years from the date of debarment when:

- Two (2) final determinations have been rendered within any consecutive six-year (6) period determining that such contractor, sub-contractor and/or its successor has WILLFULLY failed to pay the prevailing wage and/or supplements
- One (1) final determination involves falsification of payroll records or the kickback of wages and/or supplements

NOTE: The agency issuing the determination and providing the information, is denoted under the heading 'Fiscal Officer'. DOL = NYS Dept. of Labor; NYC = New York City Comptroller's Office; AG = NYS Attorney General's Office; DA = County District Attorney's Office.

A list of those barred from bidding, or being awarded, any public work contract or subcontract with the State, under section 141-b of the Workers' Compensation Law, may be obtained at the following link, on the NYS DOL Website:

https://dbr.labor.state.ny.us/EDList/searchPage.do

NYSDOL Bureau of Public Work Debarment List 02/25/2014

Article 8

AGENCY	Fiscal Officer	FEIN	EMPLOYER NAME	EMPLOYER DBA NAME	ADDRESS	DEBARMENT START DATE	DEBARMENT END DATE
DOL	DOL		4618 FOSTER AVE LLC		C/O KAHAN & KAHAN 225 BROADWAY-SUITE 715NEW YORK NY 10007	02/05/2013	02/05/2018
DOL	NYC		A & T IRON WORKS INC		25 CLIFF STREET NEW ROCHELLE NY 10801	12/21/2009	12/21/2014
DOL	DOL	*****0711	A ULIANO & SON LTD		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015
DOL	DOL		A ULIANO CONSTRUCTION		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015
DOL	NYC	*****5804	AAR/CO ELECTRIC INC		5902 AVENUE N BROOKLYN NY 11234	03/20/2009	03/20/2014
DOL	NYC	*****4486	ABBEY PAINTING CORP		21107 28TH AVENUE BAYSIDE NY 11360	07/02/2012	07/02/2017
DOL	DOL	*****9095	ABDO TILE CO		6179 EAST MOLLOY ROAD EAST SYRACUSE NY 13057	06/25/2010	07/02/2017
DOL	DOL	*****9095	ABDO TILE COMPANY		6179 EAST MOLLOY ROAD EAST SYRACUSE NY 13057	06/25/2010	07/02/2017
DOL	DOL	*****8488	ABELCRAFT OF NEW YORK CORP		640 ASHFORD AVENUE ARDSLEY NY 10502	08/27/2013	08/27/2018
DOL	DOL	*****1219	ABSOLUTE GENERAL CONTRACTING INC		1229 AVENUE U BROOKLYN NY 11229	01/28/2013	01/28/2018
DOL	DOL	*****4539	ACCOMPLISHED WALL SYSTEMS INC		112 OSCAWANA HEIGHTS ROAD PUTNAM VALLEY NY 10542	08/27/2013	08/27/2018
DOL	DOL		ADAM A CEMERYS		2718 CURRY ROAD SCHENECTADY NY 12303	07/08/2010	07/08/2015
DOL	DOL	*****7584	ADAM'S FLOOR COVERING LLC		2718 CURRY ROAD SCHENECTADY NY 12303	07/08/2010	02/15/2017
DOL	DOL		ADESUWA UWUIGBE		P O BOX 21-1022 BROOKLYN NY 11221	05/16/2012	05/16/2017
DOL	DOL		AFFORDABLE PAINTING PLUS		367 GREEVES ROAD NEW HAMPTON NY 10958	10/01/2010	10/01/2015
DOL	DOL	*****2538	AGG MASONRY INC		160 72ND ST - SUITE 721 BROOKLYN NY 11209	03/19/2013	03/19/2018
DOL	DOL		ALBERT CASEY		43-28 54TH STREET WOODSIDE NY 11377	07/01/2011	07/01/2016
DOL	DOL		ALEJANDRO MATOS		C/O SEVEN STAR ELECTRICAL 23-24 STEINWAY STREETASTORIA NY 11105	06/27/2011	06/27/2016
DOL	DOL		ALISHER KARIMOV		C/O AGG MASONRY INC 7105 3RD AVENUEBROOKLYN NY 11209	03/19/2013	03/19/2018
DOL	DOL	*****8740	ALLSTATE ENVIRONMENTAL CORP		C/O JOSE MONTAS 27 BUTLER PLACEYONKERS NY 10710	03/18/2011	03/15/2017
DOL	DOL	*****8534	ALPHA INTERIORS INC		513 ACORN STREET/ SUITE C DEER PARK NY 11729	05/27/2010	05/27/2015
DOL	DOL	*****4274	AMERICAN STEEL MECHANICAL INC		693 PAINTER STREET MEDIA PA 19063	02/20/2013	02/20/2018
DOL	NYC		ANDERSON LOPEZ		670 SOUTHERN BLVD BRONX NY 10455	06/14/2011	06/14/2016
DOL	DOL		ANDREW DIPAUL		C/O CONSOLIDATED INDUSTRI 2051 ROUTE 44/55MODENA NY 12548	12/11/2012	12/11/2017
DOL	NYC		ANDRZEJ WROBEL		24 CONGRESS LANE SOUTH RIVER NJ 08882	05/01/2013	05/01/2018
DOL	AG		ANTHONY BRANCA		700 SUMMER STREET STAMFORD CT	11/24/2009	11/24/2014
DOL	DA		ANTHONY CARDINALE		58-48 59TH STREET MASPETH NY 11378	05/16/2012	05/16/2017
DOL	DOL		ANTHONY POSELLA		30 GLEN HOLLOW ROCHESTER NY 14622	10/19/2009	10/19/2014
DOL	DOL		ANTHONY TAORMINA		215 MCCORMICK DRIVE BOHEMIA NY 11716	05/20/2009	05/20/2014
DOL	DOL		ANTHONY ULIANO		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015
DOL	DOL	*****3020	APCO CONTRACTING CORP		24 SOUTH MARYLAND AVENUE PORT WASHINGTON NY 11050	09/24/2012	09/24/2017
DOL	AG	*****0194	APPLIED CONSTRUCTION INC		46 RUGBY ROAD WESTBURY NY 11590	11/20/2013	11/20/2018
DOL	DOL	*****8688	ARC MECHANICAL CORP		215 MCCORMICK DRIVE BOHEMIA NY 11716	05/20/2009	05/20/2014

DOL	NYC		ARIE BAR		5902 AVENUE N BROOKLYN NY 11234	03/20/2009	03/20/2014
DOL	DOL	*****9336	ARTIERI SPECIALTIES LLC	SWITZER SALES	107 STEVENS STREET LOCKPORT NY 14094	11/04/2009	11/04/2014
DOL	DOL	*****3953	ASCPAPE LANDSCAPE & CONSTRUCTION CORP		634 ROUTE 303 BLAUVELT NY 10913	07/26/2012	11/19/2018
DOL	DOL	*****2534	B & B CONCRETE CONTRACTORS INC		55 OLD TURNPIKE ROAD SUITE 612NANUET NY 10954	02/04/2011	02/04/2016
DOL	NYC		BASIL ROMEO		243-03 137TH AVENUE ROSEDALE NY 11422	03/25/2010	03/25/2015
DOL	DOL	*****2294	BEDELL CONTRACTING CORP		2 TINA LANE HOPEWELL JUNCTION NY 12533	01/06/2012	01/06/2017
DOL	DOL		BENNY VIGLIOTTI		C/O LUVIN CONSTRUCTION CO P O BOX 357CARLE PLACE NY 11514	03/15/2010	03/15/2015
DOL	DOL	*****6999	BEST ROOFING OF NEW JERSEY LLC		30 MIDLAND AVENUE WALLINGTON NJ 07057	11/05/2010	11/05/2015
DOL	DOL		BEVERLY F WILLIAMS		1238 PRESIDENT STREET BROOKLYN NY 11225	11/18/2013	11/18/2018
DOL	DOL		BIAGIO CANTISANI		200 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	05/04/2017
DOL	NYC	*****8377	BOSPHORUS CONSTRUCTION CORPORATION		3817 KINGS HIGHWAY-STE 1D BROOKLYN NY 11234	06/30/2010	06/30/2015
DOL	DOL		BRIAN HOXIE		2219 VALLEY DRIVE SYRACUSE NY 13207	12/04/2009	12/04/2014
DOL	DOL	*****9643	BROOKS BROTHERS PAINTING		200 BUELL ROAD, SUITE C10 ROCHESTER NY 14624	09/24/2013	09/24/2018
DOL	DOL		CANTISANI & ASSOCIATES LTD		442 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	05/04/2017
DOL	DOL		CANTISANI HOLDING LLC		220 FERRIS AVENUE WHITE PLAINS NY 10603	05/04/2012	05/04/2017
DOL	DOL	*****1143	CARMODY BUILDING CORP		442 ARMONK ROAD MOUNT KISCO NY 10549	05/04/2012	05/04/2017
DOL	DOL	*****3368	CARMODY CONCRETE CORP		442 ARMONK ROAD MOUNT KISCO NY 10549	12/04/2009	05/04/2017
DOL	DOL		CARMODY CONTRACTING CORP		220 FERRIS AVENUE WHITE PLAINS NY 10603	05/04/2012	05/04/2017
DOL	DOL	*****6215	CARMODY CONTRACTING INC		220 FERRIS AVENUE WHITE PLAINS NY 10603	05/04/2012	05/04/2017
DOL	DOL		CARMODY ENTERPRISES LTD		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	05/04/2017
DOL	DOL	*****3812	CARMODY INC		442 ARMONK ROAD MOUNT KISCO NY 10549	12/04/2009	05/04/2017
DOL	DOL	*****3812	CARMODY INDUSTRIES INC		442 FERRIS AVENUE WHITE PLAINS NY 10603	05/04/2012	05/04/2017
DOL	DOL		CARMODY MAINTENANCE CORP		105 KISCO AVENUE MOUNT KISCO NY 10549	05/04/2012	05/04/2017
DOL	DOL	*****0324	CARMODY MASONRY CORP		442 ARMONK ROAD MOUNT KISKO NY 10549	12/04/2009	05/04/2017
DOL	DOL	*****3812	CARMODY"2" INC		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	05/04/2017
DOL	DOL	*****9721	CATENARY CONSTRUCTION CORP		112 HUDSON AVENUE ROCHESTER NY 14605	02/14/2006	10/20/2014
DOL	DOL	*****1683	CATONE CONSTRUCTION COMPANY INC		294 ALPINE ROAD ROCHESTER NY 14423	03/09/2012	03/09/2017
DOL	DOL		CATONE ENTERPRISES INC		225 DAKOTA STREET ROCHESTER NY 14423	03/09/2012	03/09/2017
DOL	DOL	*****8530	CAZ CONTRACTING CORP		37-11 35TH AVENUE LONG ISLAND CITY NY 11101	08/26/2013	08/26/2018
DOL	DOL	*****7924	CBI CONTRACTING INCORPORATED		2081 JACKSON AVENUE COPIAGUE NY 11726	06/03/2010	06/03/2015
DOL	DOL	*****5556	CERTIFIED INSTALLERS INC		113 N MAPLE AVENUE GREENSBURG PA 15601	02/21/2013	02/21/2018
DOL	DOL		CHARLES OKRASKI		67 WARD ROAD SALT POINT NY 12578	01/21/2011	01/21/2016
DOL	DOL		CHARLES RIBAUDO		513 ACORN ST - SUITE C DEER PARK NY 11729	05/27/2010	05/27/2015
DOL	DOL		CHAUCEY BROOKS	BROOKS BROTHERS PAINTING	200 BUELL ROAD, SUITE C10 ROCHESTER NY 14624	09/24/2013	09/24/2018
DOL	DOL	*****1416	CHEROMINO CONTROL GROUP LLC		61 WILLET ST - SUITE 14 PASSAIC NJ 07055	12/03/2009	02/23/2017
DOL	DOL		CHRIS SAVOURY		44 THIELLS-MT IVY ROAD POMONA NY 10970	10/14/2011	10/14/2016

DOL	DOL		CHRIST R PAPAS		C/O TRAC CONSTRUCTION INC 9091 ERIE ROADANGOLA NY 14006	02/03/2011	02/03/2016
DOL	DOL		CHRISTOF PREZBYL		2 TINA LANE HOPEWELL JUNCTION NY 12533	01/06/2012	01/06/2017
DOL	DOL		CITY GENERAL BUILDERS INC		131 MELROSE STREET BROOKLYN NY 11206	03/02/2010	03/02/2015
DOL	DOL	*****7086	CITY GENERAL IRON WORKS INC		131 MELROSE STREET BROOKLYN NY 11206	03/02/2010	03/02/2015
DOL	DOL	*****3360	CITY LIMITS GROUP INC		2279 HOLLERS AVENUE BRONX NY 10475	01/07/2014	01/07/2019
DOL	NYC	*****1768	COFIRE PAVING CORPORATION		120-30 28TH AVENUE FLUSHING NY 11354	01/14/2011	01/14/2016
DOL	NYC	*****3182	COLORTECH INC		5990 58TH AVENUE MASPETH NY 11378	11/18/2013	11/18/2018
DOL	DOL	*****8342	CONKLIN PORTFOLIO LLC		60 COLONIAL ROAD STILLWATER NY 12170	02/15/2011	02/15/2016
DOL	DOL	*****4175	CONSOLIDATED INDUSTRIAL SERVICES INC		2051 ROUTE 44/55 MODENA NY 12548	12/11/2012	01/28/2018
DOL	DOL		CONSTANTINOS ZERVAS		37-11 35TH AVENUE LONG ISLAND CITY NY 11101	08/26/2013	08/26/2018
DOL	DOL	*****5740	CORTLAND GLASS COMPANY INC		336 TOMPKINS STREET CORTLAND NY 13045	10/21/2010	07/15/2016
DOL	DOL	*****1804	CUSTOM GARDEN LANDSCAPING INC		283 NORTH MIDDLETOWN ROAD PEARL RIVER NY 10965	09/28/2009	09/28/2014
DOL	DOL	*****9453	D & D MASON CONTRACTORS INC		158-11 96TH STREET HOWARD BEACH NY 11414	06/25/2009	06/25/2014
DOL	DOL	*****0810	D & G PAINTING & DECORATING INC		53 LITTLE COLLABAR ROAD MONTGOMERY NY 12549	04/19/2012	04/19/2017
DOL	DOL		DANIEL CELLUCCI ELECTRIC		17 SALISBURY STREET GRAFTON MA 01519	06/02/2010	06/02/2015
DOL	DOL	*****7129	DANIEL T CELLUCCI	DANIEL CELLUCCI ELECTRIC	17 SALISBURY STREET GRAFTON MA 01519	06/02/2010	06/02/2015
DOL	DOL		DARREN MAYDWELL		115 LEWIS STREET YONKERS NY 10703	05/12/2009	05/12/2014
DOL	DOL		DEAN ROBBINS III		212 OXFORD WAY SCHENECTADY NY 12309	12/11/2012	09/16/2018
DOL	DOL	*****2311	DELCON CONSTRUCTION CORP		220 WHITE PLAINS ROAD TARRYTOWN NY 10591	08/27/2009	08/27/2014
DOL	DOL	*****1446	DELTA CONTRACTING PAINTING AND DECORATING INC		437 SUNRISE HIGHWAY WEST BABYLON NY 11707	08/12/2013	08/12/2018
DOL	DOL	*****3538	DELTA CONTRACTING PAINTING AND DESIGN INC		75 MCCULLOCH DRIVE DIX HILLS NY 11746	10/19/2010	08/12/2018
DOL	DOL		DEMETRIOS KOUTSOURAS		530 BEECH STREET NEW HYDE PARK NY 11040	07/02/2012	07/02/2017
DOL	DOL	*****9868	DESANTIS ENTERPRISES		161 OSWEGO RIVER ROAD PHOENIX NY 13135	09/24/2013	11/18/2018
DOL	NYC	*****8234	DEWATERS PLUMBING AND HEATING LLC		30 COLUMBUS CIRCLE EASTCHESTER NY 10709	08/21/2012	08/21/2017
DOL	DOL		DIANE DEAVER		731 WARWICK TURNPIKE HEWITT NJ 07421	06/25/2012	12/11/2017
DOL	DOL		DONALD NOWAK		10 GABY LANE CHEEKTOWAGA NY 14227	10/15/2009	10/15/2014
DOL	DOL		DORIS SKODA		C/O APCO CONTRACTING CORP 24 SOUTH MARYLAND AVENUEPORT WASHINGTON NY 11050	09/24/2012	09/24/2017
DOL	DOL		DRAGOLJUB RADOJEVIC	61 WILLET ST - SUITE 14	PASSAIC NJ 07055	12/03/2009	07/09/2015
DOL	DOL	*****5840	DYNA CONTRACTING INC		363 88TH STREET BROOKLYN NY 11209	11/18/2013	11/18/2018
DOL	NYC	*****6176	E N E L ELECTRICAL CORP		1107 MCDONALD AVENUE BROOKLYN NY 11230	07/30/2010	07/30/2015
DOL	DOL		EARL GALBREATH		640 ASHFORD AVENUE ARDSLEY NY 10502	08/27/2013	08/27/2018
DOL	DOL	*****1496	EAST COAST DRYWALL INC		1238 PRESIDENT STREET BROOKLYN NY 11225	11/18/2013	11/18/2018
DOL	DOL	*****8011	ECOA CLEANING CONTRACTORS INC		P O BOX 21-1022 BROOKLYN NY 11221	05/16/2012	05/16/2017
DOL	NYC	*****8074	ECONOMY IRON WORKS INC		670 SOUTHERN BLVD BRONX NY 10455	06/14/2011	06/14/2016

DOL	DOL		EDWARD L GAUTHIER		C/O IMPERIAL MASONRY REST 141 ARGONNE DRIVEKENMORE NY 14217	10/03/2012	10/03/2017
DOL	NYC	*****6260	EL TREBOL SPECIAL CLEANING INC		95-26 76TH STREET OZONE PARK NY 11416	10/12/2011	10/12/2016
DOL	DOL		ELIZABETH RAMADANI		C/O RAMADA CONSTRUCTION 80 SAVO LOOPSTATEN ISLAND NY 10309	01/07/2014	01/07/2019
DOL	DOL		ELLEN DESANTIS	DESANTIS ENTERPRISES	161 OSWEGO RIVER ROAD PHOENIX NY 13135	09/24/2013	11/18/2018
DOL	DOL	*****0780	EMES HEATING & PLUMBING CONTR		5 EMES LANE MONSEY NY 10952	01/20/2002	01/20/3002
DOL	DOL		EMPIRE CONCRETE SERVICES LLC		101 SULLYS TRAIL/SUITE 20 PITTSFORD NY 14534	11/18/2013	01/07/2019
DOL	DOL	*****0511	EMPIRE CONCRETE SYSTEMS LLC		101 SULLYS TRAIL/ SUITE 2 PITTSFORD NY 14534	11/18/2013	01/07/2019
DOL	DOL	*****2353	EMPIRE CONSTRUCTORS LLC		101 SULLYS TRAIL/SUITE 20 PITTSFORD NY 14534	11/18/2013	01/07/2019
DOL	DOL		EMPIRE PRECAST LLC		101 SULLYS TRAIL/SUITE 20 PITTSFORD NY 14534	11/18/2013	01/07/2019
DOL	DOL	*****6101	ENHANCED DATA COM INC		75 SHERBROOK ROAD NORTH BABYLON NY 11704	07/01/2010	07/01/2015
DOL	DOL		ERIKA BARNETT		253 BEACH BREEZE LANE UNIT BARVERNE NY 11692	02/05/2013	02/05/2018
DOL	DOL		ESTEVES & FRAGA CONSTRUCTION CO INC		986 MADISON AVENUE PATERSON NJ 07501	01/03/2013	01/03/2018
DOL	DOL		ESTEVES & FRAGA INC		986 MADISON AVENUE PATERSON NJ 07501	01/03/2013	01/03/2018
DOL	DOL		EVELIO ELLEDIAS		114 PEARL STREET PORT CHESTER NY 10573	08/15/2012	08/15/2017
DOL	DOL		F KALAFATIS		2279 HOLLERS AVENUE BRONX NY 10475	01/07/2014	01/07/2019
DOL	DOL		FANTASTIC PAINTING		493 LANSING ROAD FULTONVILLE NY 12072	11/18/2013	11/18/2018
DOL	DOL		FERNANDO GOMEZ		201 RICHARDS STREET BROOKLYN NY 11231	02/25/2009	02/25/2014
DOL	DOL	*****0768	FISHER CONCRETE INC		741 WELSH ROAD JAVA CENTER NY 14082	04/08/2009	04/08/2014
DOL	DOL	*****5867	FJM-FERRO INC		6820 14TH AVENUE BROOKLYN NY 11219	10/27/2011	10/27/2016
DOL	DOL	*****1311	FLOZ-ON PAINTING & DECORATING INC		12 DUNDERBERG ROAD TOMKINS NY 10986	10/16/2013	10/16/2018
DOL	DOL	*****8961	FLOZ-ON PAINTING INC		12 DUNDERBERG ROAD TOMKINS NY 10986	10/16/2013	10/16/2018
DOL	DOL		FMS		4 LEGHORN COURT NEW YORK NY 11746	11/28/2012	11/28/2017
DOL	DOL	*****8067	FORTH SPORT FLOORS INC		P O BOX 74 EAST GREENBUSH NY 12061	02/28/2012	10/01/2017
DOL	DOL		FRAN MICELI		2279 HOLLERS AVENUE BRONX NY 10475	01/07/2014	01/07/2019
DOL	DOL		FRANCES KALAFATIS		2279 HOLLERS AVENUE BRONX NY 10475	01/07/2014	01/07/2019
DOL	DOL		FRANCES KALAFATIS-MICELI		2279 HOLLERS AVENUE BRONX NY 10475	01/07/2014	01/07/2019
DOL	NYC		FRANK ACOCELLA		68 GAYLORD ROAD SCARSDALE NY 10583	02/10/2011	02/10/2016
DOL	DOL		FRANK J MERCANDO		134 MURRAY AVENUE YONKERS NY 10704	12/11/2009	12/11/2014
DOL	DOL		FRANK MICELI JR	C/O FRANK MICELI JR CONTRACTIN G INC	19 CLIFF STREET NEW ROCHELLE NY 10801	10/16/2013	10/16/2018
DOL	DOL	*****1321	FRANK MICELI JR CONTRACTING INC		19 CLIFF STREET NEW ROCHELLE NY 10801	10/16/2013	10/16/2018
DOL	DOL		FRANK ORTIZ		75 SHERBROOK ROAD NORTH BABYLON NY 11704	07/01/2010	07/01/2015
DOL	DOL		FRED ABDO	ABDO TILE COMPANY AKA ABDO TILE CO	6179 EAST MOLLOY ROAD EAST SYRACUSE NY 13057	06/25/2010	07/02/2017
DOL	DOL	*****9202	G & M PAINTING ENTERPRISES INC		13915 VILLAGE LANE RIVERVIEW MI 48192	02/05/2010	02/05/2015
DOL	DOL		GARY MCDOWELL	GM CONSTRUCTI ON & LAWN CARE SERVICE	76 PLEASANT STREET WELLSVILLE NY 14895	06/11/2013	06/11/2018

DOL	DOL	*****6826	GBE CONTRACTING CORPORATION		12-14 UTOPIA PARKWAY WHITESTONE NY 11357	02/10/2010	02/10/2015
DOL	NYC		GELSOMINA TASSONE		25 CLIFF STREET NEW ROCHELLE NY 10801	06/15/2010	06/15/2015
DOL	DOL		GEORGE A PATTI III		P O BOX 772 JAMESTOWN NY 14701	08/13/2010	08/13/2015
DOL	NYC		GEORGE LUCEY		150 KINGS STREET BROOKLYN NY 11231	01/19/1998	01/19/2998
DOL	DOL		GEORGE SHINAS		12-14 UTOPIA PARKWAY WHITESTONE NY 11357	02/10/2010	02/10/2015
DOL	DOL		GERALD A POLLOCK		336 TOMPKINS STREET CORTLAND NY 13045	06/29/2010	07/15/2016
DOL	DOL		GERALD F POLUCH JR		2085 BRIGHTON HENRIETTA TOWN LINE ROADROCHESTER NY 14623	11/04/2010	11/04/2015
DOL	DOL	*****1075	GLOBAL TANK CONSTRUCTION LLC		P O BOX 1238 SALINA OK 74365	11/28/2012	11/28/2017
DOL	DOL	*****0878	GM CONSTRUCTION & LAWN CARE SERVICE		76 PLEASANT STREET WELLSVILLE NY 14895	06/11/2013	06/11/2018
DOL	DOL	*****0090	GOLDS FLOORING INSTALLATIONS INC		25 HAMILTON ROAD MONTICELLO NY 12701	10/16/2013	10/16/2018
DOL	DOL	*****4013	GR GRATES CONSTRUCTION CORPORATION		63 IRONWOOD ROAD UTICA NY 13520	06/14/2010	06/14/2015
DOL	DOL		GRATES MERCHANT NANNA INC		63 IRONWOOD ROAD UTICA NY 13520	06/14/2010	06/15/2015
DOL	DOL		GREGG G GRATES		63 IRONWOOD ROAD UTICA NY 13520	06/14/2010	06/14/2015
DOL	DOL		GRETCHEN SULLIVAN		P O BOX 130 CRETE IL 60417	11/10/2011	11/10/2016
DOL	DOL	*****9985	GROUND LEVEL CONSTRUCTION		10 GABY LANE CHEEKTOWAGA NY 14227	10/15/2009	10/15/2014
DOL	DOL	*****7735	GRYF CONSTRUCTION INC		394 SPOTSWOOD-ENGLISH RD MONROE NJ 08831	08/08/2011	08/08/2016
DOL	DOL	*****9456	GUILLO CONTRACTING CORP		P O BOX 229 CALVERTON NY 11933	07/08/2013	07/08/2018
DOL	DOL		GUS PAPASTEFANOU		C/O D & G PAINTING & DECO 53 LITTLE COLLABAR ROADMONTGOMERY NY 12549	04/19/2012	04/19/2017
DOL	DOL		H.H. RAUH CONSTRUCTION, LLC		2930 RT. 394 ASHVILLE NY 14710	01/14/2011	01/14/2016
DOL	DOL	*****2499	H.H. RAUH CONTRACTING CO., LLC		2930 RT. 394 ASHVILLE NY 14710	01/14/2011	01/14/2016
DOL	DOL		H.H. RAUH PAVING, INC.		7 WEST 1ST ST. LAKEWOOD NY 14750	01/14/2011	01/14/2016
DOL	DOL		HALSSAM FOSTOK		5 HANSEN PLACE WAYNE NJ 07470	09/18/2013	09/18/2018
DOL	AG	*****9918	HARA ELECTRIC CORP		2461 47TH STREET ASTORIA NY 11103	09/26/2013	09/26/2018
DOL	DOL	*****5405	HARD LINE CONTRACTING INC		89 EDISON AVENUE MOUNT VERNON NY 10550	10/28/2011	10/28/2016
DOL	DOL		HI-TECH CONTRACTING CORP		114 PEARL STREET PORT CHESTER NY 10573	08/15/2012	08/15/2017
DOL	DOL	*****4331	HIDDEN VALLEY EXCAVATING INC		225 SEYMOUR STREET FREDONIA NY 14063	02/08/2011	02/08/2016
DOL	DOL	*****9893	HOXIE'S PAINTING CO INC		2219 VALLEY DRIVE SYRACUSE NY 13207	12/04/2009	12/04/2014
DOL	DOL	*****6429	IDM ENTERPRISES INC		60 OUTWATER LANE GARFIELD NJ 07026	05/09/2009	05/09/2014
DOL	DOL	*****8426	IMPERIAL MASONRY RESTORATION INC		141 ARGONNE DRIVE KENMORE NY 14217	10/03/2012	10/03/2017
DOL	DOL	*****7561	INDUS GENERAL CONSTRUCTION		33-04 91ST STREET JACKSON HEIGHTS NY 11372	04/28/2010	04/28/2015
DOL	DA	*****1958	IRON HORSE ONE INC		10 ROSWELL AVENUE OCEANSIDE NY 11572	09/30/2010	09/30/2015
DOL	DOL		ISABEL FRAGA		C/O THREE FRIENDS CONSTR 986 MADISON AVENUEPATERSON NJ 07501	01/03/2013	01/03/2018
DOL	DOL		IVAN D MARKOVSKI		60 OUTWATER LANE GARFIELD NJ 07026	05/09/2009	05/09/2014
DOL	DOL		J & N LEASING AND BUILDING MATERIALS		154 EAST BOSTON POST ROAD MAMARONECK NY 10543	08/11/2009	08/11/2014
DOL	DOL	*****7598	J M RICH LLC		P O BOX 268 STILLWATER NY 12170	09/16/2013	10/16/2018

DOL	DOL	*****1584	J M TRI STATE TRUCKING INC		140 ARMSTRONG AVENUE SYRACUSE NY 13209	10/21/2009	10/21/2014
DOL	DOL		J N RICH LLC		P O BOX 268 STILLWATER NY 12170	09/16/2013	10/16/2018
DOL	DOL	*****9368	J TECH CONSTRUCTION		PO BOX 64782 ROCHESTER NY 14624	09/24/2012	09/24/2017
DOL	DOL		J THE HANDYMAN			09/24/2012	09/24/2017
DOL	DOL		JACQUELINE HOWE		C/O FLOZ-ON PAINTING INC 12 DUNDERBERG ROADTOMKINS NY 10986	10/16/2013	10/16/2018
DOL	DOL	*****8627	JAG I LLC		635 LUZERNE ROAD QUEENSBURY NY 12804	09/16/2013	09/16/2018
DOL	DOL	*****2868	JAG INDUSTRIES INC		175 BROAD ST - SUITE 320 GLENS FALLS NY 12801	09/16/2013	09/16/2018
DOL	DOL		JAMES BOYCE		C/O EMPIRE CONCRETE SYST 101 SULLYS TRAIL/SUITE 20PITTSFORD NY 14534	11/18/2013	01/07/2019
DOL	DOL		JAMES SICKAU		3090 SHIRLEY ROAD NORTH COLLINS NY 14111	04/19/2011	12/30/2016
DOL	DOL		JAMES WALSH		89 EDISON AVENUE MOUNT VERNON NY 10550	10/28/2011	10/28/2016
DOL	DOL		JASON M RICH		P O BOX 268 STILLWATER NY 12170	09/16/2013	10/16/2018
DOL	DOL		JAY PRESUTTI		C/O CONSOLIDATED INDUSTRI 2051 ROUTE 44/55MODENA NY 12548	01/28/2013	01/28/2018
DOL	DOL		JEFFREY A NANNA		502 WOODBURNE DRIVE UTICA NY 13502	06/14/2010	06/14/2015
DOL	DOL		JEFFREY ARTIERI		107 STEVENS STREET LOCKPORT NY 14094	11/04/2009	11/04/2014
DOL	DOL		JERALD HOWE		C/O FLOZ-ON PAINTING INC 12 DUNDERBERG ROADTOMKINS NY 10986	10/16/2013	10/16/2018
DOL	NYC		JERRY DEWATERS		30 COLUMBUS CIRCLE EASTCHESTER NY 10709	08/21/2012	08/21/2017
DOL	DOL		JOHN BUONADONNA		283 NORTH MIDDLETOWN ROAD PEARL RIVER NY 10965	09/28/2009	09/28/2014
DOL	DOL		JOHN CATONE		C/O CATONE CONSTRUCTION 294 ALPINE ROADROCHESTER NY 14612	03/09/2012	03/09/2017
DOL	DOL		JOHN DESCUL		437 SUNRISE HIGHWAYA WEST BABYLON NY 11704	08/12/2013	08/12/2018
DOL	NYC		JOHN DITURI		1107 MCDONALD AVENUE BROOKLYN NY 11230	07/30/2010	07/30/2015
DOL	NYC		JOHN FICARELLI		120-30 28TH AVENUE FLUSHING NY 11354	01/14/2011	01/14/2016
DOL	DOL		JOHN H LEE	JOHN LEE QUALITY PAVING	67 WILER ROAD HILTON NY 14468	01/28/2013	01/28/2018
DOL	DOL		JOHN JIULIANNI		222 GAINSBORG AVENUE E WEST HARRISON NY 10604	05/10/2010	05/10/2015
DOL	DOL	*****1749	JOHN LEE QUALITY PAVING		67 WILER ROAD HILTON NY 14468	01/28/2013	01/28/2018
DOL	DOL	*****2701	JOHN SMYKLA	AFFORDABLE PAINTING PLUS	367 GREEVES ROAD NEW HAMPTON NY 10958	10/01/2010	10/01/2015
DOL	DOL	*****9368	JORGE I DELEON	J TECH CONSTRUCTI ON	PO BOX 64782 ROCHESTER NY 14624	09/24/2012	09/24/2017
DOL	DOL		JORGE OUVINA		344 SOUNDVIEW LANE COLLEGE POINT NY 11356	11/22/2011	11/22/2016
DOL	DOL		JOSE MONTAS		27 BUTLER PLACE YONKERS NY 10710	03/18/2011	03/15/2017
DOL	DOL		JOSEPH CASUCCI		6820 14TH AVENUE BROOKLYN NY 11219	10/27/2011	10/27/2016
DOL	DOL		JOSEPH MARTONE		112 OSCAWANA HEIGHTS ROAD PUTNAM VALLEY NY 10542	08/27/2013	08/27/2018
DOL	DOL		JOSEPH MONETTE		C/O JOHN MONETTE 140 ARMSTRONG AVENUESYRACUSE NY 13209	10/21/2009	10/21/2014
DOL	DOL		JOYA MUSCOLINO		10 ST CHARLES STREET THORNWOOD NY 10594	09/03/2013	09/03/2018
DOL	DOL	*****4340	JUBCO SITE DEVELOPMENT LLC		462 LAKEVIEW AVENUE VALHALLA NY 10595	12/16/2013	12/16/2018

DOL	DOL		JULIUS AND GITA BEHREND		5 EMES LANE MONSEY NY 10952	11/20/2002	11/20/3002
DOL	DOL		K NELSON SACKOOR		16 JOY DRIVE NEW HYDE PARK NY 11040	01/05/2010	01/05/2015
DOL	NYC		KAMIL OZTURK		3715 KINGS HWY - STE 1D BROOKLYN NY 11234	06/30/2010	06/30/2015
DOL	DOL		KAREN HARTMAN		C/O GUILLO CONTRACTING P O BOX 229CALVERTON NY 11933	07/08/2013	07/08/2018
DOL	DOL		KEITH SCHEPIS		C/O KJS HAULING AND HOME 95 MAPLE AVENUENEW CITY NY 10956	04/15/2013	04/15/2018
DOL	DOL		KEN DEAVER		731 WARWICK TURNPIKE HEWITT NJ 07421	06/25/2012	12/11/2017
DOL	DOL	*****5941	KINGSVIEW ENTERPRISES INC		7 W FIRST STREET P O BOX 2LAKEWOOD NY 14750	01/14/2011	01/14/2016
DOL	DOL	*****2463	KJS HAULING AND HOME IMPROVEMENT INC		95 MAPLE AVENUE NEW CITY NY 10956	04/15/2013	04/15/2018
DOL	AG		KOSTAS "GUS" ANDRIKOPOULOS		2461 47TH STREET ASTORIA NY 11103	09/26/2013	09/26/2018
DOL	DOL		KRZYSZTOF PRXYBYL		2 TINA LANE HOPEWELL JUNCTION NY 12533	01/06/2012	01/06/2017
DOL	DOL	*****6033	KUSNIR CONSTRUCTION		2677 ANAWALK ROAD KATONAH NY 10536	08/03/2012	08/03/2017
DOL	DOL	*****0526	LAGUARDIA CONSTRUCTION CORP		47-40 48TH STREET WOODSIDE NY 11377	07/01/2011	07/01/2016
DOL	NYC	*****8816	LAKE CONSTRUCTION AND DEVELOPMENT CORPORATION		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL	*****9628	LANCET ARCH INC		112 HUDSON AVENUE ROCHESTER NY 14605	02/14/2006	10/19/2014
DOL	DOL		LANCET SPECIALTY CONTRACTING CORP		C/O CATENARY CONSTRUCTION 112 HUDSON AVENUEROCHESTER NY 14605	10/19/2009	10/19/2014
DOL	DOL		LARRY DOMINGUEZ		114 PEARL STREET PORT CHESTER NY 10573	08/15/2012	08/15/2017
DOL	DOL		LAURA A. GAUTHIER		C/O IMPERIAL MASONRY REST 141 ARGONNE DRIVEKENMORE NY 14217	10/03/2012	10/03/2017
DOL	DOL		LAURI MARTONE		112 OSCAWANA HEIGHTS ROAD PUTNAM VALLEY NY 10542	08/27/2013	08/27/2018
DOL	DOL	*****0597	LEED INDUSTRIES CORP	HI-TECH CONTRACTIN G CORP	114 PEART STREET PORT CHESTER NY 10573	08/15/2012	08/15/2017
DOL	DOL	*****7907	LEEMA EXCAVATING INC		140 ARMSTRONG AVENUE SYRACUSE NY 13209	10/21/2009	10/21/2014
DOL	AG		LEONID FRIDMAN		APT 5 200 BRIGHTON, 15TH STBROOKLYN NY 11235	01/23/2013	01/23/2019
DOL	DOL	*****8453	LINPHILL ELECTRICAL CONTRACTORS INC		523 SOUTH 10TH AVENUE MOUNT VERNON NY 10553	01/07/2011	04/15/2018
DOL	DOL		LINVAL BROWN		523 SOUTH 10TH AVENUE MOUNT VERNON NY 10553	01/07/2011	04/15/2018
DOL	DOL	*****5171	LUVIN CONSTRUCTION CORP		P O BOX 357 CARLE PLACE NY 11514	03/15/2010	03/15/2015
DOL	NYC	*****2850	M A 2 FLAGS CONTRACTING CORP		25-18 100TH STREET EAST ELMHURST NY 11369	08/21/2013	08/21/2018
DOL	DOL		MANUEL ESTEVES		55 OLD TURNPIKE ROAD SUITE 612NANUET NY 10954	02/04/2011	02/04/2016
DOL	NYC		MANUEL P TOBIO		150 KINGS STREET BROOKLYN NY 14444	08/19/1998	08/19/2998
DOL	NYC		MANUEL TOBIO		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL		MAR CONTRACTING CORP		620 COMMERCE STREET THORNWOOD NY 10594	09/24/2012	09/24/2017
DOL	DOL		MARGARET FORTH		P O BOX 74 EAST GREENBUSH NY 12061	02/28/2012	10/01/2017
DOL	DOL		MARIA ESTEVES AKA MARIA MARTINS		C/O THREE FRIENDS CONSTR 986 MADISON AVENUEPATERSON NJ 07501	01/03/2013	01/03/2018
DOL	DOL		MARIA MARTINS AKA MARIA ESTEVES		C/O THREE FRIENDS CONSTR 986 MADISON AVENUEPATERSON NJ 07501	01/03/2013	01/03/2018

DOL	DOL		MARIO LUIS		31 DURANT AVENUE BETHEL CT 06801	07/02/2012	07/02/2017
DOL	DOL		MARIO R ECHEVERRIA JR		588 MEACHAM AVE-SUITE 103 ELMONT NY 11003	08/24/2010	08/24/2015
DOL	DOL		MARK LINDSLEY		355 COUNTY ROUTE 8 FULTON NY 13069	08/08/2009	08/14/2014
DOL	DOL	*****5533	MARQUISE CONSTRUCTION & DEVELOPMENT CORP		10 ST CHARLES STREET THORNWOOD NY 10594	09/03/2013	09/03/2018
DOL	DOL	*****8810	MARQUISE CONSTRUCTION ASSOCIATES INC		20 BOSWELL ROAD PUTNAM VALLEY NY 10579	09/03/2013	09/03/2018
DOL	DOL	*****1134	MARQUISE CONSTRUCTION CORP		10 ST CHARLES STREET THORNWOOD NY 10594	09/03/2013	09/03/2018
DOL	NYC	*****4314	MASCON RESTORATION INC		129-06 18TH AVENUE COLLEGE POINT NY 11356	02/09/2012	02/09/2017
DOL	NYC	*****4314	MASCON RESTORATION LLC		129-06 18TH AVENUE COLLEGE POINT NY 11356	02/09/2012	02/09/2017
DOL	DOL	*****0845	MASONRY CONSTRUCTION INC		442 ARMONK ROAD MOUNT KISCO NY 10549	12/04/2009	05/04/2017
DOL	DOL	*****3333	MASONRY INDUSTRIES INC		442 ARMONK ROAD MOUNT KISKO NY 10549	12/04/2009	05/04/2017
DOL	DOL	*****4638	MATSOS CONTRACTING CORPORATION		12-14 UTOPIA PARKWAY WHITESTONE NY 11357	02/10/2010	02/10/2015
DOL	AG	*****9970	MAY CONSTRUCTION CO INC		700 SUMMER STREET STAMFORD CT	11/24/2009	11/24/2014
DOL	DOL	*****9857	MBL CONTRACTING CORPORATION		2620 ST RAYMOND AVENUE BRONX NY 10461	08/30/2011	08/30/2016
DOL	DOL		MCI CONSTRUCTION INC		975 OLD MEDFORD AVENUE FARMINGDALE NY 11738	08/24/2009	08/24/2014
DOL	DOL	*****9028	MCINTOSH INTERIORS LLC		8531 AVENUE B BROOKLYN NY 11236	02/05/2013	02/05/2018
DOL	DOL	*****5936	MCSI ADVANCED AV SOLUTIONS LLC		2085 BRIGHTON HENRIETTA TOWN LINE ROADROCHESTER NY 14623	11/04/2010	11/04/2015
DOL	DOL	*****4259	MERCANDO CONTRACTING CO INC		134 MURRAY AVENUE YONKERS NY 10704	12/11/2009	12/11/2014
DOL	DOL	*****0327	MERCANDO INDUSTRIES LLC		134 MURRAY AVENUE YONKERS NY 10704	12/11/2009	12/11/2014
DOL	DOL	*****9198	MICHAEL CZECHOWICZ	OCTAGON CO	37-11 35TH AVENUE-2ND FL LONG ISLAND CITY NY 11101	01/08/2013	01/08/2018
DOL	DOL		MICHAEL F LEARY JR		3813 SNOWDEN HILL ROADNEW HARTFORD NY 13413	06/19/2013	06/19/2018
DOL	DOL		MICHAEL F LEARY JR METAL STUD & DRYWALL		3813 SNOWDEN HILL ROAD NEW HARTFORD NY 13413	06/19/2013	06/19/2018
DOL	DOL		MICHAEL KTISTAKIS		363 88TH STREET BROOKLYN NY 11209	11/18/2013	11/18/2018
DOL	DOL	*****6033	MICHAEL KUSNIR	KUSNIR CONSTRUCTI ON	2677 ANAWALK ROAD KATONAH NY 10536	08/03/2012	08/03/2017
DOL	DOL		MICHAEL MARGOLIN		4 LEGHORN COURT NEW YORK NY 11746	11/28/2012	11/28/2017
DOL	DOL		MICHELLE L BARBER		635 LUZERNE ROAD QUEENSBURY NY 12804	09/16/2013	09/16/2018
DOL	DOL	*****2635	MIDLAND CONSTRUCTION OF CEDAR LAKE INC		13216 CALUMET AVENUE CEDAR LAKE IL 46303	11/10/2011	11/10/2016
DOL	NYC		MIGUEL ACOSTA		25-18 100TH STREET EAST ELMHURST NY 11369	08/21/2013	08/21/2018
DOL	DOL	*****5517	MILLENNIUM PAINTING INC		67 WARD ROAD SALT POINT NY 12578	01/21/2011	01/21/2016
DOL	AG		MOHAMMAD RIAZ		46 RUGBY ROAD WESTBURY NY 11590	11/20/2013	11/20/2018
DOL	NYC		MOHAMMAD SELIM		73-12 35TH AVE - APT F63 JACKSON HEIGHTS NY 11372	03/04/2010	03/04/2015
DOL	DA		MOHAMMED SALEEM		768 LYDIG AVENUE BRONX NY 10462	08/18/2009	05/25/2015
DOL	NYC	*****2690	MONDOL CONSTRUCTION INC		11-27 30TH DRIVE LONG ISLAND CITY NY 11102	05/25/2011	05/25/2016
DOL	DOL		MORTON LEVITIN		3506 BAYFIELD BOULEVARD OCEANSIDE NY 11572	08/30/2011	08/30/2016
DOL	DOL	*****2737	MOUNTAIN'S AIR INC		2471 OCEAN AVENUE- STE 7A BROOKLYN NY 11229	09/24/2012	09/24/2017
DOL	NYC		MUHAMMAD ZULFIQAR		129-06 18TH AVENUE COLLEGE POINT NY 11356	02/09/2012	02/09/2017
DOL	DOL	*****2357	MUNICIPAL MILLING & MIX-IN-PLACE		9091 ERIE ROAD ANGOLA NY 14006	02/03/2011	02/03/2016

DOL	DOL		MURRAY FORTH		P O BOX 74 EAST GREENBUSH NY 12061	02/28/2012	10/01/2017
DOL	DA	*****9642	MUTUAL OF AMERICAL GENERAL CONSTRUCTION & MANAGEMENT CORP		768 LYDIG AVENUE BRONX NY 10462	08/18/2009	05/25/2015
DOL	DOL		MUZAFFAR HUSSAIN		C/O ABSOLUTE GENERAL CONT 1129 AVENUE UBROOKLYN NY 11229	01/28/2013	01/28/2018
DOL	DOL		N PICCO AND SONS CONTRACTING INC		154 EAST BOSTON POST ROAD MAMARONECK NY 10543	08/11/2009	08/11/2014
DOL	DOL		NAT PICCO		154 EAST BOSTON POST ROAD MAMARONECK NY 10543	08/22/2009	08/22/2014
DOL	DA	*****6988	NEW YORK INSULATION INC		58-48 59TH STREET MASPETH NY 11378	05/16/2012	05/16/2017
DOL	DOL		NICHOLAS DEGREGORY JR	NJ DEGREGORY & COMPANY	1698 ROUTE 9 GLENS FALLS NY 12801	05/23/2013	05/23/2018
DOL	DOL		NICOLE SPELLMAN		2081 JACKSON AVENUE COPIAGUE NY 11726	06/03/2010	06/03/2015
DOL	DOL		NIKOLAS PSAREAS		656 N WELLWOOD AVE/STE C LINDENHURST NY 11757	09/01/2011	09/01/2016
DOL	DOL	*****5279	NJ DEGREGORY & COMPANY		1698 ROUTE 9 GLENS FALLS NY 12801	05/23/2013	05/23/2018
DOL	DOL		NJ DEGREGORY & SONS CONSTRUCTION		1698 ROUTE 9 GLENS FALLS NY 12801	05/23/2013	05/23/2018
DOL	DOL	*****9198	OCTAGON CO		37-11 35TH AVENUE-2ND FL LONG ISLAND CITY NY 11101	01/08/2013	01/08/2018
DOL	DOL		OKBY ELSAYED		1541 EAST 56TH STREET BROOKLYN NY 11234	05/04/2012	05/04/2017
DOL	NYC		OLIVER HOLGUIN		95-26 76TH STREET OZONE PARK NY 11416	10/12/2011	10/12/2016
DOL	DOL	*****5226	PASCARELLA & SONS		459 EVERDALE AVENUE WEST ISLIP NY 11759	01/10/2010	01/10/2015
DOL	DOL		PAUL VERNA		C/O AMERICAN STEEL MECHA 693 PAINTER STREETMEDIA PA 19063	02/20/2013	02/20/2018
DOL	DOL		PEDRO RINCON		131 MELROSE STREET BROOKLYN NY 11206	03/02/2010	03/02/2015
DOL	DOL	*****9569	PERFORM CONCRETE INC		31 DURANT AVENUE BETHEL CT 06801	07/02/2012	07/02/2017
DOL	DOL		PETER J LANDI		249 MAIN STREET EASTCHESTER NY 10709	10/05/2009	10/05/2014
DOL	DOL	*****7229	PETER J LANDI INC		249 MAIN STREET EASTCHESTER NY 10709	10/05/2009	10/05/2014
DOL	NYC		PETER LUSTIG		30 COLUMBUS CIRCLE EASTCHESTER NY 10709	08/21/2012	08/21/2017
DOL	NYC		PETER TRITARIS		5990 58TH AVENUE MASPETH NY 11378	11/18/2013	11/18/2018
DOL	DOL	*****1136	PHOENIX ELECTRICIANS COMPANY INC		540 BROADWAY P O BOX 22222ALBANY NY 12201	03/09/2010	03/09/2015
DOL	DOL		PRECISION DEVELOPMENT CORP		115 LEWIS STREET YONKERS NY 10703	05/12/2009	05/12/2014
DOL	DOL	*****7914	PRECISION SITE DEVELOPMENT INC		89 EDISON AVENUE MOUNT VERNON NY 10550	10/28/2011	10/28/2016
DOL	DOL	*****6895	PROLINE CONCRETE OF WNY INC		3090 SHIRLEY ROAD NORTH COLLINS NY 14111	04/19/2011	12/30/2016
DOL	DOL	*****0015	RAMADA CONSTRUCTION CORP		80 SAVO LOOP STATEN ISLAND NY 10309	01/07/2014	01/07/2019
DOL	DOL		RAMON BONILLA		938 E 232ND STREET #2 BRONX NY 10466	05/25/2010	05/25/2015
DOL	DOL	*****2633	RAW POWER ELECTRIC CORP		3 PARK PLACE MIDDLETOWN NY 10940	09/16/2013	09/16/2018
DOL	DOL		REBECCA THORNE		113 N MAPLE AVENUE GREENSBURG PA 15601	02/21/2013	02/21/2018
DOL	DOL		REVOLUTIONARY FLOORS LLC		P O BOX 268 STILLWATER NY 12170	09/16/2013	10/16/2018
DOL	DOL		RHINO CONCRETE LLC		101 SULLYS TRAIL/SUITE 20 PITTSFORD NY 14534	11/18/2013	01/07/2019
DOL	NYC	*****6978	RISINGTECH INC		243-03 137TH AVENUE ROSEDALE NY 11422	03/25/2010	03/25/2015
DOL	DOL		ROBBYE BISSESAR		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	01/11/2003	01/11/3003

DOL	NYC		ROBERT FICARELLI		120-30 28TH AVENUE FLUSHING NY 11354	01/14/2011	01/14/2016
DOL	DOL		ROBERT L EVANS		128A NORTH STAMFORD ROAD STAMFORD CT 06903	05/23/2013	05/23/2018
DOL	DOL		ROCCO ESPOSITO		C/O ROCMAR CONTRACTING CO 620 COMMERCE STREETTHORNWOOD NY 10594	09/24/2012	09/24/2017
DOL	DOL		ROCMAR CONSTRUCTION CORP		620 COMMERCE STREET THORNWOOD NY 10594	09/24/2012	09/24/2017
DOL	DOL	*****7083	ROCMAR CONTRACTING CORP		620 COMMERCE STREET THORNWOOD NY 10594	09/24/2012	09/24/2017
DOL	DOL	*****9025	ROJO MECHANICAL LLC		938 E 232ND STREET #2 BRONX NY 10466	05/25/2010	05/25/2015
DOL	DOL		ROMEO WARREN		C/O RAW POWER ELECTR CORP 3 PARK PLACEMIDDLETOWN NY 10940	09/16/2013	09/16/2018
DOL	DOL	*****5905	ROSE PAINTING CORP		222 GAINSBORG AVENUE EAST WEST HARRISON NY 10604	05/10/2010	05/10/2015
DOL	DOL		ROSEANNE CANTISANI		11 TATAMUCK ROAD POUND RIDGE NY 10576	05/04/2012	05/04/2017
DOL	NYC		ROSS J HOLLAND		120-30 28TH AVENUE FLUSHING NY 11354	01/14/2011	01/14/2016
DOL	DOL		ROSS J MUSCOLINO		10 ST CHARLES STREET THORNWOOD NY 10594	09/03/2013	09/03/2018
DOL	DOL		S & M CONTRACTING LLC		30 MIDLAND AVENUE WALLINGTON NJ 07057	11/05/2010	11/05/2015
DOL	DOL		S & S ELECTRIC		235 BROADWAY SCHENECTADY NY 12306	06/19/2013	06/19/2018
DOL	DOL	*****2585	S B WATERPROOFING INC		SUITE #3R 2167 CONEY ISLAND AVENUEBROOKLYN NY 11223	11/04/2009	11/04/2014
DOL	DOL	*****4923	SCHENLEY CONSTRUCTION INC		731 WARWICK TURNPIKE HEWITT NJ 07421	06/25/2012	12/11/2017
DOL	DOL		SCOTT LEONARD	GLOBAL TANK CONSTRUCTI ON LLC	P O BOX 1238 SALINA OK 74365	11/28/2012	11/28/2017
DOL	DOL		SEAKCO CONSTRUCTION COMPANY LLC		128A NORTH STAMFORD ROAD STAMFORD CT 06903	05/23/2013	05/23/2018
DOL	DOL	*****9030	SEAKCO NEW YORK LLC	SEAKCO CONSTRUCTI ON COMPANY	128A NORTH STAMFORD ROAD STAMFORD CT 06903	05/23/2013	05/23/2018
DOL	NYC	*****4020	SERVI-TEK ELEVATOR CORP		2546 EAST TREMONT AVENUE BRONX NY 10461	06/04/2009	06/04/2014
DOL	DOL	*****3540	SEVEN STAR ELECTRICAL CONTRACTING CORP		23-24 STEINWAY STREET ASTORIA NY 11105	06/27/2011	06/27/2016
DOL	DOL		SEVEN STAR ELECTRICAL INC		C/O THEONI ATHANASIADIS 1023 COMMACK ROADDIX HILLS NY 11746	06/27/2011	06/27/2016
DOL	NYC		SHAFIQUL ISLAM		11-27 30TH DRIVE LONG ISLAND CITY NY 11102	05/25/2011	05/25/2016
DOL	NYC		SHAHZAD ALAM		21107 28TH AVE BAYSIDE NY 11360	07/02/2012	07/02/2017
DOL	DOL		SHAIKF YOUSUF		C/O INDUS GENERAL CONST 33-04 91ST STREETJACKSON HEIGHTS NY 11372	04/28/2010	04/28/2015
DOL	DOL	*****0256	SIERRA ERECTORS INC		79 MADISON AVE - FL 17 NEW YORK NY 10016	04/16/2009	04/16/2014
DOL	DOL	*****0415	SIGNAL CONSTRUCTION LLC		199 GRIDER STREET BUFFALO NY 14215	11/14/2006	02/25/2015
DOL	DOL	*****8469	SIGNATURE PAVING AND SEALCOATING		P O BOX 772 JAMESTOWN NY 14701	08/13/2010	08/13/2015
DOL	DOL	*****8469	SIGNATURE SEALCOATING AND STRIPING SERVICE		345 LIVINGSTON AVENUE P O BOX 772JAMESTOWN NY 14702	04/04/2007	08/13/2015
DOL	DOL	*****6904	SIGNING STAR LIMITED LIABILITY COMPANY		5 HANSEN PLACE WAYNE NJ 07470	09/18/2013	09/18/2018
DOL	DOL	*****0667	SNEEM CONSTRUCTION INC		43-22 42ND STREET SUNNYSIDE NY 11104	07/01/2011	07/01/2016
DOL	DOL		SPASOJE DOBRIC		61 WILLET STREET - SUITE PASSAIC NJ 07055	07/09/2010	02/23/2017
DOL	DOL		SPORTSCRAFTERS INC		113 N MAPLE AVENUE GREENSBURG PA 15601	02/21/2013	02/21/2018

DOL	DOL	*****3539	SPOTLESS CONTRACTING	IMPACT INDUSTRIAL SERVICES INC	44 THIELLS-MT IVY ROAD POMONA NY 10970	10/14/2011	10/14/2016
DOL	DOL	*****3496	STAR INTERNATIONAL INC		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	08/11/2003	08/11/3003
DOL	DOL		STEFANIE MCKENNA		30 MIDLAND AVENUE WALLINGTON NJ 07057	11/05/2010	11/05/2015
DOL	DOL		STEPHEN BIANCHI		462 LAKEVIEW AVENUE VALHALLA NY 10595	12/16/2013	12/16/2018
DOL	DOL		STEPHEON SHELDON	FANTASTIC PAINTING	493 LANSING ROAD FULTONVILLE NY 12072	11/18/2013	11/18/2018
DOL	DOL		STEVEN CONKLIN		60 COLONIAL ROAD STILLWATER NY 12170	02/15/2011	02/15/2016
DOL	DOL	*****4081	STS CONSTRUCTION OF WNY		893 EAGLE STREET BUFFALO NY 14210	06/09/2009	06/09/2014
DOL	DOL		STUART CHAITIN		634 ROUTE 303 BLAUVET NY 10913	07/26/2012	11/19/2018
DOL	DOL	*****3210	SUPER SWEEP	FMS	4 LEGHORN COURT NEW YORK NY 11746	11/28/2012	11/28/2017
DOL	DOL		SUZANNE G GOLD	C/O GOLDS FLOORING INSTALLATION S INC	25 HAMILTON ROAD MONTICELLO NY 12701	10/16/2013	10/16/2018
DOL	DOL	*****9676	T D CONTRACTORS CORP	T D CONTRACTOR S INC	113 N MAPLE AVENUE GREENSBURG PA 15601	02/21/2013	02/21/2018
DOL	DOL		T D CONTRACTORS INC		113 N MAPLE AVENUE GREENSBURG PA 15601	02/21/2013	02/21/2018
DOL	DOL	*****4293	THE J OUVINA GROUP LLC		344 SOUNDVIEW LANE COLLEGE POINT NY 11356	11/22/2011	11/22/2016
DOL	DOL		THE THORNE GROUP INC		113 N MAPLE AVENUE GREENSBURG PA 15601	02/21/2013	02/21/2018
DOL	DOL	*****2070	THE UNIVERSAL GROUP OF NEW YORK INC		212 OXFORD WAY SCHENECTADY NY 12309	12/11/2012	09/16/2018
DOL	DOL	*****9243	THE WELCOME MAT PROPERTY MANAGEMENT LLC		P O BOX 268 STILLWATER NY 12170	09/16/2013	10/16/2018
DOL	DOL		THEONI ATHANASIADIS		C/O SEVEN STAR ELECTRICAL 23-24 STEINWAY STREETASTORIA NY 11105	06/27/2011	06/27/2016
DOL	DOL		THOMAS ASCHMONEIT		79 MADISON AVENUE - FL 17 NEW YORK NY 10016	04/16/2009	04/16/2014
DOL	DOL		THOMAS DEMARTINO		158-11 96TH STREET HOWARD BEACH NY 11414	06/25/2009	06/25/2014
DOL	DOL		THOMAS DESANTIS	DESANTIS ENTERPRISES	161 OSWEGO RIVER ROAD PHOENIX NY 13135	09/24/2013	11/18/2018
DOL	NYC		THOMAS SCARINCI		130-43 92ND AVENUE RICHMOND HILLS NY 11418	11/27/2013	11/27/2018
DOL	DOL		THOMAS TERRANOVA		13 NEW ROAD/SUITE 1 NEWBURGH NY 12550	11/15/2010	11/15/2015
DOL	DOL	*****2734	THREE FRIENDS CONSTRUCTION CORP		986 MADISON AVENUE PATERSON NJ 07501	01/03/2013	01/03/2018
DOL	NYC	*****6253	THUNDER BROTHERS CORP		24 CONGRESS LANE SOUTH RIVER NJ 08882	05/01/2013	05/01/2018
DOL	DOL		TIMOTHY F BARBER		635 LUZERNE ROAD QUEENSBURY NY 12804	09/16/2013	09/16/2018
DOL	NYC		TIMOTHY O'SULLIVAN		C/O SNEEM CONSTRUCTION 4322 42ND STREETSUNNYSIDE NY 11104	07/01/2011	07/01/2016
DOL	DOL		TIMOTHY P SUCH		893 EAGLE STREET BUFFALO NY 14210	06/09/2009	06/09/2014
DOL	NYC	*****1523	TM MECHANICAL CORP		130-43 92ND AVENUE RICHMOND HILLS NY 11418	11/27/2013	11/27/2018
DOL	DOL		TNT DEMOLITION AND ENVIRONMENTAL INC		355 COUNTY ROUTE 8 FULTON NY 13069	08/08/2009	08/19/2014
DOL	DOL	*****3315	TOTAL DOOR SUPPLY & INSTALLATION INC		16 JOY DRIVE NEW HYDE PPARK NY 11040	01/05/2010	01/05/2015
DOL	DOL	*****3315	TOTAL DOOR SUPPLY & INSTALLATION INC		16 JOY DRIVE NEW HYDE PPARK NY 11040	01/05/2010	01/05/2015
DOL	DOL	*****8176	TOURO CONTRACTING CORP		1541 EAST 56TH STREET BROOKLYN NY 11234	05/04/2012	05/04/2017
DOL	DOL	*****2357	TRAC CONSTRUCTION INC	MUNICIPAL MILLING & MIX -IN- PLACE	9091 ERIE ROAD ANGOLA NY 14006	02/03/2011	02/03/2016
DOL	DOL		TRI STATE TRUCKING INC		140 ARMSTRONG AVENUE SYRACUSE NY 13209	10/21/2009	10/21/2014
DOL	DOL	*****5213	TRIAD PAINTING CO INC		656 N WELLWOOD AVE/STE C LINDENHURST NY 11757	09/01/2011	09/01/2016

DOL	DOL	*****4294	TWT CONSTRUCTION COMPANY INC		13 NEW ROAD/SUITE 1 NEWBURGH NY 12550	11/15/2010	11/15/2015
DOL	DOL		ULIANO AND SONS INC		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015
DOL	DOL	*****1504	VALLEY VIEW LANDSCAPING AND SITE DEVELOPMENT LLC		470 AURORA STREET LANDSCASTER NY 14086	10/29/2009	10/29/2014
DOL	DOL	*****0854	VANESSA CONSTRUCTION INC		588 MEACHAM AVE/STE 103 ELMONT NY 11003	08/24/2010	08/24/2015
DOL	DOL	*****3270	VEZANDIO CONTRACTING CORP		530 BEECH STREET NEW HYDE PARK NY 11040	07/02/2012	07/02/2017
DOL	NYC		VICK CONSTRUCTION		21 DAREWOOD LANE VALLEY STREAM NY 11581	12/31/2013	12/31/2018
DOL	NYC		VICKRAM MANGRU	VICK CONSTRUCTI ON	21 DAREWOOD LANE VALLEY STREAM NY 11581	12/31/2013	12/31/2018
DOL	NYC	*****9936	VISHAL CONSTRUCTION INC		73-12 35TH AVE - APT F63 JACKSON HEIGHTS NY 11272	03/04/2010	03/04/2015
DOL	DOL		WASSIM ISSA		470 AURORA STREET LANDSCASTER NY 14086	10/29/2009	10/29/2014
DOL	DOL		WESLEY J STAROBA		206 TALLY HO COURT SCHENECTADY NY 12303	06/19/2013	06/19/2018
DOL	DOL	*****0078	WESLEY J STAROBA INC	S & S ELECTRIC	235 BROADWAY SCHENECTADY NY 12306	06/19/2013	06/19/2018
DOL	DOL	*****7617	WHITE PLAINS CARPENTRY CORP		P O BOX 309 WHITE PLAINS NY 10603	12/04/2009	05/04/2017
DOL	DOL		WILLIAM SCRIVENS		30 MIDLAND AVENUE WALLINGTON NJ 07057	11/05/2010	11/05/2015
DOL	DOL		WILLIAM THORNE		113 N MAPLE AVENUE GREENSBURG PA 15601	02/21/2013	02/21/2018
DOL	DOL		WILLIAM W FARMER JR		112 HUDSON AVENUE ROCHESTER NY 14605	10/19/2009	10/19/2014
DOL	NYC	*****5498	XAVIER CONTRACTING LLC		68 GAYLORD ROAD SCARSDALE NY 10583	02/10/2011	02/10/2016
DOL	AG		YULY ARONSON		700 SUMMER STREET STAMFORD CT	11/24/2009	11/24/2014
DOL	DOL		YURIY IVANIN		C/O MOUNTAIN'S AIR INC 2471 OCEAN AVENUE-STE 7ABROOKLYN NY 11229	09/24/2012	09/24/2017

EXHIBIT J

REQUEST FOR PAYMENT

Contractor Shall Use AIA Document G702/CMa

EXHIBIT K

CONTRACTOR'S RECEIPT AND WAIVER OF LIEN

See Special Conditions Page 25

EXHIBIT L

SUBCONTRACTOR'S RECEIPT AND WAIVER OF LIEN

See Special Conditions Page 26

EXHIBIT M

AFFIDAVIT AND FINAL WAIVER OF CLAIMS AND LIENS AND RELEASE RIGHTS

See Special Conditions Page 27

EXHIBIT N

CONTRACT PAYMENT BREAKDOWN

Contractor to attach using AIA G703/Cma form and is subject to Owner approval.

EXHIBIT O

APPROVED LIST OF SUBCONTRACTORS

Contractor to attach and is subject to Owner approval.

EXHIBIT P

BID PROPOSAL

Contractor's Bid Proposal To Be Inserted

EXHIBIT Q

INSURANCE CERTIFICATES AND ADDITIONAL INSURED

(List of Additional Insured to be provided)

EXHIBIT R

PROJECT MANUAL

Project Manual – date TBD

EXHIBIT S

CONTRACTORS CERTIFICATION ST-220

EXHIBIT T

W-9 – REQUEST FOR TAXPAYER IDENTIFICATION NUMBER & CERTIFICATION

SPECIAL CONDITIONS

EMPIRE STATE DEVELOPMENT

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SPECIAL CONDITIONS

1. CONSTRUCTION MANAGER

A. Contractors are advised that the Empire State Development ("ESD" or "Owner") has retained the services of a Construction Manager (CM) identified as:

LiRo Engineers, Inc.
690 Delaware Avenue
Buffalo, New York 14209

The CM will perform the administrative duties, as defined in the Contract Documents, and act as the Owner's principal on-site representative for the Project.

Project Address shall be:

Episcopal Church Home
24 Rhode Island Street,
Buffalo, New York 14213-2142

B. **On-Site Coordination:**

The CM shall provide an on-site management team to provide contract administration as the Owner's Representative and shall establish and implement coordination and communication procedures among the Owner, Contractors, and other appropriate parties.

The CM shall be the party through which all correspondence, change orders, payment requests, requests for information, submittals, and other information shall be processed and communicated from the Contractors to the Owner, and from the Owner to the Contractors. All communications with on-site parties and Contractor(s) must be either through the CM or with his prior knowledge. There will be no circumventing of these established lines of communication by the Owner, or individual Contractors, with the exception of the miscellaneous day-to-day conversation that must take place between organizations who work together on a job site.

Each Contractor shall work with and assist the CM as necessary and as directed to assure a smooth, orderly implementation of coordination procedures.

Each Contractor shall cooperate to the fullest extent with other contractors to facilitate the execution of his Work. Each Contractor shall expedite the laying out of his Work when the location of Work by other trades is dependent upon such layout. Whenever the Work of one Contractor is delayed due to the failure of another to lay out his Work or to effect timely completion of any portion of his Work, the Contractor being delayed shall notify the CM, who shall notify that Contractor to take prompt and effective action to complete the Work, which is causing the delay. If that Contractor fails to take prompt and effective action to complete the Work, causing the delay, the CM shall have the right to authorize another Contractor to complete the Work and charge the Contractor causing the delay for these costs. The CM shall be the sole judge as to the responsibility for the delay.

The CM will schedule and designate location of the project meetings. Each designated contractor will be required to have a representative present. As a minimum, project management meetings will be held one day of each week of the project, as scheduled by the CM. During critical periods of the project, meetings will be held more often, as scheduled by the CM. Other special meetings will be scheduled, as necessary, and all designated Contractors shall have representatives present.

SPECIAL CONDITIONS

1. CONSTRUCTION MANAGER

C. **Relationship of Parties:**

In providing CM Services described herein and elsewhere in the Contract Documents, the CM shall endeavor to maintain a harmonious working relationship with the Contractor(s) on behalf of the Owner. However, it shall not be construed to mean that the CM assumes responsibility for construction means, methods, sequences and procedures used by Contractors in the construction of the Project; the safety of the Contractor's personnel or for the contractor's performance in accordance with the Contractor(s) Agreement with the Owner.

Where ever in the Contract Documents reference is made to Design Consultant, Architect, Engineer, Architect/Engineer (identified hereafter in these Special Conditions as "Engineer"), it shall be deemed to mean LiRo Engineers, Inc. The Engineer is solely responsible for the Project design and shall perform in accordance with the Engineer's Agreement with the Owner.

Where ever in these documents reference is made to Environmental Consultant, Asbestos Project Monitor, Abatement Project Monitor, or Project Monitor, it shall be deemed to mean the third party Project Air Monitoring Company retained by the Construction Manager. The Environmental Consultant may be employed by the Engineer, subcontractor to the Engineer, or an entirely different firm as determined at ESD's discretion.

2. SAFETY

Each Contractor is responsible for the safety of all personnel on the jobsite. Each Contractor shall perform any work necessary to maintain a safe jobsite for all workers and visitors.

The Contractor shall maintain a daily sign in/sign out log for all personnel entering the project site. The Contractor's on-site health and safety officer shall sign the daily log verifying that all personnel have been accounted for, have sign out the log and vacated the site. The Contractor shall submit the daily log to the CM at the end of each work day.

In addition to this general responsibility of all Contractors, certain specific tasks have been assigned to specific Contractors, as described in the Scope of Work for that Contract. Any Contractor, who alters, removes, damages, or in any way changes, any protection, which is installed by another Contractor, is responsible to immediately repair, rebuild, or otherwise correct the protection to its original conditions and to OSHA standards. Additional protection or safety measures required by the Work are the responsibility of the Contractor performing the Work.

Each contractor shall comply with all applicable laws as they apply to maintaining a safe construction jobsite.

Each contractor will submit an OSHA-compliant comprehensive safety manual and plan to the CM and will be required to comply with all requirements of said plan. The CM shall have the right to withhold requisition progress payments until the safety manual is on file.

Each Contractor shall have an OSHA-compliant comprehensive hazard communication program and shall provide and maintain two complete Hazcom manuals at the jobsite, including MSDS sheets for all products used or supplied for the Work. One of the manuals shall be located in the office of the CM, and the other shall be located in the Contractor's field office. These manuals shall both be maintained and updated, as new MSDS sheets are required. The CM shall have the right to withhold requisition progress payments if the Contractor's MSDS books are not on file and properly updated.

The CM is not responsible for the safety of the Contractors or their workers; however, the CM and any other representative of the Owner will have the right, but not the responsibility, to stop any action, which is considered to be unsafe, and to direct the contractor to take immediate corrective action.

The Contractor shall have no right or recourse, under the terms of the Contract, to claim additional cost or delay against the Owner or the CM as a result of any work stoppage directed for a safety related issue.

To the fullest extent permitted by laws and regulations, each Contractor shall indemnify and hold harmless the Owner, City of Buffalo, Construction Manager, Engineer, and their consultants, agents and employees from and against all claims, damages, losses and expenses, direct or indirect or consequential (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs), arising out of, or resulting from the failure of the Contractor to (1)comply with all applicable laws and regulations of any public body having jurisdiction for the safety of persons or property, or to (2)protect them from damage, injury, or loss, or to (3)erect all necessary safeguards for such safety and protection.

The Contractor shall be responsible for securing all openings and penetrations that remain as a result of the Contractors work where in the opinion of the CM the opening creates a hazardous or unsafe condition. The Contractor shall secure the opening to the satisfaction of the CM. All openings shall be sealed in compliance with all applicable safety and building department regulations.

Each Contractor shall hold "Tool Box" Safety meetings with employees on a weekly basis, on the first working day of the week, or more often as necessary, and shall submit evidence of all safety meetings to the CM. The Contractor shall provide copies of all sign-in sheets on a daily basis.

2. SAFETY

Each contractor shall submit accident and injury reports to the CM no more than 2 hours after any incident.

Failure to comply with any element of these safety requirements shall be cause to withhold progress payments until full compliance.

3. QUALITY ASSURANCE

Each Contractor shall submit a comprehensive quality control plan to the CM and will be required to comply with requirements of said plan. No requisition will be processed until the quality control plan is on file.

The CM shall establish and implement a program to monitor the quality of the Work, whose purpose shall be to assist the Owner in guarding against defects and deficiencies in the Work of the Contractor(s). The CM shall reject Work and so notify the non-conforming Contractor(s) when Work is deemed unacceptable by the CM, Engineer, or Owner. However, the CM is not authorized, under this task, to change or release any requirement of the Contract Documents; and the CM shall not issue instructions contrary to the Agreement between the Owner and Contractor(s). All changes to agreements between the CM and Contractor(s), with regard to Quality Assurance, shall not in any way be construed as binding the CM or Owner, or releasing the Contractors from the fulfillment of any of the terms and conditions of the Contract Documents.

The CM is not responsible for, nor does the CM control the means and methods of construction for the project. It is understood that the CM's action in providing Quality Assurance, as stated herein, is in an advisory capacity only, to the Owner; and by performing in this manner, the CM assumes no responsibility or liability, in whole or in part, for all or any portion of the Work for the Project. No action taken by the CM shall relieve any or all of the Contractors from their obligation to perform their Work in strict conformance with the Contract Documents and all applicable laws, rules, and regulations.

The CM shall, in conjunction with the Engineer, make recommendations for corrective actions on non-conforming Work. The CM shall make recommendations to the Owner and Engineer in instances where the CM observes Work that, in the CM's opinion, should be rejected as being in non-conformance with the Contract Documents.

4. GENERAL INFORMATION

A. Each Contractor shall be responsible to coordinate his Work with that of preceding, concurrent, and following Contractors and to cooperate with the CM on the overall use of the Project site.

B. The Contractor is responsible for coordinating the shutdown and truncation of utilities in coordination with utility providers, as appropriate. The Contractor is also responsible for providing temporary utilities as needed and noted in the Contract Drawings.

C. Before commencing Work, each Contractor shall provide written acceptance of grades, structures, and/or systems, either existing or installed by other Contractors, adjacent to or upon which this Contractor will be installing his Work. Failure to do so shall constitute automatic acceptance of the existing conditions.

D. Contractor's commercial signage is strictly prohibited on the Project site, except as specifically approved in writing by the CM.

E. Contractors shall provide for their own access to all areas of their Work including vertical transportation and hoisting for all men, materials, and construction debris.

F. Each Contractor shall include all provisions necessary to maintain the progress of Work consistent with the Schedules and Schedules of other Contractors, Phasing Sequences, and Phasing Plans.

G. **Time Duration:**

Wherever in the Contract Documents, reference is made to “days” as a unit measure of time duration it shall be implied to mean calendar days unless otherwise specifically noted.

H. **Job Offices:**

Space within designated construction staging areas will be allocated by the CM on an as need basis. Contractors shall be responsible for all costs associated with the set-up, operation, relocation, and removal of all Contractor job site facilities if allowed.

I. **Telephones and Office Machines**:

Contractors will neither, use the telephones or office machines in the CM's field office. Contractors will be responsible for securing and maintaining their own telephones and office equipment.

J. **Area Security Lighting:**

The Contractor shall provide area security lighting for all exterior staging areas including but not limited to job trailers, equipment storage, and parking etc. during the hours of darkness. Area security lighting shall allow the discovery of trespass, vandalism, spills etc. during the hours of darkness by both operating personnel (if present) and by non-operating personnel (security personnel, the general public, local police etc.). Should in the sole opinion of the CM the area security lighting be insufficient, the Contractor shall add lighting as necessary to adequately meet the requirements of the CM.

K. **Snow Removal and Landscape Maintenance:**

The Contractor shall provide all snow plowing and removal within the Contract limits as necessary to perform the work. The Contractor shall maintain all parking, sidewalk, travel ways, stairs and other areas designated by the CM snow and ice free throughout the Contract

4. GENERAL INFORMATION

duration. The Contractor shall provide "Rock Salt" or other approved ice melt materials as required to maintain all designated surfaces "ice free". Should adequate snow storage areas be unavailable on site, the Contractor shall load, transport and dispose of snow off the project site at an approved disposal location. The cost for all snow clearing and removal shall be deemed included in the Contractors base lump sum bid price. The Contractor shall be responsible for mowing lawn areas and trimming trees and shrubs within the project limits throughout the project duration from April through September and as required by the CM. The cost for all lawn mowing and tree and shrub trimming shall be deemed included in the Contractors base lump sum bid price.

L. **Storage Space:**

Each Contractor shall be responsible for providing adequate storage facilities for protection of his materials and/or equipment furnished for this project. All deliveries of material and/or equipment will be scheduled with the CM, and locations will be allocated in coordination with and with the approval of the CM. No materials or equipment will be permitted on the job site until installation of that material is about to proceed. If a Contractor delivers materials to the project without approval, that Contractor will be instructed to immediately remove those materials from the site. The Contractor shall provide adequate off-site storage for materials and schedule his deliveries so as to allow for the immediate hoisting and installation of these materials when they arrive at the site. Cost of said off-site material storage, if required, shall be included in the Contractor's price. Further, if any material and/or equipment stored at the project, with or without consent of the CM, at any time obstructs the performance of any portion of the project, these materials shall be removed and relocated by the Contractor at no additional cost. In the event a Contractor fails or refuses to comply with this Article within a reasonable time, but not more than twenty-four (24) hours, the CM will reserve the right to have those materials removed, and all costs will be charged against the Contractor involved.

M. **Protection of Finish Work:**

1. All Contractors shall be wholly responsible for the protection of their own finish work as well as that of others.

2. All finished surfaces shall be protected if there is any possibility of damage resulting from the Work of your contract or other trades and/or from the natural elements.

3. The Contractor shall obtain approval from the CM prior to any work being performed or materials being stored on finished floor surfaces in buildings that shall not be demolished. If required, the Contractor shall install a protective barrier over these finished surfaces. Wheelbarrow, carts, dollies, etc., if used in such areas, shall be non-marking rubber-tired.

N. **Information to be Supplied to the Construction Manager (CM):**

Each Contractor shall be responsible for furnishing to the CM the following information pertinent to his Work:

1. Within 48 hours of direction by the CM, and prior to award of a Contract:

   A. A detailed contract price breakdown of all major categories of work, indicating quantities, material costs, labor costs and total costs of each item. Breakdowns shall be submitted on ESD bid cost

4. GENERAL INFORMATION

breakdown sheets to be issued post bid.

B. A list of Subcontractors, suppliers, or vendors they propose to use during the project. This list must be approved by the CM, Engineer and Owner, before Work can proceed.

C. A detailed construction schedule, in accordance with schedule requirements in Article 7 of these Special Conditions.

2. Within seven (7) days after the Notice To Proceed:

A. A submittal schedule showing all items requiring submission to indicate the estimated date of submittal, fabrication time, and the delivery date required to maintain the schedule. Schedule shall be submitted on CM Form #101 (attached).

B. A completed Contractor Labor Rate Sheet for each labor classification performing Work under the Contract. Labor rate shall be submitted on CM Form #102 (attached).

C. The Contractor's Safety Program for this project, which shall be in accordance with the Project Safety Program Outline, Article 2 of these Special Conditions.

D. Contractor’s cash flow projections for the project.

3. Upon start of Work, the Contractor shall submit a list of its key personnel, with addresses and telephone number for emergency calls.

4. By 10:00 a.m. each working day, the Contractor shall submit to the CM's field office, a manpower account and a brief description of Work, which is being performed that day, along with a brief description of Work to be performed the next working day. The CM will provide an appropriate form on which this should be noted.

5. Each Contractor shall also provide other specified information and additional information as may be requested by the CM from time to time.

6. Failure to comply with any elements of this Section "N" shall be cause to withhold progress payments.

O. **Hazardous Materials:**

Any Contractor, who encounters any hazardous materials in the course of his Work that is not identified elsewhere in the contract documents, shall immediately notify the CM. The Contractor shall at all times be bound by all local, state, and federal regulations and laws regarding hazardous materials.

P. **Discoveries:**

The Contractor shall take special precautions that will allow archeological, historical and scientific investigation to occur prior to subsurface disturbance. If any historical, scientific or archaeological artifacts are found, construction at that particular site will be delayed in accordance with the CM’s instructions until the find is fully evaluated by qualified historians, scientists or archaeologists and any discoveries salvaged. In instances of such delays, the

4. GENERAL INFORMATION

Contractor may apply for an extension of contract time pursuant to the agreement between Owner and Contractor.

Disposition of any such articles found will be decided by the Owner.

Q. **Record Drawings:**

The Contractor is responsible for completing an instrument survey of all building subsurface and structural elements that remain in place and a final ground survey of the “as-constructed” site including all surface features. The survey shall be tied to the survey control data as provided in the contract drawings and shall include both vertical and horizontal data. The contractor shall provide the owner with record mapping at 1:20 scale with 1.0 foot contour internals. The record mapping shall be provided in both paper format and electronic AutoCAD file format.

R. **Owners Procurement**

1. The Owner reserves the right to purchase and install items associated with the project.

S. **Changes in the Work:**

1. All Changes in the Work shall be processed through the CM.

2. All Requests for Change Order, whether originating from Owner's Request for Pricing, Engineer’s Change Directive, Construction Manager's Request For Pricing, Back Charge, Claim or other source, shall be submitted, to the CM in sufficient detail so that the reasonableness of the value can be determined. As a minimum, all requests for adjustment in contract price shall include detailed quantity survey, labor, material and equipment breakdown, including appropriate documentation, estimated productivity, and other information requested by the CM or the Engineer. A request with insufficient detail will not be reviewed and will be returned.

3. Any Work authorized to be performed on a "Time and Material" or "Signed Daily Time Ticket" basis will require DAILY verification by the CM. After the tickets are verified daily, a detailed weekly or monthly recap must be submitted to the CM, totaling all man-hours and materials for processing into a change order to the Contract. Contractors shall refer to the Owners/Contractors Agreement: Article 8, Changes In The Work, for the allowable overhead and profit on "Time and Material" Work. Any failure to have Time and Material verified daily, or any failure to submit total costs by the 15th day of the following month, will result in forfeiture of any change order or payment for the Work.

5. CONTRACTING PLANS

The overall Scope of Work for this Project shall be performed under a single contract format. The Owner and Construction Manager reserve the right to alter the number of Contracts and Scope of Work at any given time, and all Contractors are advised that the Work will be performed in various phases. The following Contract is being performed/completed.:

1. Episcopal Church Home Interior Asbestos Abatement

The contractor shall comply with the required project phasing and scheduling requirements for the base bid work. It is imperative that the Abatement and Demolition Contractor perform the required work in accordance with the proposed project schedule. Under the base bid requirements, the Contractor shall be required to perform the Contract Work in accordance with the following schedule:

Phase I - Abatement of All Asbestos From the Interior of Structures: Robinson Addition (Buildings 2 and 2A); Thornton Building (Building 3A); Russell Building (Building 3B); Robinson Building (Building 4); and Hutchinson Chapel (Building 5) and Tunnel

Work includes: abatement of all asbestos and removal all hazardous materials from inside each structure until clearance by the Project Monitor for the structure interior is achieved. Abatement of exterior roof materials and flashing are not included in the base bid. *All Phase I work for Robinson Addition (Buildings 2 and 2A) and Robinson Building (Building 4) shall be completed no later than 135 calendar days from written notice to proceed. Phase I shall be completed in its entirety no later than 180 calendar days from written notice to proceed.*

The proposed phasing of the project as described above is shown on the Contract Plans. The Contractor shall note that liquidated damages of $5,000 per day shall apply should the Contractor not comply with the project schedule.

Liquidated damages shall also apply for failure to meet individual deadlines for specific buildings and structures in accordance with the schedule outlined above.

The Contractor shall coordinate the work to be done here under with the work of such other Contractors and the Contractor shall fully cooperate with such other Contractors and carefully fit its own work to that provided under other Contracts as may be directed by the Construction Manager. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other Contractor.

Alternate No 1: Alternate No.1 adds complete abatement and demolition of the Canterbury Building (Building 1) and Maintenance Building (Building 6). Alternate No. 1 work shall include the complete abatement of all asbestos and universal/hazardous materials and demolition of the following Contract specified buildings and structures:

a. Canterbury Building (Building 1)
b. Maintenance Building (Building 6).

Alternate No. 1 work shall also include furnishing and installing temporary fencing, terminating utilities, protecting designated utilities, and backfilling to defined grades. More specifically Alternate No. 1 includes all work defined in the Contract Documents and work identified as pertaining to Alternate No. 1 for the above referenced buildings and associated structures, utilities, and site amenities. This alternate is identified as Alternate No. 1 on the Contract Plans. The Contractor shall provide a lump sum cost to provide all materials, and all labor, supplies, equipment, transportation and other facilities necessary or proper for, or incidental to the Work, to complete all Work in strict accord with the Contract Documents and as assigned in the Special Conditions for the abatement and demolition of the structures under Alternate No. 1.

If exercised, notice to proceed for Alternate No. 1 is anticipated to be issued within 30 days of the notice to proceed for the base bid work. Work for Alternate No. 1 shall proceed in accordance with the base bid schedule and the additional constraints presented below. If the notice to proceed for Alternate No. 1 is

5. CONTRACTING PLANS

issued greater than 30 calendar days following the notice to proceed for the base bid work, then the completion dates for work elements applicable only to Alternate No. 1 shall be negotiated. Phase II shall be completed in its entirety no later than 180 calendar days from notice to proceed.

Alternate No 2: Alternate No.2 adds exterior abatement, abatement of concealed or encapsulated asbestos not abated as part of Phase I, and demolition for the following Contract specified buildings:

a. Robinson Addition (Buildings 2 and 2A)
b. Thornton Building (Building 3A)
c. Russell Building (Building 3B)
d. Robinson Building (Building 4)
e. Tunnel between Thornton Building (Building 3A) and Hutchinson Chapel (Building 5).

Alternate No. 2 work shall also include removal of a closed underground storage tank, site preparation consisting of resetting of catch basins, termination of utilities, protecting remaining utilities, backfilling to defined grades, providing final grading using gravel and soil, replacing sidewalk sections, construction of a landscaped berm, and furnishing and installing temporary and new fencing. Alternate No. 2 work also includes stabilization, providing weather-tight enclosure, and installing a new basement entranceway for the Hutchinson Chapel (Building 5). All levels of the tunnel shall be demolished including above grade and below grade portions.

More specifically Alternate No. 2 includes all work defined in the Contract Documents and work identified as pertaining to Alternate No. 2 for the above referenced buildings and associated structures, utilities, and site amenities. This alternate is identified as Alternate No. 2 on the Contract Plans. The Contractor shall provide a lump sum cost to provide all materials, and all labor, supplies, equipment, transportation and other facilities necessary or proper for, or incidental to the Work, to complete all Work in strict accord with the Contract Documents and as assigned in the Special Conditions for the abatement, demolition and site preparation of the structures under Alternate No. 2.

If exercised, notice to proceed for Alternate No. 2 is anticipated to be issued within 90 days of the notice to proceed for the base bid work. Work for Alternate No. 1 shall proceed in accordance with the base bid schedule and the additional constraints presented below. If the notice to proceed for Alternate No. 2 is issued greater than 90 calendar days following the notice to proceed for the base bid work, then the completion dates for work elements applicable only to Alternate No. 2 shall be negotiated. Phase IV shall be completed in its entirety no later than 300 calendar days from notice to proceed. Phase V shall be completed no later than 330 calendar days from notice to proceed.

6. SITE PLANS – SITE USE INFORMATION

All Contractors and subcontractors are responsible for following the requirements for deliveries, staging, storage trailers, office trailers, temporary utilities and parking as directed by the CM. The intent of the Site Use Information is for the CM to control the logistical operations of all contractors and their personnel in an organized manner, for the benefit of the Owner's operations, and for the efficiency of the overall project. The CM will, at various stages of the Project, modify the site use requirements to accommodate current job-site conditions.

A. GENERAL SITE USE REQUIREMENTS:

1. Notify the Construction Manager of all material and equipment deliveries. Deliveries must be coordinated around the Owner's schedule.

2. All Construction deliveries must be scheduled and coordinated with the CM.

3. Contractors must not block receiving areas, bus lanes, fire lanes, parking lot entrances, roadways, etc.

4. All construction traffic, personnel, material staging, etc., shall be contained within the Contract Limit Lines, as shown on the drawings, unless written authorization is provided by the CM.

5. There are limited storage areas for construction materials or equipment on the site. The limited staging areas may be used only on the basis of written approval from the Construction Manager. Contractors shall include the cost for phased deliveries in their bid prices. Contractors shall only deliver as much materials and/or equipment as they can utilize immediately or as otherwise previously arranged with the CM.

6. Other projects/contracts will be performed adjacent to this facility simultaneously and will require staging space. Staging for this contract and others must be coordinated with the CM.

7. SCHEDULES AND PHASING PLANS

A. CONTRACT SPECIFIC DATE INFORMATION:

The anticipated Notice to Proceed date is Monday, September 15, 2014 and all work for this Contract is to be substantially completed by August 15, 2015.

B. TIME IS OF THE ESSENCE:

Time is of the essence in the performance of these Contracts. Time is also of the essence in the performance of each and every scheduled date referenced in these Contract Documents.

C. MAINTAINING COMMUNITY OPERATIONS:

The local residential community lies in close proximity to the Project Site. All Contractors are advised to keep noise, dust, fumes and other disruptive construction operations to a minimum to allow the least possible disruption of the local community..

D. PRELIMINARY SCHEDULING:

The CM has prepared a Preliminary Construction Schedule, which is included herein. Contractors shall use this to prepare bids as required for the sequence, timing and duration of their Work. Contractors shall include all costs associated with maintaining this schedule. All dates listed in the Preliminary Construction Schedule are considered Milestone Dates and as such, the maintenance of these Milestone Dates shall be condition precedent to the processing and payment of the Contractor's monthly requisition. Any Contractor who fails to maintain the indicated milestone dates because of delays in material deliveries and/or labor allocation shall be responsible to pay all costs incurred by other contractors as a result of this delay (i.e., premium time charges for contractors required to work overtime to make up for a delay caused by another Contractor).

E. SUBMISSIONS:

Within seven (7) days of the Notice to Proceed, each Contractor shall submit a detailed schedule showing times for submittals, fabrication, delivery and field installation of all aspects of the Work required to achieve the Milestone Dates and Preliminary Construction Schedule provided herein. The CM will compile all data and prepare a detailed composite schedule for the use of all Contractors. No requisition will be processed until the above detailed information has been submitted and approved.

From time to time during the project, the CM shall require Contractors to provide focus schedules, which shall focus on specific regions of scheduling concern or on specific times of scheduling concern. Each Contractor shall provide all information, and cooperate fully with the CM in the preparation of these focus schedules.

F. COMPLETION OF THE WORK:

All contractors shall provide written certification (on a form to be provided by the CM) that their work has been completed according to the project design, upon completion of each phase, prior to Owner occupancy of that particular phase. Other test data required by Drawings and Specifications shall also be provided to the CM.

7. SCHEDULES AND PHASING PLANS

G. SCHEDULE NARRATIVE

Contractor shall Substantially Complete all of the Work in accordance with the Contract Documents to the satisfaction of Engineer and the Owner on or before the following dates:

Base Bid

Phase I - Abatement of All Asbestos From the Interior of Structures: Robinson Addition (Buildings 2 and 2A); Thornton Building (Building 3A); Russell Building (Building 3B); Robinson Building (Building 4); and Hutchinson Chapel (Building 5) and Tunnel

Work includes: abatement of all asbestos and removal all hazardous materials from inside each structure until clearance by the Project Monitor for the structure interior is achieved. Abatement of exterior roof materials and flashing are not included in the base bid. **All Phase I work for Robinson Addition (Buildings 2 and 2A) and Robinson Building (Building 4) shall be completed no later than 135 calendar days from written notice to proceed. Phase I shall be completed in its entirety no later than 180 calendar days from written notice to proceed.**

Alternate No. 1

Phase II - Completely Abate and Demolish: Canterbury Building and Maintenance Building

Work includes: Complete abatement of all asbestos and universal/hazardous materials and demolition of the Canterbury Building (Building 1) and Maintenance Building (Building 6). Alternate No. 1 work shall also include furnishing and installing temporary fencing, terminating utilities, protecting designated utilities, and backfilling to defined grades.

If exercised, notice to proceed for Alternate No. 1 is anticipated to be issued within 30 days of the notice to proceed for the base bid work. Work for Alternate No. 1 shall proceed in accordance with the base bid schedule and the additional constraints presented below. If the notice to proceed for Alternate No. 1 is issued greater than 30 calendar days following the notice to proceed for the base bid work, then the completion dates for work elements applicable only to Alternate No. 1 shall be negotiated. Phase II shall be completed in its entirety no later than 180 calendar days from notice to proceed.

Alternate No. 2

Phase III - Repair Drainage Structures, Install Temporary Fencing, Terminate Utilities, and Complete Remaining Asbestos Abatement of Robinson Addition, Thornton Building, Russell Building; Robinson Building, and Tunnel

Work includes: Item 1) Repair drainage structures near Massachusetts and Columbus Avenues and install temporary construction fencing; Item 2) Terminate Utilities; and Item 3) Abate all asbestos on the exterior of each structure including but not limited to concealed or encapsulated asbestos not abated in Phase I, exterior roof materials and flashing.

Phase IV - Completely Demolish Robinson Addition, Thornton Building, Russell Building; Robinson Building, and Tunnel

Work Includes complete demolition of each structure. Completion of demolition shall also include completion of backfill and compaction to grade at each building. This phase also includes demolition of the tunnel between the

7. SCHEDULES AND PHASING PLANS

Thornton Building (Building 3A) and Hutchinson Chapel (Building 5).

Phase V - Stabilization of Hutchinson Chapel (Building 5)
Work includes provision of weather tight protection of windows and openings and installation of a new basement entrance.

Phase VI – Site Final Grading and Preparation
Work includes: Completion of final utility modifications, grubbing, grading with gravel and soil cover, constructing a landscaped berm, replacing sidewalk sections, and installing permanent fencing.

If exercised, notice to proceed for Alternate No. 2 is anticipated to be issued within 90 days of the notice to proceed for the base bid work. Work for Alternate No. 1 shall proceed in accordance with the base bid schedule and the additional constraints presented below. If the notice to proceed for Alternate No. 2 is issued greater than 90 calendar days following the notice to proceed for the base bid work, then the completion dates for work elements applicable only to Alternate No. 2 shall be negotiated. Phase IV shall be completed in its entirety no later than 300 calendar days from notice to proceed. Phase V shall be completed no later than 330 calendar days from notice to proceed.

H. PRELIMINARY CONSTRUCTION SCHEDULE

The prime Contractor shall provide a detailed schedule to the Construction Manager to coordinate overall construction activities. The prime Contractor's schedule shall comply with the project phasing durations listed in Section G above.

8. SCOPE OF WORK

All Contractors shall provide labor, material, plant, tools, equipment, and supervision related to or necessarily involved with the performance of the Work, as described in the following Specification Sections, as detailed more specifically in this section and as indicated on **any** drawing in the Drawing Index.

Table of Contents

A. DIVISION 0 – BIDDING AND CONTRACT REQUIREMENTS

Notice to Bidders
Bid Forms
Owner/Contractor Agreement
NYSDOL Wage Rates
Special Conditions (This Section)
E.S.D. Non-Discrimination and Affirmative Action Bid Document Provisions

B. All Work in each of the following Specification Sections unless more specifically assigned below:

DIVISION 1 – GENERAL REQUIREMENTS
01100 - Summary
01135 - Health and Safety
01150 - Measurement and Payment
01230 - Alternates
01290 - Payment Procedures
01310 - Project Management and Coordination
01320 - Construction Progress Documentation
01322 - Photographic Documentation
01330 - Submittal Procedures
01400 - Quality Requirements
01410- Testing Laboratory Services
01420 - References
01500 - Temporary Facilities and Controls
01520- Construction Aides
01524 - Construction Waste Management
01563 - Emergency Spill Control
01570 - Traffic Regulation
01592 - Construction Manager's Office Trailer
01710 - Cleaning
01770 - Closeout Procedures
01781 - Project Record Documents

DIVISION 2 - REQUIREMENTS
02051 - Protection of Existing Facilities
02060 - Interior Demolition
02080 - Asbestos Removal
02082 - Lead Based Paint Control
02086 - Excavation of Contaminated Soil
02089 - Hazardous & Universal Waste Removal
02221 - Building Demolition
02230 - Site Clearing
02240 - Dewatering
02260 - Excavation Support and Protection

8. SCOPE OF WORK

02279-	Erosion Control
02300-	Earthwork
02486-	Finish Grading
02831-	Chain Link Fences and Gates

DIVISION 3 –	CONCRETE
03300-	Cast-in-Place Concrete
03732 –	Concrete Repair

DIVISON 32-	EXTERIOR IMPROVEMENTS
329200	Turf and Grasses
329300	Plants

SECTION 01330 – SUBMITTALS shall be clarified as follows:

A. Within 7 days after the notice to proceed, each contractor shall submit a complete submittal and shop drawing schedule.

B. Contractors shall be required to make prompt submittals of all shop drawings and samples to the Construction Manager. Each copy of each submission shall have a Submittal ID Cover Sheet, Form CM 103, attached with all information required by the applicable specification section clearly stated. Submittals without a Submittal ID Cover Sheet and/or a listing of the required information shall be rejected without review.

C. Contractors shall provide additional copies of submittals upon request of the Construction Manager for purposes of coordination with other Contractors, record drawings, Owner and CM use at no additional charge.

D. Absolutely no substitutions will be allowed unless in full compliance with the applicable specification section, and other references in this project manual. The Engineer's decision on substitutions and/or equivalencies shall be final and is not subject to dispute by the Contractor.

E. There are certain submittals that are critical to the timely completion of the work. Submittals must be submitted so to enable all work to be completed on time.

All other submittals are to be completed within the time frames referenced in the Owner/Contractor Agreement, the technical specification and the Submittal Table. Failure to make timely submittals as required for the construction schedule shall be cause to withhold progress payments.

SECTION 1500 – TEMPORARY FACILITIES AND CONTROLS, shall be clarified as follows:

A. Contractors shall provide all temporary facilities and controls as necessary to complete the work of this contract, and as further clarified below.

B. <u>Dumpster Service/Clean-up:</u>

1. Contractor is responsible for his own debris and proper disposal according to State and Federal Regulations.

C. <u>Sanitary Facilities:</u>

1. Contractor is responsible for his own sanitary facilities.

8. SCOPE OF WORK

D. Site Access:

1. Contractor shall follow the requirements for deliveries and site access as directed by the Construction Manager.

2. Any staging space required by the Contractor shall be located as directed by the CM.

E. Field Offices and Sheds:

1. Contractor's temporary field office trailers may be located on the site, as directed by the CM.

F. Perimeter Protection:

1. Contractor shall provide and maintain all perimeter protection both vertical and horizontal as required by OSHA or as directed by the CM as it pertains to the scope of the work.

G. Temporary Fire Protection:

1. Contractor who performs cutting, burning, welding, soldering or any other hot work shall provide and maintain sufficient OSHA-approved fire extinguishers at his own work area.

H. Communications

1. The Superintendent or Foreman for each Contractor and subcontractor shall be equipped with a cell phone at all times when working on the project for communication with the Construction Manager and for safety purposes. This is a requirement throughout the duration of the project.

Section 1770 – CONTRACT CLOSEOUT, shall be clarified as follows:

A. **All Contractors** shall submit all record drawing information to the CM and Engineer on a periodic basis for interim approval. Record drawings shall be signed by an officer of the company that is submitting the drawings, to verify their accuracy.

9. SCOPE OF WORK – Episcopal Church Home Abatement, Demolition & Site Stabilization

Include **All Work** in each of the following Sections of the Project Manual, unless more specifically assigned below.

DIVISION 0 – BIDDING AND CONTRACT REQUIREMENTS

This Contractor shall reference the SCOPE OF WORK in these Special Conditions for additional requirements and Work of this Contract.

DIVISION 1 - GENERAL REQUIREMENTS

This Contractor shall reference the SCOPE OF WORK in these Special Conditions for additional requirements as well as the list below for inclusion into the Work of this Contract.

DIVISION 2 - REQUIREMENTS

This Contractor shall reference the SCOPE OF WORK in these Special Conditions for additional requirements as well as the list below for inclusion into the Work of this Contract.

DIVISION 3 - CONCRETE

This Contractor shall reference the SCOPE OF WORK in these Special Conditions for additional requirements as well as the list below for inclusion into the Work of this Contract.

DIVISION 32 - EXTERIOR IMPROVEMENTS

This Contractor shall reference the SCOPE OF WORK in these Special Conditions for additional requirements as well as the list below for inclusion into the Work of this Contract.

ADDITIONAL WORK OF THIS CONTRACT

1. Staging areas shall be subject to approval of the CM.

2. This Contractor shall be required to maintain public area, streets and walkways free of debris created by work of this Contract at all times.

3. This Contractor shall apply for and obtain any and all permits, licenses and inspections required to perform the work of this Contract, and shall pay all fees and charges including any service charges. This Contractor shall provide certificates of approval from governing agencies prior to request for final payment. The only exceptions to this are permits specifically noted in the documents that are to be provided by the Owner.

10. FORMS

1. **Sample form CM 101 – Contract Item List**
2. **Sample Form CM 102 – Contract Labor Rate Worksheet**
3. **Sample Form CM 103 – Submittal Item Cover Sheet**
4. **Contractor's Receipt and Waiver of Lien**
5. **Subcontractor's Receipt and Waiver of Lien**
6. **Affidavit and Final Waiver of Claims and Liens and Release of Rights**

Sample Form CM 101

Empire State Development
CONTRACT ITEM LIST

Sheet No. _____

Contractor: _____ Date: _____

Release Date: _____ Contract #: _____

Item		P.O. Information	Submissions		Delivery		
Material & Specified Manufacturer	Specs/ Drawings	Supplier Manufacturer	Promised Submission	Drawing Number	ROJ	Fabr Time	Prom Delv

Sample Form CM 102

Empire State Development
CONTRACT LABOR RATE WORKSHEET

CONTRACTOR:

PACKAGE:

Labor Classification												
1.	Base Rate											
						Effective to:						
2.												
	WF	Pen	Vac	Other	Other	Effective to:						
3.	Subtotal											
4.	P.R. Taxes (F.I.C.A. & Unemployment) % of Item 1 only					%						
5.	Labor Insurance % of Item 1 only					%						
6.	Overhead & Profit					(3.+4.+5.)*15%						
7.	Total Straight Time											
8.	Less items above Not appl. To Prem. Time					2,4,5,6						
9.	TOTAL PREMIUM TIME											
10.	TOTAL OVERTIME RATE											

Labor Insurance Breakdown (Line 4):

P.R. Taxes Breakdown (Line 5):

Benefits:

SPECIAL CONDITIONS

Sample Form CM 103

Form CM 103

SUBMITTAL ITEM COVERSHEET

PROJECT: _____ CM ENG _____

CONTRACT #: _____ CONTRACTOR: _____

SPEC SECTION #: SPEC SECT TITLE: _____

SPEC SECT PAR: REF/DWS #: _____

SUBMITTAL ITEM DESCRIPTION: _____

(include only one submital item per coversheet, each copy must have a copy of the coversheet attached)

SUBMITTAL ITEM SUPPLIER: _____

SUBMITTAL ITEM MAUFACTURER: _____

SUBMITTAL ITEM STATUS: (Check One) ☐ ORIGINAL -OR- ☐ RESUBMITTAL

SUBMITTAL ITEM TYPE: (Check One)

☐ SHOP DRAWING ☐ SCHEDULE ☐ SAMPLE ☐ WARRENTY

☐ PRODUCT DATA ☐ TEST REPORT ☐ COLOR SAMPLE ☐ _____

LIST REMARKS &/OR DEVIATIONS FROM SPECIFICATIONS: _____

I HAVE REVIEWED THIS SUBMITTAL ITEM AND VERIFY THAT IT DOES MEET THE SPECIFIACTIONS EXCEPT AS NOTED ABOVE.

_____ (Contractors Signature) _____ (Date)

FOR CONSTRUCTION MANAGERS ONLY	
RCVD FROM CONTRACTOR	SENT TO ENG
Date: Copies:	Date: Copies:
RCVD FROM ENG	SENT TO CONTRACTOR
Date: Copies:	Date: Copies:
TSM FAST KEY #	
SUBMITTAL #	
Remarks:	
cc:	
REVIEWED By:	Date:
CONTRACTOR IS NOT RELIEVED FROM COMPLIANCE WITH CONTRATC DOCUMENTS AND REMAINS SOLEY RESPONSIBLE FOR ALL COORDINATION, DIMENSIONS, QUANTITIES, ECT.	

FOR ENGINEER USE ONLY	
RCVD FROM CM	SENT TO CM
Date: Copies:	Date: Copies:
ENGINEER ACTION STAMP	

SPECIAL CONDITIONS

EMPIRE STATE DEVELOPMENT
Design and Construction Department

CONTRACTOR'S RECEIPT AND WAIVER OF LIEN

_____Corporation (Contractor), in connection with the construction of a project of the Empire State Development Corporation ("ESD") known as Episcopal Church Home Abatement, Demolition & Site Stabilization (the "Project") and the payment to _____ ("Contractor") of certain sums requisitioned by the Contractor pursuant to its Request for Payment No. _____ dated _____ 20____, the ("Requisition") for work performed or materials supplied for the Project to the date of the Requisition, for the benefit of _____ DOES HEREBY CERTIFY AND ACKNOWLEDGE that it has received all sums due and owing to it in accordance with its agreement with the ESD with respect thereto, other than sums, if any, withheld by the ESD in accordance with such agreement and approved by the ESD, for work performed or materials supplied for the Project to the date of _____ in the amount of _____($_____) and DOES HEREBY FOREVER RELEASE AND WAIVE for itself, its successor and assigns any and all rights, claims and demands it has or may have against the ESD, including any and all rights which it has or may have pursuant to the New York Lien Law to file any lien or notice of lien against the Project or any property of the ESD on account of or deriving from labor performed or materials furnished for the Project to the date of the previously submitted requisition .

IN WITNESS WHEREOF, the Contractor has caused this Certificate to be duly executed and the seal of the contractor to be affixed as of the date of the Requisition by the undersigned duly authorized officer.
Corporation: _____

Signed By: _____ Title: _____ DATE: _____

State of New York)
) ss:
County of New York)

On this _____ day of _____ 20_____, before me, the subscriber personally appeared _____ to me personally known, who being by me duly sworn, did depose and say that he resides at _____ that he is _____ of _____ the corporation described in and which executed the foregoing instrument: that he knows the seal of said corporation; that the seal affixed to said instrument is said corporate seal; that the seal was so affixed by order of the Board of Directors of said corporation; and that he signed his name thereto by like order.

_____
Notary Public – County of:
My Commission expires:

SPECIAL CONDITIONS

SUBCONTRACTOR'S RECEIPT AND WAIVER OF LIEN

_____ ("Subcontractor"), in connection with the construction of a project of the EMPIRE STATE DEVELOPMENT ("ESD") known as Episcopal Church Home Abatement, Demolition & Site Stabilization (the "Project") and the payment to the General Contractor of certain sums requisitioned by the General Contractor pursuant to the General Contractor'' Request for Payment No. _____ dated _____ 20___, (the "Requisition") for work performed or materials supplied for the Project to the date of the requisition, for the benefit of _____ DOES HEREBY CERTIFY AND ACKNOWLEDGE that it has received all sums due and owing to it in accordance with the agreement with the General Contractor with respect thereto, other than sums, if any, withheld by the General Contractor in accordance with such agreement and approved by the ESD, for work performed or materials supplied for the Project to the date of _____ in the amount of _____ ($_____) DOES HEREBY FOREVER RELEASE AND WAIVE for itself, its successor and assigns any and all rights, claims and demands it has or may have against the ESD, including any and all rights which it has or may have pursuant to the New York Lien Law to file any lien or notice of lien against the Project or any property of the ESD on account of or deriving from labor performed or materials furnished for the Project to the date of the previously submitted requisition .

IN WITNESS WHEREOF, the Contractor has caused this Certificate to be duly executed and the seal of the contractor to be affixed as of the date of the Requisition by the undersigned duly authorized officer.

Name of Subcontractor:
_____

Signed By: _____ Title: _____ DATE: _____

State of New York)
) ss:
County of New York)

On this _____ day of _____ 20_____, before me, the subscriber personally appeared _____ to me personally known, who being by me duly sworn, did depose and say that he resides at _____
_____
that he is _____ of _____ the corporation described in and which executed the foregoing instrument: that he knows the seal of said corporation; that the seal affixed to said instrument is said corporate seal; that the seal was so affixed by order of the Board of Directors of said corporation; and that he signed his name thereto by like order.

_____
Notary Public – County of:
My Commission expires:

SPECIAL CONDITIONS

EMPIRE STATE DEVELOPMENT
AFFIDAVIT AND FINAL WAIVER OF CLAIMS AND LIENS
AND RELEASE OF RIGHTS

STATE OF)
) SS:
COUNTY OF

The undersigned, who is the _____ (designate title) of _____ which is the _____designate whether the subcontractor, supplier or otherwise) for the _____ (designate the type of work, supplies or services rendered) on the improvements constructed or being constructed on the premises hereafter identified, declares that his contract with _____ (name of party contracted with) is in the total amount of $_____, which includes extras and all change orders to the date hereof.

In consideration of the amounts and sums previously received, and the payment of $_____ being full and final payment amount due, the undersigned does hereby waive and release to the Empire State Development Corporation("ESD") and to _____ any and all claims and liens and rights to liens upon the premises described below (which may be more particularly described by an Exhibit "A" attached), and upon improvements now or hereafter thereon, and upon the monies or other considerations (due or to become due from the ESD of from _____ or from any other person, firm or corporation), said claims and liens and rights to liens being on account of labor, services, materials, fixtures or apparatus heretofore furnished by or which may be furnished at any time hereafter by or at the request of the undersigned. The premises as to which said claims, liens, and rights to liens are hereby released are identified as follows:

Project Name: _____
Address or Project: _____
City: _____ County: _____ State: _____

The undersigned further represents and warrants that he is duly authorized and empowered to sign and execute this waiver on his own behalf and on behalf of the company or business for which he is signing; that he has properly performed all work and furnished all the materials of the specified quality per plans and specifications and in a good and workmanlike manner, fully and completely; that he has paid for all the labor, materials, equipment and services; that he has used or supplied or may hereafter use or supply to the above premises that he has no other outstanding and unpaid payment applications, invoices, retentions, holdbacks, charge-backs or unbilled work or materials, as of the date of the aforementioned last and final payment application of invoice; and that any materials which have been supplied or incorporated into the above premises were either taken from his fully-paid or open stock or were fully paid for and supplied as stated on the statement accompanying the last and final payment application or invoice.

The undersigned further agrees to reimburse and does hold harmless and fully indemnify ESD and _____for any losses or expenses should any such claim, lien, or right to a lien be asserted (by the undersigned or by any laborer, materialman or subcontractor of the undersigned), including, without implied limitation, attorneys' fees incurred in the defense thereof.

In addition, for an in consideration of the amounts and sums received, the undersigned hereby waives, releases and relinquishes any and all claims, rights or causes of action whatsoever arising out of or in the course of the work performed on the above-mentioned project, contract or event.

Signed and delivered this _____ day of _____, 20_____.

_____
Individual or Corporation Name
By: _____
Title:_____

Before me, the undersigned Notary Public in and for said County and State, personally appeared _____ and acknowledged execution of the foregoing affidavit as his voluntary act and deed and further stated that the facts recited are true of his personal knowledge.

_____
Notary Public

My Commission expires:

_____ Residence County: _____

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SECTION 01100 – SUMMARY

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:

1. Project information.
2. Work covered by Contract Documents.
3. Phased construction.
4. Access to Project Site.
5. Contractors Qualifications
6. Owner's occupancy and use requirements
7. Work restrictions.
8. Specification and drawing conventions.

B. Related Section:

1. Division 1 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

A. Project Identification: Episcopal Church Home Interior Asbestos Abatement

1. Project Location: Several properties located within the block encompassed by Busti Avenue, Massachusetts Avenue, Columbus Parkway, and Rhode Island Street in the City of Buffalo, New York.

B. Owner: New York State Urban Development Corporation d/b/a Empire State Development Corporation, 633 Third Ave., New York, NY 10017

Owner's Representative: Stephen Gawlik
Senior Counsel
Empire State Development
95 Perry Street, 5th Floor
Buffalo, New York 14203

C. Architect/Engineer: LiRo Engineers, Inc.
690 Delaware Avenue
Buffalo, NY 14209

D. Construction Manager: LiRo Engineers, Inc.
690 Delaware Avenue
Buffalo, NY 14209

1.4 SITE BACKROUND

The former Episcopal Church Home complex is comprised of five separate parcels totaling approximately 3.72 acres containing multiple buildings. The combined parcels front along Busti Avenue, Columbus Parkway, Massachusetts Avenue, and Rhode Island Street. These parcels have been acquired by Empire State Development (ESD/Owner). The five parcels occupy the bulk of the entire city block with the exception of a small park situated at the corner of Busti Avenue and Massachusetts Avenue, which is owned by the City of Buffalo. The Episcopal Church Home complex previously housed an adult day care facility that closed in 2007 and a skilled nursing facility that ceased operation in 2005. Two of the structures on the property are listed as local landmarks including Hutchinson Chapel and the Thornton Building.

The block is developed with three separate structures:

Canterbury Building (Building 1)

The former Canterbury House office building is located on the northwest portion of the block. It is an approximately 14,000 ft^2 (total of all floors and basement) three-story structure with a basement foundation.

Maintenance Building (Building 6)

A single story two-car garage and maintenance shop is associated with and situated adjacent to the former Canterbury House office building. It is an approximately 1,000 ft^2 structure with a slab foundation.

Former Episcopal Church Home (Multiple Connected Structures)

The former Episcopal Church Home is a one to four-story, multi-section complex constructed from the early 1900s through 1975, most recently renovated in 1993. The nursing home structure includes 172 living units, common areas, and administrative offices. It is made-up of five connected structures that were developed in phases over time. These structures include the Robinson Addition (Buildings 2 and 2A), Thornton Hall (Building 3A), the Russell Building (Building 3B), the Robinson Building (Building 4), and Hutchinson Chapel (Building 5). Hutchinson Chapel and Thornton Hall are connected by an aboveground tunnel structure. The structures making up the former

Episcopal Church Home have basement foundations, with the exception of the "Atrium" portion of the Robinson Addition (Building 2A). There are two small utility sheds adjacent to the Robinson Building (Building 4).

The structures have the following sizes (total of all floors and basement):

Buildings 2 & 2A - Robinson Addition	54,000 ft^2
Building 3A - Thornton Building and Tunnel	32,000 ft^2
Building 3B - Russell Building	21,000 ft^2
Building 4 – Robinson Building	64,000 ft^2
Building 5 - Hutchinson Chapel	7,000 ft^2

The grounds have an approximate three percent slope from southeast to northwest. They are made up of asphalt paved parking lots, concrete sidewalks, mature trees, and overgrown landscaped areas. There are no surficial water bodies (such as pits, ponds, or lagoons) located on the properties. The Niagara River is located approximately 550 feet to the west. The block was formerly supplied with municipal sewer, water, natural gas, and electric. Currently, there are no operational heating systems within the structures. The nursing home and chapel were formerly heated with a dual-fired (fuel oil and natural gas) heating system. The fuel oil was stored within a 10,000-gallon UST which was closed in-place in 2008. The former Canterbury House was likely heated by a natural gas-fired furnace.

The immediately adjacent properties include parkland to the north and northwest, residences and lots under construction to the south, residences to the east, and the Peace Bridge Toll Plaza and access way to the west. The depth to groundwater is estimated to be in the range of 15 to 25 ft. bgs.

1.5 WORK COVERED BY CONTRACT DOCUMENTS

A. The Contract includes all of the work defined by the entire Contract Documents, including bid documents, administrative provisions, technical specifications, Contract Drawings and referenced documents. The purpose of this sub-section is to provide a general overview of the work for the Contractor's information and convenience only.

B. Base Bid includes all labor, material, tools, equipment, supervision, permit fees, handling and disposal costs to remove / separate, characterize and dispose of asbestos wastes, decontaminated wastes, and universal wastes. The base bid work shall include the complete abatement of all asbestos and universal/hazardous materials from the interior of the following Contract specified buildings and structures:

1. Robinson Addition (Buildings 2 and 2A)
2. Thornton Building (Building 3A)
3. Russell Building (Building 3B)
4. Robinson Building (Building 4)
5. Hutchinson Chapel (Building 5)
6. Tunnel between Thornton Building (Building 3A) and Hutchinson Chapel (Building 5)

More specifically, base bid work includes all work defined in the Project Manual and on the drawings not otherwise indicated as Alternates. Additional work to be included in the Base Bid:

1. Mobilization/Demobilization.
2. Providing Security.
3. Insurance Coverage, Bonding and all Permit Costs..
4. Providing Temporary Utilities.
5. Protection of External Building Envelopes
6. Furnishing and Maintaining Project Field Offices for the Contractor and Construction Manager.
7. Protection of Utilities that Shall Remain.
8. Pedestrian and Traffic Control.
9. Temporary Dewatering.

C. Alternate No.1 adds complete abatement and demolition of the Canterbury Building (Building 1) and Maintenance Building (Building 6). Alternate No. 1 work shall include the complete abatement of all asbestos and universal/hazardous materials and demolition of the following Contract specified buildings and structures:

1. Canterbury Building (Building 1)
2. Maintenance Building (Building 6).

Alternate No. 1 work shall also include furnishing and installing temporary fencing, terminating utilities, protecting designated utilities, and backfilling to defined grades. More specifically Alternate No. 1 includes all work defined in the Contract Documents and work identified as pertaining to Alternate No. 1 for the above referenced buildings and associated structures, utilities, and site amenities. This alternate is identified as Alternate No. 1 on the Contract Plans.

D. Alternate No.2 adds exterior abatement, abatement of concealed or encapsulated asbestos not abated as part of the base bid work, and demolition for the following Contract specified buildings:

1. Robinson Addition (Buildings 2 and 2A)
2. Thornton Building (Building 3A)
3. Russell Building (Building 3B)
4. Robinson Building (Building 4) Robinson
5. Tunnel between Thornton Building (Building 3A) and Hutchinson Chapel (Building 5).

Alternate No. 2 work shall also include removal of a closed underground storage tank, site preparation consisting of resetting of catch basins, termination of utilities, protecting remaining utilities, backfilling to defined grades, providing final grading using gravel and soil, replacing sidewalk sections, construction of a landscaped berm, and furnishing and installing temporary and new fencing. Alternate No. 2 work also includes stabilization, providing weather-tight enclosure, and installing a new basement entranceway for the

Hutchinson Chapel (Building 5). All levels of the tunnel shall be demolished including above grade and below grade portions.

Contractor shall abate all remaining asbestos, protected and encapsulated from the inside each of these structures during the base bid work, and following completion and clearance by the Asbestos Project Monitor of completed interior abatement, abate all asbestos on the exterior of each structure including but not limited to roof materials and flashing. Upon completion of abatement of all asbestos and hazardous materials, interior and exterior, Contractor shall complete demolition of each of these structures and remove all demolished material from the Project Site. Additional work to be included in Alternate No. 2:

1. Providing Security.
2. Installing and Maintaining Erosion and Sedimentation Controls.
3. Providing Temporary Utilities.
4. Maintaining Project Field Offices for the Contractor and Construction Manager.
5. Protection of Utilities that Shall Remain.
6. Pedestrian and Traffic Control.
7. Temporary Shoring and Dewatering.
8. Vibration Monitoring.
9. Air Monitoring Program.
10. Crushing (off-site) and/or Furnishing and Installing all Backfill Material.

E. The demolition work shall include removal all contents, subject to the exceptions and limitations otherwise indicated. In general, demolition shall include removal and off-site disposal of all structural elements, wall sections, ramps, fixtures, furnishings, roofs, piping, lighting and mechanical systems, electrical systems, drainage systems, stairwells, elevators, building contents, debris, appurtenances and other features. Contractor is responsible for the legal disposal of all material removed from the Project Site.

The demolition contract shall include design, furnishing, installing, and maintaining of any and all shoring required to support construction loads over all structures identified as “to remain”.

If additional fill material is required the Contractor is to furnish additional material as defined in Section 02300 – Earthwork at no additional cost to the Owner.

Demolition Contractor shall provide as-built topographic survey of the site post demolition and prior to backfilling that documents horizontal and vertical location of all remaining basement walls, subbasement walls, shafts, floor elevations, footing and other structural components of former buildings. Survey is to be completed by a licensed New York State Land Surveyor and submitted to the Construction Manager in AutoCAD.dwg format.

Demolition work includes pest control, termination of utilities as detailed in project documents. Demolition work is to include furnishing and maintaining Erosion and Sedimentation controls as detailed in the project documents.

The demolished site is to be restored under Alternate No. 2 to a finished condition by completing drainage, resetting of catch basins, protection of remaining utilities, backfill to defined grades, providing final grading using gravel, constructing a landscaped berm, replacing sidewalk sections, and furnishing and installing new fencing.

F. Type of Contract

1. Project will be constructed under a single prime contract.

1.6 PHASED CONSTRUCTION

A. The Work shall be conducted in six phases as described below:

Base Bid

Phase I - Abatement of All Asbestos From the Interior of Structures: Robinson Addition (Buildings 2 and 2A); Thornton Building (Building 3A); Russell Building (Building 3B); Robinson Building (Building 4); and Hutchinson Chapel (Building 5) and Tunnel
Work includes: abatement of all asbestos and removal all hazardous materials from inside each structure until clearance by the Project Monitor for the structure interior is achieved. Abatement of exterior roof materials and flashing are not included in the base bid. All Phase I work for Robinson Addition (Buildings 2 and 2A) and Robinson Building (Building 4) shall be completed no later than 135 calendar days from written notice to proceed. Phase I shall be completed in its entirety no later than 180 calendar days from written notice to proceed.

Alternate No. 1

Phase II - Completely Abate and Demolish: Canterbury Building and Maintenance Building
Work includes: Complete abatement of all asbestos and universal/hazardous materials and demolition of the Canterbury Building (Building 1) and Maintenance Building (Building 6). Alternate No. 1 work shall also include furnishing and installing temporary fencing, terminating utilities, protecting designated utilities, and backfilling to defined grades. If exercised, notice to proceed for Alternate No. 1 is anticipated to be issued within 30 days of the notice to proceed for the base bid work. Work for Alternate No. 1 shall proceed in accordance with the base bid schedule and the additional constraints presented below. If the notice to proceed for Alternate No. 1 is issued greater than 30 calendar days following the notice to proceed for the base bid work, then the completion dates for work elements applicable only to Alternate No. 1 shall be negotiated. Phase II shall be completed in its entirety no later than 180 calendar days from notice to proceed.

Alternate No. 2

Phase III - Repair Drainage Structures, Install Temporary Fencing, Terminate Utilities, and Complete Remaining Asbestos Abatement of Robinson Addition, Thornton Building, Russell Building; Robinson Building, and Tunnel
Work includes: Item 1) Repair drainage structures near Massachusetts and Columbus Avenues and install temporary construction fencing; Item 2) Terminate Utilities; and Item 3) Abate all asbestos on the exterior of each structure including but not limited to concealed or encapsulated asbestos not abated in Phase I, exterior roof materials and flashing.

Phase IV - Completely Demolish Robinson Addition, Thornton Building, Russell Building; Robinson Building, and Tunnel
Work Includes complete demolition of each structure. Completion of demolition shall also include completion of backfill and compaction to grade at each building. This phase also includes demolition of the tunnel between the Thornton Building (Building 3A) and Hutchinson Chapel (Building 5).

Phase V - Stabilization of Hutchinson Chapel (Building 5)
Work includes provision of weather tight protection of windows and openings and installation of a new basement entrance.

Phase VI – Site Final Grading and Preparation
Work includes: Completion of final utility modifications, grubbing, grading with gravel and soil cover, constructing a landscaped berm, replacing sidewalk sections, and installing permanent fencing.

If exercised, notice to proceed for Alternate No. 2 is anticipated to be issued within 90 days of the notice to proceed for the base bid work. Work for Alternate No. 1 shall proceed in accordance with the base bid schedule and the additional constraints presented below. If the notice to proceed for Alternate No. 2 is issued greater than 90 calendar days following the notice to proceed for the base bid work, then the completion dates for work elements applicable only to Alternate No. 2 shall be negotiated. Phase IV shall be completed in its entirety no later than 300 calendar days from notice to proceed. Phase V shall be completed no later than 330 calendar days from notice to proceed.

1.7 ACCESS TO PROJECT SITE

A. General: Contractor's use of Project Site is limited by Owner's right to access the site.

B. Use of Site: Limit use of Project Site to work in areas indicated. Do not disturb portions of Project Site beyond areas in which the Work is indicated.

1. Limits: Confine construction operations to work areas indicated.
2. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

3. Parking and Storage: Do not park or store materials in areas that are not designated or approved by the Construction Manager.
4. Provide unimpeded access to Construction Manager authorized personnel and vehicles to the parking lot located on the corner of Columbus Parkway and Massachusetts Avenue.

C. Condition of Existing Building: Contractor shall be aware that the structure has been vacant and has generally deteriorated throughout the buildings. The Owner assumes no responsibility for the actual condition of the structure, its contents and appurtenances to be demolished. Conditions existing at the time of inspection for bidding purposes will be maintained as possible, however, changes to the conditions may occur prior to the start of work

1.8 CONTRACTOR'S QUALIFICATIONS

A. The low bidder shall demonstrate its responsibility to perform and complete all required work by submitting a statement of its experience and of any subcontractors which the low bidder intends to use to perform the work (see Bidder's Qualifications in the Bid Forms). The low bidder shall include his plan or program for providing sufficient labor and equipment to perform the project as detailed by the project documents, within the allotted time frame and sequencing for the asbestos abatement and alternate demolition phases. Low bidder is encouraged to employ local labor.

B. The Prime Contractor shall have a valid New York State Department of Labor (NYSDOL) Company asbestos abatement license. The Prime Contractor must identify a Project Manager and a Site Superintendent, currently employed by the Prime Contractor or a teamed qualified Subcontractor, who can demonstrate a minimum 3-year history supervising asbestos abatement work similar to the Episcopal Church Home Interior Asbestos Abatement project under NYSDOL codes, rules, and regulations.

C. The low bid Prime Contractor or its teamed qualified Subcontractor must demonstrate a minimum of 3 years of experience and the completion of 2 demolition projects of similar scope in an urban setting. Additional qualification requirements and certifications as required by the individual technical specifications must be met by either the Prime Contractor or its teamed qualified Subcontractor.

D. The Prime Contractor shall obtain bid and performance bonds directly from a Surety Company with a minimum rating by A.M. Best of (A-) in the "Best's Key Rating Guide". The surety firm must be licensed to bond construction projects in the state of New York. The Abatement and/or Demolition Contractor's personnel shall also have OSHA 10-hour Construction Safety & Health certifications and 40-hour HAZWOPER certifications as required by the various elements.

E. Empire State Development may require the low bidder to further demonstrate its responsibility to perform and complete the work by submitting additional information regarding the low bidder's experience, obtaining labor/work force and financial resources. The prime Contractor shall demonstrate that they have the financial resources to perform the work. If requested by Empire State Development, additional information

must be submitted by the low bidder within seven (7) calendar days of the request. All information pertaining to the bidder's financial resources shall be submitted by a Certified Public Accountant.

1.9 OWNER'S OCCUPANCY AND USE REQUIREMENTS

A. Owner Occupancy: Owner may enter the site and building(s) during entire construction period provided such activity does not interfere with completion of the work. Cooperate with Owner during construction operations to minimize conflicts and facilitate temporary Owner entrance.

1.10 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work to normal business working hours of 8:00 a.m. to 5:00 p.m., Monday through Friday, except as otherwise indicated.

1. Weekend Hours: weekend and extended weekday work shall be allowed upon approval of the Owner and Construction Manager.
2. Hours for Utility Shutdowns: Any utility shutdowns must be coordinated with the Owner and Construction Manager.

C. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption with Construction Manager and Owner.

1. Notify Construction Manager not less than 5 days in advance of proposed disruptive operations.
2. Obtain Construction Manager's written permission before proceeding with disruptive operations.

1.11 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 1 General Requirements: Requirements of Sections in Division I apply to the Work of all Sections in the Specifications.

C. Drawing Coordination: Drawing and specifications are intended be complementary. Coordinate Drawing content with Specification content. Notify Construction Manager of any discrepancies noted.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 Work shall be in accordance with the best standards of industry practice and in compliance with applicable codes, rules and regulations of entities having jurisdiction.

END OF SECTION 01100

SECTION 01135 - HEALTH AND SAFETY

PART 1 - GENERAL

1.1 SUMMARY

A. The Contractor is solely responsible and liable for the health and safety of all on-site personnel and any off-site community potentially impacted by the construction. This section described the minimum health and safety requirements for this project including the requirements for the development of a written Health and Safety Plan (HASP). All on-site workers must comply with the requirements of the HASP. The Contractor's HASP must comply with all applicable federal and state regulations protecting human health and the environment from the hazards posed by activities during this site remediation.

B. Contractor shall be responsible for all costs associated with project health and safety requirements.

1.2 BASIS

A. The Occupational Safety and Health Administration (OSHA) Standards and Regulations contained in Title 29, Code of Federal Regulations, Parts 1910 and 1926 (20 CPR 1910 and 1926) and subsequent additions and/or modifications, the New York State Labor Law Section 876 (Right-to-Know Law), the Standard Operating Safety Guidelines by the United States Environmental Protection Agency (EPA), Office of Emergency and Remedial Response and the Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (NIOSH, OSHA, USCG, and EPA) provide the basis for the safety and health program. Additional specifications within this section are in addition to OSHA regulations and reflect the positions of both the EPA and the National Institute for Occupation Safety and Health (NIOSH) regarding procedures required to ensure safe operations at abandoned hazardous waste disposal sites.

B. The safety and health of the public and project personnel and the protection of the environment will take precedence over cost and schedule considerations for all project work. Any additional costs will be considered only after the cause for suspension of operations is addressed and work is resumed. The Owner and the Contractor's Superintendent will be kept appraised, by the Contractor's Safety Officer, of conditions which may adversely affect the safety and health of project personnel and the community. The Owner may stop work for health and safety reasons. If work is suspended for health and/or safety reasons, it shall not resume until approval is obtained from the Owner. The cost of work stoppage due to health and safety is the responsibility of the Contractor under this Contract.

1.3 HEALTH AND SAFETY DEFINITIONS

The following definitions shall apply to the work of this Contract:

A. Project Personnel: Project personnel include the Engineer, Construction Manager, Contractor, Subcontractors, and Federal and State Representatives, working or having official business at the Project Site.

B. Authorized Visitor: Authorized visitors shall receive approval to enter the site from the Safety Officer. The Safety Officer has primary responsibility for determining who is qualified and may enter the site.

C. Health and Safety Coordinator (HSC): The HSC shall be a Certified Industrial Hygienist (CIH) or Certified Safety Professional (CSP) retained by the Contractor. The HSC will be responsible for the development and implementation for the HASP.

D. Safety Officer (SO): The SO will be the Contractor's on-site person who will be responsible for the day-to-day implementation and enforcement of the HASP.

E. Health and Safety Technicians (HST): The HST(s) will be the Contractor's on-site personnel who will assist the SO in the implementations of the HASP, in particular, with air monitoring in active work areas and maintenance of safety equipment.

F. Medical Consultant (MC): The MC is a physician retained by the Contractor who will be responsible for conducting physical exams as specified under the Medical Monitoring Programs in this section.

G. Project Site: The area designated on the Site Plans, which includes the Contractor Work Area.

H. Contractor Work Area: An area of the project site including the Support Zone, access road staging area, and Exclusion Zone.

I. Contractor Support Zone: An area of the Contractor Work Area outside the Exclusion Zone, accessible for deliveries and visitors. No persons, vehicles, or equipment may enter these areas from the Exclusion Zone without having gone through specified decontamination procedures in the adjacent Contamination Reduction Zone.

J. Staging Areas: Areas within the Exclusion Zone for the temporary staging of contaminated soil and debris.

K. Exclusion Zone: The innermost area within the Contractor Work Area that encloses the area of contamination. Protective clothing and breathing apparatus as specified in the health and safety requirements and in the Contractor's approved HASP must be worn.

L. Contamination Reduction Zone: An area at the Exit Point of the Exclusion Zone through which all personnel, vehicles, and equipment must enter and exit. All decontamination of vehicles and equipment and removal of personal protective clothing and breathing

apparatus must take place at the boundary between the Exclusion Zone and the Contamination Reduction Zone.

M. Owner's on-site representative: The Owner's representative assigned responsibility and authority by the Owner for day-to-day field surveillance duties.

N. Work: Work includes all labor, materials, and other items that are shown, described, or implied in the Contract and include all extra and additional work and material that may be ordered by the Construction Manager.

O. Monitoring: The use of direct reading field instrumentation to provide information regarding the levels of gases and/or vapor, which are present during remedial action. Monitoring shall be conducted to evaluate employee potential exposures to toxic materials and hazardous conditions.

1.4 RESPONSIBILITIES

The Contractor will be responsible for the following:

A. The Contractor will perform all work required by the Contract Documents in a safe and environmentally acceptable manner. The contractor will provide for the safety of all project personnel and the community for the duration of the Contract.

B. The Contractor shall:

1. Employ a SO who shall be assigned full-time responsibility for all tasks described herein under this HASP. In the event the SO cannot meet his responsibilities, the Contractor shall be responsible for obtaining the services of an "alternate" SO meeting the minimum requirements and qualifications contained herein. No work will proceed on this project in the absence of an approved SO on the project site.
2. Be responsible for the pre-job indoctrination of all project personnel with regard to the HASP and other safety requirements to be observed during work, including but not limited to (a) potential hazards, (b) personal hygiene principles, (c) personal protection equipment, (d) respiratory protection equipment usage and fit testing, and (e) emergency procedures dealing with fire and medical situations.
3. Be responsible for the implementation of this HASP, and the Emergency Contingency and Response Plan.
4. Provide and ensure that all project personnel are properly clothes and equipped and that all equipment is kept clean and properly maintained in accordance with the manufacturer's recommendations or replaced as necessary.
5. Have sole and complete responsibility of safety conditions for the project, including safety of all persons (including employees).
6. Be responsible for protecting the project personnel and the general public from hazards due to the exposure, handling, and transport of contaminated materials. Barricades, lanterns, roped-off areas, and proper signs shall be furnished in sufficient amounts and locations to safeguard the project personnel and public at all times.
7. Make certain all OSHA health and safety requirements are met.

Maintain a chronological log of all persons entering the project site. It will include organization, date, and time of entry and exit. Each person must sign in and out.

1.5 SUBMITTALS

The Contractor shall submit a HASP to the Engineer for review in accordance with SECTION 01330 SUBMITTAL PROCEDURES. The HASP shall govern all work performed for this contract. The HASP shall address, at a minimum, the following items:

A. Health and Safety Organization.

B. Site Description and Hazard Assessment.

C. Training.

D. Medical Surveillance.

E. Work Areas.

F. Standard Operating Safety Procedures and Engineering Controls.

G. Personal Protective Equipment (PPE).

H. Personnel Hygiene and Decontamination.

I. Equipment Decontamination.

J. Air Monitoring.

K. Emergency Equipment/First Aid Requirements.

L. Emergency Response and Contingency Plan.

M. Confined-Space Entry Procedures.

N. Spill Containment Plan.

O. Heat & Cold Stress.

P. Record Keeping.

Q. Community Protection Plan.

The Contractor shall not initiate on-site work until an acceptable HASP addressing all comments has been developed. The following sections will describe the requirements of each of the above-listed elements of the HASP.

1.6 HEALTH AND SAFETY ORGANIZATION

The Contractor shall list in the HASP a safety organization with specific names and responsibilities. At a minimum, the Contractor shall provide the services of a Health and Safety Coordinator, SO, Health and Safety Technician, and a Medical Consultant.

A. Health and Safety Coordinator: The Contractor must retain the services of a Health and Safety Coordinator (HSC). The HSC must be an American Board of Industrial Hygiene (ABIH), Certified Industrial Hygienist (CIH) or a Certified Safety Professional (CSP). The HSC must have a minimum of two years experience in hazardous waste site remediations or related industries and have a working knowledge of federal and state occupational health and safety regulations. The HSC must be familiar with air monitoring techniques and the development of health and safety programs for personnel working in potentially toxic atmospheres.

In addition to meeting the above requirements the HSC will have the following responsibilities:

1. Responsibility for the overall development and implementation of the HASP.
2. Responsibility for the initial training of on-site workers with respect to the contents of the HASP.
3. Availability during normal business hours for consultation by the Safety Officer.
4. Availability to assist the Safety Officer in follow-up training and if changes in site conditions occur.

B. Safety Officer: The designated SO must have, at a minimum, two years of experience in the remediation of hazardous waste sites or related field experience. The SO must have formal training in health and safety and be conversant with federal and state regulations governing occupational health and safety. The SO must be certified in CPR and first aid and have experience and training in the implementation of personal protection and air monitoring programs. The SO must have "hands-on" experience with the operation and maintenance of real-time air monitoring equipment. The SO must be thoroughly knowledgeable of the operation and maintenance of air-purifying respirators (APR) and supplied-air respirators (SAR) including SCBA and airline respirators.

In addition to meeting the above qualifications, the SO will be responsible for the following minimum requirements:

1. Responsibility for the implementation, enforcement, and monitoring of the health and safety plan.
2. Responsibility for the pre-construction indoctrination and periodic training of all on-site personnel with regard to this safety plan and other safety requirements to be observed during construction, including:

    a. Potential Hazards.
    b. Personal hygiene principles.
    c. PPE.

d. Respiratory protection equipment usage and fit testing.
e. Emergency procedures dealing with fire and medical situations.
f. Conduct daily update meetings in regard to health and safety.

3. Responsibility for alerting the Owner's on-site representative prior to the Contractor starting any particular hazardous work.
4. Responsibility for informing project personnel of the New York State Labor Law Section 876 (Right-to-Know Law).
5. Responsibility for the maintenance of separation of Exclusion Zone (Dirty) from the Support Zone (Clean) areas as described hereafter.

C. Health and Safety Technicians: The Health and Safety Technician (HST) must have one year of hazardous waste site or related experience and be knowledgeable of applicable occupational health and safety regulations. The HST must be certified in CPR and first aid. The HST will be under direct supervision of the SO during on-site work. The HST must be familiar with the operations, maintenance and calibration of monitoring equipment used in this remediation. An HST will be assigned to each work crew or task in potentially hazardous areas.

D. Medical Consultant: The Contractor is required to retain a Medical Consultant (MC) who is a physician, certified in occupational medicine. The physician shall have experience in the occupational health area and shall be familiar with potential site hazards of remedial action projects. The MC will also be available to provide annual physicals and to provide additional medical evaluations of personnel when necessary.

1.7 SITE DESCRIPTION AND HAZARD ASSESSMENT

The Contractor shall perform a hazard assessment to provide information to assist in selection of PPE and establish air-monitoring guidelines to protect on-site personnel, the environment, and the public. The Contractor shall provide a general description of the site, its location, past history, previous environmental sampling results, and general background on the conditions present at the site.

A. Chemical Hazards: A qualitative evaluation of chemical hazards shall be based on the following:

1. Nature of potential contaminants;
2. Location of potential contaminants at the project site;
3. Potential for exposure during site activities; and
4. Effects of potential contaminants on human health.

B. Biological Hazards: A qualitative evaluation of biological hazards (blood borne pathogens, insects, and other elements.)

C. Physical Hazards: The Contractor shall assess the potential for physical hazards affecting personnel during the performance of on-site work.

1.8 TRAINING

A. OSHA Training

1. The Contractor is responsible to ensure that all project personnel have been trained in accordance with OSHA 29 CFR 1910.1200 (Hazard Communication) and 29 CFR 1910.134 (Respiratory Protection) regulations as applicable to the task they are performing.
2. The Contractor shall ensure that all employees are informed of the potential hazards of toxic chemicals to the unborn child and of the risks associated with working at the project site.
3. The Contractor shall be responsible for and guarantee that personnel who have not successfully completed the required training are not permitted to enter the project work areas requiring trained personnel to perform work.

B. Safety Meetings

The SO will conduct daily safety meetings for each working shift that will be mandatory for all project personnel. The meetings will provide refresher courses for existing equipment and protocols. and will examine new site conditions as they are encountered.

Pre-entry briefing. The site specific safety and health plan shall provide for pre-entry briefings to be held prior to initiating any site activity; and as such other times as necessary to ensure that employees are apprised of the site safety and health plan and that this plan is being followed. The information and data obtained from site characterization and analysis work shall be used to prepare and update the site safety and health plan.

1. Additional safety meetings will be held on an as-required basis.
2. Should any unforeseen or site-specific safety-related factor, hazard or condition become evident during the performance of work at this site the Contractor will bring such to the attention of the SO in writing as quickly as possible for resolution. In the interim the Contractor will take prudent action to establish and maintain safe working conditions and to safeguard employees, the public, and the environment.

1.9 MEDICAL SURVEILLANCE

A. The Contractor shall utilize the services of a Physician to provide the minimum medical examinations and surveillance specified herein. The name of the Physician and evidence of examination of all Contractor and Subcontractor on-site personnel shall be kept by the SO.

B. Contractor and Subcontractor project personnel involved in this project shall be provided with medical surveillance prior to onset of work and in accordance with 29 CFR 1910.120 (f)

Physical examinations are required for:

1. All employees who are or may' be exposed to hazardous substances or health hazards at or above the established permissible exposure limit, above the published exposure levels for these substances, without regard to the use of respirators, for 30 days or more a year;
2. All employees who wear a respirator for 30 days or more a year or as required by 1910.134;
3. All employees who are injured, become ill or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation; and
4. Members of HAZMAT teams.

1.10 SITE CONTROL

A. Security

1. The Contractor shall be responsible for the security and control of the project site within the project limits throughout the duration of the project. Contractor should note that trespassing and extensive vandalism has occurred at the site in the past. The Contractor is responsible for keeping trespassers from entering asbestos contaminated buildings and from trespassing on the site in general.
2. Security identification, specific to the project site, shall be provided by the Contractor for all project personnel entering the project site. The Contractor shall be responsible for and ensure that such identification shall be worn by each individual, visible at all times, while the individual is on the site. Vehicular access to the site, other than to designated parking areas, shall be restricted to authorized vehicles only.
3. Use of on-site designated parking areas shall be restricted to vehicles of the Owner, Owner's on-site representative, Contractor, subcontractor, and service personnel assigned to the site and actually on duty but may also be used on short-term basis for authorized visitors.
4. The Contractor shall be responsible for maintaining a log of security incidents and visitor access granted.
5. The Contractor shall require all personnel having access to the project site to sign-in and sign-out, and shall keep a record of all site access.
6. All approved visitors to the site shall be briefed by the SO on safety and security, provided with temporary identification and safety equipment, and escorted throughout their visit.
7. Project sites shall be posted, "Warning Hazardous Work Area, Do Not Enter Unless Authorized," and access restricted by the use of a snow fences or equal at a minimum. Warning signs shall be posted at a minimum of every 500 feet.

B. Site Control

The Contractor shall provide the following site control procedures as a minimum:

1. A Site map;
2. A map showing site work zones;
3. The use of a “buddy system”; and
4. Standard operating procedures or safe work practices.

C. Work Areas

The Contractor will clearly layout and identify work areas in the field and will limit equipment, operations and personnel in the areas as defined below:

1. Exclusion Zone (EZ) - This will include all areas where potential environmental monitoring has shown or it is suspected that a potential hazard may exist to workers. The level of PPE required in these areas will be determined by the SO after air monitoring and on-site inspection has been conducted. The area will be clearly delineated from the decontamination area. As work within the hazardous zone proceeds, the delineating boundary will be relocated as necessary to prevent the accidental contamination of nearby people and equipment. The Exclusion Zone will be delineated by fencing (e.g., chain link, snow fencing, or orange plastic fencing).
2. Contamination Reduction Zone - This zone will occur at the interface of "Hazardous" and "Clean" areas and will provide for the transfer of equipment and materials from the Support Zone to the Exclusion Zone, the decontamination of personnel and clothing prior to entering the "Clean" area, and for the physical segregation of the "Clean" and "Hazardous" areas. This area will be clearly delineated by fencing (e.g., chain link, snow fencing, or orange plastic fencing). It shall also delineate an area that although not contaminated at a particular time may become so at a later date.
3. Support Zone - This area is the remainder of the work site and project site. The Support Zone will be clearly delineated and procedures implemented to prevent active or passive contamination from the work site. The function of the Support Zone includes:
   a. An entry area for personnel, material and equipment to the Exclusion Zone of site operations through the Contamination Reduction Zone;
   b. An exit for decontamination personnel, materials and equipment from the "Decontamination" area of site operations;
   c. The housing of site special services; and
   d. A storage area for clean, safety, and work equipment.

1.11 STANDARD OPERATING SAFETY PROCEDURES, ADMINISTRATIVE CONTROLS

A. GENERAL

1. The Contractor will ensure that all safety equipment and protective clothing is kept clean and well maintained.

2. All prescription eyeglasses in use on this project will be safety glasses and will be compatible with respirators.
3. The SO will approve all disposable or reusable gloves worn on the site.
4. During periods of prolonged respirator usage in contaminated areas, respirator filters will be changed upon breakthrough (not defined). Respirator filters will always be changed at least daily.
5. Footwear used on site will be covered by chemical resistant overboots or booties when entering or working in the Exclusion Zone area or Contamination Reduction Zone. Boots or booties will be washed with water and detergents to remove dirt and contaminated sediment before leaving the Exclusion Zone or Contamination Reduction Zone.
6. All PPE used on site will be decontaminated or disposed of at the end of the workday. The SO will be responsible for ensuring decontamination of PPE before reuse.
7. All respirators will be individually assigned and not interchanged between workers without cleaning and sanitizing.
8. Contractor, subcontractor and service personnel unable to pass a fit test as a result of facial hair or facial configuration shall not enter or work in an area that required respiratory protection.
9. (Covered under medical surveillance).
10. On-site personnel found to be disregarding any provision of this plan will, at the request of the SO, be barred from the project.
11. Used disposable outerwear such as coveralls, gloves, and boots shall not be reused. Used disposable outerwear will be removed upon leaving the hazardous work zone and will be placed inside disposable containers provided for that purpose. These containers will be stored at the site at the designated staging area and the Contractor will be responsible for proper disposal of these materials at the completion of the project. This cost shall be borne by the Contractor.
12. Protective coveralls that become torn or badly soiled will be replaced immediately.
13. Eating, drinking, chewing gum or tobacco, smoking, tee., will be prohibited in the hazardous work zones.
14. All personnel will thoroughly cleanse their hands, face, and forearms and other exposed areas prior to eating, smoking or drinking.
15. All personnel will wash their hands, face, and forearms before using toilet facilities.
16. No alcohol, firearms or drugs (without prescriptions) will be allowed on site at anytime.

B. Engineering Controls - Air Emissions

The Contractor shall provide all equipment and personnel necessary to monitor and control air emissions.

Engineering controls and work practices shall be instituted to reduce and maintain employee exposure to or below the permissible exposure limits for substances regulated by 29 CPR Part 1910, to the extent required by Subpart Z, except to the extent that such controls and practices are not feasible.

1.12 PERSONAL PROTECTIVE EQUIPMENT (PPE)

A. General

The Contractor shall provide all project personnel with the necessary safety equipment and protective clothing, taking into consideration the potential chemical wastes at the site. The Contractor shall supply the Owner's on-site personnel and Authorized visitors with PPE as specified.

B. Personal protective equipment selection.

1. Personal protective equipment (PPE) shall be selected and used which will protect employees from the hazards and potential hazards they are likely to encounter as identified during the site characterization and analysis.
2. Personal protective equipment selection shall be based on an evaluation of the performance characteristics of the PPE relative to the requirements and limitations of the site, the task-specific conditions and duration, and the hazards and potential hazards identified at the site.
3. Positive pressure self-contained breathing apparatus, or positive pressure airline respirators equipped with an escape air supply shall be used when chemical exposure levels present will create a substantial possibility of immediate death, immediate serious illness or injury, or impair the ability to escape.
4. Totally-encapsulating chemical protective suits (protection equivalent to Level A protection as recommended in Appendix B) shall be used in conditions where skin absorption of a hazardous substance may result in a substantial possibility of immediate death, immediate serious illness or injury, or impair the ability to escape.
5. The level of protection provided by PPE selection shall be increased when additional information or site conditions show that increased protection is necessary to reduce employee exposures below permissible exposure limits and published exposure levels for hazardous substances and health hazards. NOTE: The level of employee protection provided may be decreased when additional information or site conditions show that decreased protection will not result in hazardous exposures to employees.

C. Levels of Protection

1. Personal protective equipment selection shall be based on an evaluation of the performance characteristics of the PPE relative to the requirements and limitations of the site, the task-specific conditions and duration, and the hazards and potential hazards identified at the site.

2. The following sections described the requirements of each level of protection.

3. Personal protective equipment is divided into four categories based on the degree of protection afforded. (See Part B of this appendix for further explanation of Levels A, B, C, and D hazards.)

Level A Protection

To be selected when the greatest level of skin, respirator, and eye protection is required.

The following constitute Level A equipment; it may be used as appropriate;

1. Positive pressure, full face-piece self contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA, approved by the National Institute for Occupational Safety and Health (NIOSH).
2. Totally-encapsulating chemical-protective suit.
3. Coveralls. (1)
4. Long underwear. (1)
5. Gloves, outer, chemical-resistant.
6. Gloves, inner, chemical-resistant.
7. Boots, chemical-resistant, steel toe and shank.
8. Hard hat (under suit). (1)
9. Disposable protective suit, gloves and boots (depending on suit construction, may be worn over totally-encapsulating suit).

Level A - Level A protection should be used when:

1. The hazardous substance has been identified and required the highest level of protection for skin, eyes, and the respiratory system based on either the measured (or potential for) high concentration of atmospheric vapors, gases, or particulates; or the site operations and work functions involve a high potential for splash, immersion, or exposure to unexpected vapors, gases, or particulates or materials that are harmful to skin or capable of being absorbed through the skin,
2. Substances with a high degree of hazard to the skin are known or suspected to be present, and skin contact is possible; or
3. Operations must be conducted in confined, poorly ventilated areas, and the absences of conditions requiring Level A have not yet been determined.

Level B Protection

The highest level of respiratory protection is necessary but a lesser level of skin protection is needed.

The following constitute Level B equipment; it may be used as appropriate.

1. Positive pressure, full-facepiece self-contained breathing apparatus (SCBA), or positive
   pressure supplied air respirator with escape SCBA (NIOSH approved).
2. Hooded chemical-resistant clothing (overalls and long-sleeved jacket; coveralls; one or two-piece
   chemical-splash suit; disposable chemical-resistant overalls).

3. Coveralls. (1)
4. Gloves, outer, chemical-resistant.
5. Gloves, inner, chemical-resistant.
6. Boots, outer, chemical-resistant steel toe and shank.
7. Boot-covers, outer, chemical-resistant (disposable). (1)
8. Hard hat. (1)
9. Face shield. (1)

_____
Footnote (l) Optional, as applicable.

Level B protection should be used when:

1. The type and atmospheric concentration of substances have been identified and require a high level of respiratory protection, but less skin protection.
2. The atmosphere contains less than 19.5 percent oxygen; or
3. The presence of incompletely identified vapors or bases is indicated by a direct-reading organic vapor detection instrument, but vapors and gases are not suspected of containing high levels of chemicals harmful to skin or capable of being absorbed through the skin.

Note: This involves atmospheres with IDLH concentrations of specific substances that present severe inhalation hazards and that do not represent a severe skin hazard; or that do not meet the criteria for use of air-purifying respirators.

Level C Protection

Level C - The concentration(s) and type(s) of airborne substance(s) is known and the criteria
for using air purifying respirators are met.

The following constitute Level C equipment; it may be used as appropriate.

1. Full-face or half-mask, air purifying respirators (NIOSH approved).
2. Hooded chemical-resistant clothing (overalls; two-piece chemical-splash suit; disposable
chemical-resistant overalls).
3. Coveralls. (1)
4. Gloves, outer, chemical-resistant.
5. Gloves, inner, chemical-resistant.
6. Boots (outer), chemical-resistant steel toe and shank. (1)
7. Boots-covered, outer, chemical-resistant (disposable). (1)
8. Hard hat. (1)
9. Escape mask. (1)
10. Face shield. (1)

_____
Footnote (1) Optional, as applicable.

Level C - Level C protection should be used when:

1. The atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect or be absorbed through any exposed skin;
2. The types of air contaminants have been identified, concentrations measured, and an air-purifying respirator is available that can remove the contaminants; and
3. All criteria for the use of air-purifying respirators are met.

Level D Protection

Level D - A work uniform affording minimal protection; used for nuisance contamination only.

The following constitute Level D equipment; it may be used as appropriate;

1. Coveralls.
2. Gloves. (1)
3. Boots/shoes, chemical-resistant steel toe and shank.
4. Boots, outer, chemical-resistant (disposable). (1)
5. Safety glasses or chemical splash goggles. (1)
6. Hard Hat. (1)
7. Escape mask. (1)
8. Face shield. (1)

_____
Footnote (1) Optional, as applicable.

Level D - Level D protection should be used when:

1. The atmosphere contains no known hazard; and
2. Work functions preclude splashes, immersion, or the potential for unexpected inhalation of or contact with hazardous levels of any chemicals.

Note: As stated before, combinations of personal protective equipment other than those described for Levels A, B, C, and D protection may be more appropriate and may be used to provide the proper level of protection.

As an aid in selecting suitable chemical protective clothing, it should be noted that the National Fire Protection Association (NFPA) has developed standards on chemical protective clothing. The standards that have been adopted by include:

NFPA 1991 - Standard on Vapor-Protective Suits for Hazardous Chemical Emergencies (EPA Level A Protective Clothing)

NFPA 1992- Standard on Liquid splash - Protective Suits for Hazardous Chemical Emergencies (EPA Level B Protective Clothing)

NFPA 1993 - Standard on Liquid Splash-Protective Suits for Non-emergency, Nonflammable

Hazardous Chemical Situations (EPA Level B Protective Clothing)

These standards apply documentation and performance requirements to the manufacture of chemical protective suits. Chemical protective suits meeting these requirements are labeled as compliant with the appropriate standard. It is recommended that chemical protective suits that meet these standards be used.

D. Disposable Coveralls:

The Contractor shall provide, as necessary, protective coveralls for all project personnel each day with extra sets provided for the Owner's representatives and Authorized visitors. The coveralls shall be made of a disposable type made of Tyvek or equivalent material, and shall be manufactured by Durafab, Koppler, or other appropriate manufacturers. Splash-resistant suits shall be provided for certain activities including potential exposure to liquids. Ripped suits shall be immediately replaced after all necessary decontamination has taken place.

1.13 PERSONNELL HYGIENE AND DECONTAMINATION

A. Portable "Boot Wash" Decontamination Equipment

The Contractor shall provide a portable decontamination station, commonly referred to as a "Boot Wash" facility for each hazardous work zone requiring decontamination for project personnel. These facilities shall be constructed to contain spent wash water, contain a reservoir of clean wash water, a power supply to operate a pump for the wash water, a separate entrance and exit to the decontamination platform, with the equipment being mobile, allowing easy transport from one hazardous work zone to the next. All such wash water shall be containerized for later characterization. An appropriate detergent such as trisodium phosphate shall be used.

B. Personnel Contamination

The Contractor shall provide full decontamination facilities at all hazardous zones. Decontamination facilities must be described in detail in the HASP.

C. Disposal of Spent Clothing and Material

Contaminated clothing, used respirator cartridges and other disposable items will be put into drums/containers for transport and proper disposal in accordance with TSCA and RCRA requirements. Containers/55-gallon capacity drums shall conform to the requirements of 40 CFR Part 178 for Transportation of Hazardous Materials. The containers/drums containing excavated and other hazardous materials shall be transported by the Contractor to the staging area.

The Contractor is responsible for the proper container packaging, labeling, transporting, and disposal.

1.14 EQUIPMENT DECONTAMINATION

A. General

All Equipment and material used in this project shall be thoroughly washed down in accordance with established federal and state procedures before it is removed from the project. With the exception of the excavated materials, all other contaminated debris, clothing, etc. that cannot be decontaminated shall be disposed at the Contractor's expense by a method permitted by appropriate regulatory agencies. The cost for this element of work shall be incorporated in the lump sum bid price. All vehicles and equipment used in the "Dirty Area" will be decontaminated to the satisfaction of the SO in the decontamination area on site prior to leaving the project. The Contractor will certify, in writing, that each piece of equipment has been decontaminated prior to removal from the site.

Decontamination shall take place within the designated equipment and materials decontamination area. The decontamination shall consist of degreasing (if required), following by high-pressure, hot-water cleaning, supplemented by detergents as appropriate. Wash units shall be portable, high-pressure with self-contained water storage stank and pressuring system (as required). Each unit shall be capable of heating wash waters to 180 degrees Fahrenheit and providing a nozzle pressure of 150 psi.

Personnel engaged in vehicle decontamination will wear protective clothing and equipment as determined in the HASP. If the Contractor cannot or does not satisfactorily decontaminate his tools or equipment at the completion of the project, the Contractor will dispose of any equipment that cannot be decontaminated satisfactorily and will bear the cost of such tools and equipment and its disposal without any liability to the Construction Manager. At the completion of the project, the Contractor shall completely decontaminate and clean the decontamination area.

B. Decontamination Station

The Contractor shall construct a decontamination station as described. The decontamination station shall be located in the Contamination Reduction Zone and shall be used to clean all vehicles leaving the Exclusion Zone prior to entering the Support Zone or leaving the site. Each decontamination pad will be equipped with a drain system and holding tank on a properly graded area that has no deleterious material. Shop drawings of the decontamination pad shall be submitted to the Construction Manager for approval.

The Contractor shall be responsible for the provision of an adequately equipped decontamination pad that shall meet the following requirements:

1. Adequate dimensions to contain wash water and debris from the largest sized vehicles to be utilized in this contract. All vehicles and construction equipment leaving a contaminated zone shall be decontaminated.

2. Perimeter to be curbed and provided with splash guards.
3. A 40 mil impervious HDPE membrane is required to prevent seepage into the ground.
4. Sumps, pumping facilities, and temporary storage facilities to be adequate for anticipated use.
5. Temporary storage facility may be mobile tankers or suitable fixed tanks. Fixed tanks shall be located within secondary containment areas capable of containing 100% of the tank capacity, or 110% of the largest tank where the secondary containment area holds more than one tank. The secondary containment area shall have a permeability of not more than 1.0 x 10-7 cm/sec.
6. The Decontamination pad is to be located at the exit of each contaminated zone such that previously non-contaminated areas are not contaminated during remedial activities.
7. The Contractor shall place a minimum of six (6) inches of sand under the decontamination pad.
8. There shall be side wall panels, six (6) feet high minimum of two sides to prevent overspray.

The Contractor shall clean the decontamination pad after daily use. No contamination shall be left behind. The Contractor will be required to dismantle, remove and properly dispose of the pad at their own expense.

1.15 AIR MONITORING PROGRAM

A. General

The Contractor shall develop, as part of the HASP, an air monitoring program (AMP). The purpose of the AMP is to determine what the proper level of personnel protective equipment is, to document that the level of worker protection is adequate, and to assess the migration of contaminants to off-site receptors as a result of site work. The Contractor shall supply all personnel, equipment, facilities, and supplies to develop and implement the air monitoring program described in this section. Equipment shall include at a minimum real-time aerosol monitors, depending on work activities and environmental conditions. The Contractor's AMP shall include both real-time and documentation air monitoring (personal and area sampling as needed). The purpose of real-time monitoring will be to determine if an upgrade (or downgrade) of PPE is required while performing on-site work and to implement engineering controls,
protocols, or emergency procedures if Contractor-established action levels are encountered.

The Contractor shall also use documentation monitoring to ensure that adequate PPE is being used and to determine if engineering controls are mitigating the migration of contamination to off-site receptors.

Documentation monitoring shall include the collection and analysis of samples for total nuisance dust. To protect the public in the neighboring residential neighborhood, the Contractor must include in the AMP provisions for suspending work and implementing engineering controls based upon detectable odors, as well as upon instrument monitoring results.

During the progress of active work, the Contractor will monitor the quality of the air in and around each active operation with real-time instrumentation prior to personnel entering these areas. Sampling at the work site will be conducted on a continuous basis. Any departures from general background will be reported to the SO prior to entering the area. The SO will determine when and if operations should be shut down.

Air monitoring (both real time and documentation monitoring) shall be conducted by a minimum of one dedicated person with communication to the foreman whenever intrusive activities (such as excavation) are performed in an exclusion zone. After completion of intrusive activities involving contaminated materials and removal of the exclusion zone, air monitoring may be discontinued. Air monitoring equipment will be operated by personnel trained in the use of the specific equipment provided and will be under the control of the SO. A log of the location, time, type and value of each reading and/or sampling will be maintained. Copies of log sheets will be provided on a daily basis to the Construction Manager's on-site representative.

B. Community Air Monitoring

1. Real-time air monitoring, for particulate levels at the perimeter of the work area is necessary. Particulates should be continuously monitored upwind, downwind and within the work area at temporary particulate monitoring stations. If the downwind particulate level is 150 ug/m3 greater than the upwind particulate level, then dust suppression techniques must be employed. All readings must be recorded and be available for Construction Manager's review.
2. The Contractor shall be capable of recording, at a minimum, wind velocity and direction.
3. Action Levels
   The Contractor is responsible for developing level of protection site action levels for organic vapors, particulates, and/or inorganic species. In addition to these on-site action_levels, the following action levels will be established for work area and perimeter monitoring of particulates. If the following levels are attained at the perimeter of the exclusion zone, then work will cease until engineering controls bring levels down to acceptable limits. These levels are general and shall be used as minimum action levels. The Contractor shall develop site specific work area and perimeter monitoring action levels based on contaminants found in the work areas.

Parameter	Action Level	Action
Total particulates	2.5 times background and/or greater than 150 ug/kg	Work ceases until mitigated
Visible Dust	Visible dust as determined by Construction Manager	Work ceases until mitigated
Total Organic Vapors	5 ppm at project perimeter 25 ppm in work zone	Work ceases until mitigated
Odors	Noticeable orders outside the exclusion zone as determined by the Construction Manager	

4. Real-Time Monitoring

The Contractor shall submit a written copy of the real time air monitoring results for each Workday, by 10:00 a.m. the following Workday, which shall include an appropriately scaled map of the Work area depicting sample locations, wind direction and other pertinent meteorological data: date; time; analytical results; applicable standards and engineering controls implemented (necessary).

Real-time monitoring shall be conducted using the following equipment:

Organic vapor photoionizers shall be Photovac TIP, total organic vapor analyzer as manufactured by Photovac International, 739B Park Avenue, Huntington, New York 11743 or equal. The Contractor shall provide one Photovac TIP for each and every hazardous work zone operation. Particulate monitoring must be performed using real-time particulate monitors (MiniRam Model MIEPDM-3, or equal) and shall monitor particulate matter in the range of 0-10 microns diameter (PMIO) with the following minimum performance standards:

Object to be measured: Dust, Mists, Aerosols

Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 ug/m3)

Logged Data: Each Data Point: average concentration, time/date, and data point number

Run Summary: Overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number.

Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes)

Operating Time: 48 hours (fully charged NiMH battery); continuously with Charger

Operating Temperature: -10 to 50EC (14 to 122 EF) Automatic alarms are suggested.

Particulate levels will be monitored and integrated over a period not to exceed 15 minutes. Consequently, instrumentation shall require necessary averaging hardware to accomplish this task. A monitor such as the personal DataRAM, manufactured by Monitoring Instruments for the Environment, Inc., or equivalent, can be used as a real time particulate screening tool. Although the instrument's design does not allow it to make a sharp differentiation of particulates at the PMIO standard, the instrument could be used in the passive mode without a pump to provide readings in the 0.1 to 10u range in the immediate vicinity of construction activities.

Monitor the air, using the same equipment, for 10-15 minutes upwind of the work site to establish background level. The background level shall be established before the start of each shift every day. In the event that downwind particulates are detected at levels in excess of 150 ug/m3 or 2.5 times the established background level at the work site, re-measure the background concentrations upwind of the work zone using the same equipment. If the measured particulate level at the work zone is 100 uglm3 above background, monitor the downwind site perimeter and implement additional dust controls in the work zone. Continue to take hourly measurements of the upwind background concentrations and compare such concentrations with the particulate level at the work zone, until the downwind level at the work zone is less than 100 ug/m3 above the upwind level. If at any time the measured particulate level at the work zone is more than 150 uglm3 over background concentration, the Contractor shall immediately suspend work at the site, promptly notify the Safety Officer, and implement suitable corrective action or engineering controls before work resumes.

Real-time monitoring will be conducted at any excavation of contaminated soil or sediments. Real-time monitoring will also be conducted at perimeter locations including an upwind (background) and three downwind locations. A background reading will be established daily at the beginning of the work shift. If the wind direction changes during the course of the day, a new background reading will be made. Downwind readings at the perimeter will be made when Contractor action levels have been exceeded at the excavation face or at a minimum of twice a day.

If action levels are exceeded at the perimeter location for fugitive dust, work must be suspended and engineering controls must be implemented to bring concentrations back down to acceptable levels.

Construction activities generate dust that could potentially transport contaminants off site. There may be situations when visible dust is being generated and leaving the site and the monitoring equipment does not measure PMIO at or above the action level. Therefore, if dust is observed leaving the working site, the Contractor must employ additional dust suppression techniques.

5. Documentation Monitoring

a. Documentation monitoring will be conducted at the perimeter at a minimum of four locations (one upwind and three downwind) for total dust. Documentation monitoring will be conducted only during excavation, consolidation, staging, removal, or decontamination activities (i.e., intrusive activities).

b. Collect total nuisance dust using PVC collection filter and personnel sampling pump and analyze gravimetrically according to NIOSH 89-127 Method 0500.

c. Documentation samples will be collected at established perimeter locations. The four locations will be chosen according to site activities and expected wind direction.

d. The perimeter locations will be established and marked with high visibility paint or flagging at approximately equidistant points around the site. Samples will be collected at a height of 6 feet above ground surface.

e. Documentation samples will be collected continuously, during the normal work hours when activities are occurring on site. At the end of the week, two samples will be selected by the Construction Manager for analysis.

f. The Contractor shall submit a written copy of the documentation air monitoring results within 7 days of sampling to the Construction Manager, which shall include an appropriately scaled map of the Work area depicting sample locations, wind direction and other pertinent meteorological data: date; time; analytical results; applicable standards and engineering controls implemented (if necessary).

This documentation samples will be collected over an eight (8) hour work period.

1.16 EMERGENCY EQUIPMENT AND FIRST AID REQUIREMENTS

A. Communications

The Contractor shall provide telephone communication at the site field office. Emergency numbers, such as police, sheriff, fire, ambulance, hospital, poison control, NYSDEC, EPA, NYSDOH, and utilities, applicable to this site shall be prominently posted near the telephone. The Contractor shall establish a signaling system for emergency purposes.

B. Emergency Shower and Emergency Eye Wash

The Contractor shall supply and maintain one portable eyewash/body wash facility per active hazardous work zone. The facility shall have a minimum water capacity of 10 gallons and shall conform to OSHA regulations 29 CFR 1910.151.

C. Fire Extinguishers

The Contractor shall supply and maintain at least one fire extinguisher in the Contractor's office and one at each hazardous work zone. The fire extinguisher shall meet OSHA Safety and Health Training Standards 29 CFR 1910.157.

D. First Aid Kit

The Contractor shall supply and locate in his project office and at each and every hazardous work zone one 24-unit (minimum size) "industrial" or "Contractor" first aid kit, required by OSHA requirements 29 CFR 1910.151.

E. Emergency Inventory

In addition to those items specified elsewhere, the SO will maintain the following inventory of equipment and protective clothing for use at the site in the event of emergencies.

a. Washable coveralls:
b. Gloves (outer);
c. Gloves (inner);
d. SCBA;
e. Escape SCBA (authorized visitor use);
f. Face shields;
g. Safety glasses;
h. Respirators and appropriate cartridges;
i. Disposable coveralls;
j. Chemical-resistant boots and latex boot covers;
k. Hard hats;
l. Bottled breathing air; and
m. Rain suits.

1.17 EMERGENCY RESPONSES/CONTINGENCY PLAN AND PROCEDURES

A. Daily Work

During the progress of work, the Contractor will monitor the quality of the air in and around each active operation prior to personnel entering these areas. Sampling shall be conducted on a continuous basis. Based on the air monitoring data, the proper level of protection will be chosen by the SO.

B. Emergency Vehicle Access

In the event that emergency services vehicles (police, fire, ambulance) need access to a location that is blocked by the working crew operations, those operations (equipment, materials, etc.) will be immediately moved to allow those vehicles access. The SO will brief emergency crews as to the site conditions and hazards. All vehicles and personnel will be decontaminated prior to leaving the site.

C. Personal Injury Response Plan

The Contractor shall provide an "Injury Response Plan" as part of the HASP. In cases of personal injuries, the injured person or the crew personnel in charge will notify the SO. The SO will assess the seriousness of the injury, give first aid treatment if advisable, consult by telephone with a physician if necessary, and arrange for emergency transport and hospitalization if required.

D. Route to Hospital

The Contractor shall post in conspicuous places in the Support Zone a map with written directions to the nearest hospital or emergency medical treatment facility.

E. Fire Service

The Contractor will make arrangements to take immediate fire fighting and fire protection measures with the local Fire Chief. If there is a fire, the crewmen or their person in charge will immediately call the SO. The SO will immediately call the fire personnel. The air downwind from any fire or explosion will be monitored immediately in order to protect workers and the nearby community. If personal injuries result from any fire or explosion, the procedures outlined in the Personal Injury Response Plan are to be followed:

F. Master Telephone List

The attached master telephone list will be completed and prominently posted at the field office. The list will have telephone numbers of all project personnel, emergency services including hospital, fire, police, and utilities.

Emergency Service		Telephone Number
Fire Department		911
Police Department		911
Ambulance		911
Hospital/Emergency Care Facility		(716) *
Poison Control Center		(716) 878-7654
Chemical Emergency Advice (CHEMTREC)		(800) 424-9300
NYSDEC Albany Office	Work Hours	(514) 457-7878
	After Hours (leave message)	(888) 459-8667
NYSDEC Buffalo Office	Work Hours	(716) 851-7200

New York State Dept. of Health – Albany	(518) 402-7890
New York State Dept. of Health – Buffalo	(716) 847-4302

Footnote (*) Number to be provided by the Contractor

1.18 HEAT & COLD STRESS MONITORING

Site personnel who wear protective clothing allow body heat to be accumulated with an elevation of the body temperature. Heat cramps, heat exhaustion, and heat stroke can be experienced, which, if not remedied, can threaten life or health. Therefore, an American Red Cross Standard First Aid book or equivalent will be maintained on site at all times so that the SO and site personnel will be able to recognize symptoms of heat emergencies and be capable or controlling the problem.

In addition, heat stress should be monitored and work limited accordingly. Monitoring and work limitation should follow the American Conference of Industrial Hygienist 2005 or later Threshold Limit Values for limiting heat strain and managing heat stress.

This liquid refreshment will be stored in a cooler at the edge of the decontamination zone in plastic squeeze bottles. The plastic bottles will be marked with individual's names. Disposable cups with lids and straws may be used in place of the squeeze bottles. Prior to drinking within the decontamination zone, the project personnel shall follow the following decontamination procedures:

1. Personnel shall wash and rinse their outer gloves and remove them.
2. Personnel shall remove their hard hats and respirators and place them on table.
3. Personnel shall remove their inner gloves and place them on table.
4. Personnel shall wash and rinse their face and hands.
5. Personnel shall carefully remove their personal bottle or cup from the cooler to ensure that their outer clothes do not touch any bottles, cups, etc.
6. The used bottle or cups will not be returned to the cooler, but will be placed in a receptacle or container to be cleaned or disposed of.
7. Personnel shall replace their respirators, hard hats,. gloves and tape gloves prior to reentering the hazardous zone.

When personnel are working in situations where the ambient temperatures and humidity are especially in situations where protection Levels A, B, and C are required - the SO must:

a. Assure that all employees drink plenty of fluids ("Gatorade" or its equivalent);
b. Assure that frequent breaks are scheduled so overheating does not occur; and
c. Revise work schedules, when necessary, to take advantage of the cooler parts of the day (Le., 5:00 a.m. to 1:00 p.m., and 6:00 p.m. to nightfall).

Cold Stress

Whole-body protection shall be provided to all site personnel that have prolonged exposure to cold air. The right kind of protective clothing shall be provided to site personnel to prevent cold stress. The following dry clothing shall be provided by the Contractor as deemed necessary by the SO:

a. Appropriate underclothing (wool or other);
b. Outer coats that repel wind and moisture;
c. Face, head, and ear coverings;
d. Extra pair of socks;
e. Insulated safety boots; and
f. Glove liners (wool) or wind- and water-repellant gloves.

The SO will use the equivalent chill temperature when determining the combined cooling effect of wind and low temperatures on exposed skin or when determining clothing insulation requirements. Site personnel working continuously in the cold are required to warm themselves on a regular basis in the on-site hygiene facility. Warm, sweet drinks will also be provided to site personnel to prevent dehydration. The SO shall follow the work practices and recommendations for cold stress threshold limit values as stated by the 2005 or later Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices by the American Conference of Governmental Industrial Hygienists or equivalent cold stress prevention method.

1.19 CONFINED SPACE ENTRY PROCEDURES

The Contractor shall prepare and implement a written Confined Space Entry program which shall comply with OSHA 29 CFR 1910.146. Contractor shall evaluate the work areas and determine if there are any permit-required confined spaces. If the Contractor determines that personnel will not need to enter a permit-required confined space, appropriate measures shall be taken to prevent personnel from entering such spaces. If the Contractor determines that personnel will need to enter a permit-required confined space, the Contractor shall implement the Confined Space Entry Program.

1.20 SPILL CONTINGENCY PLAN

Contractor shall provide a written (and implement as needed) on-site spill containment program that includes the following minimum requirements:

1. Procedures to help prevent spills from occurring
2. Spill reporting procedure
3. Spill containment equipment list
4. Containment techniques
5. Air monitoring and sampling requirements
6. Personal protective equipment requirements
7. Employee training requirements
8. Decontamination procedures

9. Cleanup and disposal methods
10. Emergency evacuation procedures

1.21 LOGS, REPORTS AND RECORDKEEPING

The Contractor shall keep a daily log of security incidents and visitors granted access to the site will be maintained, as well as a log of all personnel entering and exiting the site. All approved visitors to the site will be briefed by the SO on safety and security, provided with temporary identification and safety equipment, and escorted throughout their visit. Site visitors will not be permitted to enter a hazardous work zone. Project site shall be posted, "Warning: Hazardous Work Area, Do Not Enter Unless Authorized," and access restricted by the use of a snow fence.

A. Safety Log

The Contractor's SO will maintain a bound safety logbook. The log will include all health and safety matters on site and include, but not limited to, the following information:

1. Date and weather conditions on site;
2. A description of the proposed work for the day;
3. Times when site personnel arrive and depart;
4. Air monitoring data;
5. Heat and/or cold stress monitoring;
6. Decontamination procedures;
7. Type and calibration of air sampling/monitoring equipment used;
8. Safety meeting summaries; and
9. Accidents.

B. Emergency or Accident Report

Any emergency or accident will be reported immediately to the SO. The Construction Managerwill also be notified. The Contractor will submit a written report immediately, but no later than 24 hours of its concurrence. The report will include, but not be limited to, the nature of the problem, time, location, areas affected, manner and methods used to control the emergency, sampling and/or monitoring data, impact, if any, to the surrounding community, and corrective actions the Contractor will institute to minimize future occurrences. All spills will be treated as emergencies.

C. Daily Work Report

The Contractor shall maintain a daily work report that summarizes the following:
1. Work performed,
2. Level of protection,
3. Air monitoring results,
4. Safety-related problems, and
5. Corrective actions implemented.

1.22 POSTING REGULATIONS

The Contractor will post signs at the perimeter of the Exclusion Zone that state "Warning, Hazardous Work Area, Do Not Enter Unless Authorized." In addition, a notice directing visitors to sign in will be posted at the project site. Safety regulations and safety reminders will be posted at conspicuous locations throughout the project area. The following safety regulations and safety reminders are at a minimum to be posted around the job site.

SAFETY REGULATIONS

(To be Posted for Project Personnel)

The main safety emphasis is on preventing personal contact with gases, soils, sludge and water. Towards that end, the following rules have been established.

A. Eating, drinking and smoking on the site is PROHIBITED except in specifically designated areas.

B. All project personnel on the site must wear clean or new gloves daily.

C. If you get wet to the skin, you must wash the affected area with soap and water immediately. If clothes in touch with the skin are wet, these must be changed.

D. You must wash your hands and face before eating, drinking or smoking.

E. Observe regulations on washing and removing boots before entering the dressing room or a clean area and showering before going home.

1.23 COMMUNITY PROTECTION PLAN

A. General

Develop, as part of this HASP, a Community Protection Plan (CPP). The CPP shall outline those steps to be implemented to protect the health and safety of surrounding human population and the environment.

B. Air Monitoring

As part of the Air Monitoring Program, use real-time monitoring and documentation sampling as described in the Subpart "Air Monitoring Program" of this section to determine if off-site emission, as a result of site work, poses a threat to the surrounding community.

Provide real-time air monitoring for volatile compounds and particulate levels as the perimeter of the work area as necessary. Include the following:

1. Volatile organic compounds must be monitored at the downwind perimeter of the work area on a continuous basis. If total organic vapor levels exceed 5 ppm above background, work activities shall be halted and monitoring continued

under the provisions of a Vapor Emission Response Plan. All readings shall be recorded and be available for State (DEC & DOH) personnel to review.

2. Particulates shall be continuously monitored at the 4 documentation sampling stations for a total of 4 dust monitors. If the downwind particulate level is 150 $\mu g/m^3$ greater than the upwind particulate level, dust suppression techniques shall be employed. All readings shall be recorded and be available for State (DEC & DOH) personnel to review.

C. Vapor Emission Response Plan

If the ambient air concentration of organic vapors exceeds 5 ppm above background at the perimeter of the work area, activities shall be halted and monitoring continued. If the organic vapor level decreases below 5 ppm above background, work activities may resume. If the organic vapor levels are greater than 5 ppm over the background but less than 225 ppm over background at the perimeter of the work area, activities may resume provided the organic vapor level 200 feet downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over background. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities shall be shutdown. When work shutdown occurs, downwind air monitoring as directed by the SO shall be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission section.

D. Major Vapor Emission Response Plan

Upon activation, the following shall be undertaken:

All Emergency Response Contracts as listed in the Subpart titled "Emergency Response and Contingency Plan" paragraph titled "Telephone List." The local police authorities shall immediately be contacted by the SO and advised of the situation. Coordinate with local officials to arrange for notification and evacuation of the surrounding community.
Frequent air monitoring shall be conducted at 30 minute intervals within the 20 Foot Zone. If two successive readings below action levels are measured, air monitoring say be halted or modified by the SO.

The Air Monitoring Program shall include real-time air monitoring and shall be conducted at the perimeter of the site. Particulates should be continuously monitored upwind, downwind and within the Exclusion Zone at temporary particulate monitoring stations. If the downwind particulate level is more than 2.5 times greater than the upwind particulate level and greater than 150 $\mu g/m^3$, then dust suppression techniques shall be employed. This is a general action level. A site-specific action level shall be developed based on available analytical data.

All readings shall be recorded and be available for Owner's personnel or representatives to review. Coordinate with local officials to arrange for notification and evacuation of the surrounding community in the event that off-site emissions pose a threat.

E. Odor Response Plan

As a contingency, the Contractor shall arrange the appropriate materials and equipment to foam active work areas to reduce odors if odor complaints are received from nearby businesses during site activities. Odor masking agents or other odor control methods may be used subject to Owner's review. Continue odor suppression during each day that odor complaints are received or as directed by Owner.

F. On and Off-site Spill Response

Produce as part of the HASP a Spill Response Plan, also coordinated with local officials, in case of an off-site spill of either liquid or solid wastes. The plan shall include transportation routes and times, as well as the minimum requirements set forth in the Subpart titled "On-Site Spill Containment Plan."

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.1 Contractor shall implement and maintain the HASP and all project-related health and safety requirements for the duration of the project.

END OF SECTION 01135

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SECTION 01150 - MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.1 DESCRIPTION

A. The Contractor shall furnish all labor, material, tools, equipment, utilities, and other services necessary to perform the required work at the lump sum prices for the items listed in the Bid Form.

B. All prices shall include all necessary material, overhead, profit and applicable taxes.

C. The items listed in Paragraphs 1.3 through 1.4 refer to and are the same pay items listed in the bid forms. They constitute all of the pay items in this Contract. No separate or additional payment will be made for any work required by the specifications or drawings unless it is defined as a pay item herein.

1.2 RELATED PROVISIONS SPECIFIED ELSEWHERE

A. General Conditions.

1.3 ITEMS 1.1 through 1.3 – ABATEMENT OF ALL ASBESTOS FROM THE INTERIOR OF STRUCTURES: ROBINSON ADDITION; THORNTON BUILDING; RUSSELL BUILDING; ROBINSON BUILDING ; HUTCHINSON CHAPEL, AND TUNNEL

A. Work Included: In general, Base Bid includes all labor, material, tools, equipment, supervision, permit fees, handling and disposal costs to remove / separate, characterize and dispose of asbestos wastes, decontaminated wastes, and universal wastes. The base bid work shall include the complete abatement of all asbestos and universal/hazardous materials from the interior of the following Contract specified buildings and structures:

1. Robinson Addition (Buildings 2 and 2A)
2. Thornton Building (Building 3A)
3. Russell Building (Building 3B)
4. Robinson Building (Building 4)
5. Hutchinson Chapel (Building 5)
6. Tunnel between Thornton Building (Building 3A) and Hutchinson Chapel (Building 5)

B. Measurement: This item is on a lump sum price basis.

C. Payment: The lump sum bid for this item shall be payment in full for all work detailed in 1.3 A. above broken down into the following phased work elements.

Item No.	Description
1.1	Interior Asbestos Abatement and Removal of Hazardous Waste, Robinson Addition (Buildings 2 and 2A)
1.2	Interior Asbestos Abatement and Removal of Hazardous Waste, Robinson Building (Building 4)
1.3	Interior Asbestos Abatement and Removal of Hazardous Waste, Thornton Building (Building 3A), Russell Building (Building 3B), Hutchinson Chapel (Building 5) and Tunnel

1.4 ADDED ITEMS 2.1 and 2.2: ALTERNATE NO. 1 – COMPLETELY ABATE AND DEMOLISH CANTERBURY BUILDING AND MAINTENANCE BUILDING

A. Alternate No.1 adds complete abatement and demolition of the Canterbury Building (Building 1) and Maintenance Building (Building 6). Alternate No. 1 work shall include the complete abatement of all asbestos and universal/hazardous materials and demolition of the following Contract specified buildings and structures:

1. Canterbury Building (Building 1)
2. Maintenance Building (Building 6).

Alternate No. 1 work shall also include furnishing and installing temporary fencing, terminating utilities, protecting designated utilities, and backfilling to defined grades.

B. Measurement: This item is an Add Alternate on a lump sum price basis.

C. Payment: The lump sum bid for this item shall be payment in full for all work detailed in 1.4 A. above broken down into the following phased work elements.

Item No.	Description
2.1	Complete Abatement of Canterbury Building (Building 1) and Maintenance Building (Building 6)
2.2	Complete Demolition of Canterbury Building (Building 1) and Maintenance Building (Building 6)

1.5 ADDED ITEMS 3.1, 3.2, 4.1, 4.2, 4.3, 5.1, 6.1, 6.2, and 6.3: ALTERNATE NO. 2 - REPAIR DRAINAGE STRUCTURES, INSTALL TEMPORARY FENCING, TERMINATE UTILITIES, COMPLETE REMAINING ASBESTOS ABATEMENT AND COMPLETELY DEMOLISH ROBINSON ADDITION, THORNTON BUILDING, RUSSELL BUILDING; ROBINSON BUILDING, AND TUNNEL, STABILIZATION OF HUTCHINSON CHAPEL, AND SITE FINAL GRADING AND PREPARATION

A. Alternate No.2 adds exterior abatement, abatement of concealed or encapsulated asbestos not abated as part of Phase I, and demolition for the following Contract specified buildings:

1. Robinson Addition (Buildings 2 and 2A)
2. Thornton Building (Building 3A)
3. Russell Building (Building 3B)
4. Robinson Building (Building 4)
5. Tunnel between Thornton Building (Building 3A) and Hutchinson Chapel (Building 5).

Alternate No. 2 work shall also include removal of a closed underground storage tank, site preparation consisting of resetting of catch basins, termination of utilities, protecting remaining utilities, backfilling to defined grades, providing final grading using gravel and soil, replacing sidewalk sections, construction of a landscaped berm, and furnishing and installing temporary and new fencing. Alternate No. 2 work also includes stabilization, providing weather-tight enclosure, and installing a new basement entranceway for the Hutchinson Chapel (Building 5).

B. Measurement: This item is an Add Alternate on a lump sum price basis.

C. Payment: The lump sum bid for this item shall be payment in full for all work detailed in 1.5 A. above broken down into the following phased work elements.

Item No.	**Description**
3.1	Install Temporary Construction Fencing and Complete Remaining Asbestos Abatement
3.2	Repair Drainage Structures and Terminate Utilities
4.1	Demolish Robinson Addition (Buildings 2 & 2A) and Robinson Building (Building 4)
4.2	Demolish Thornton Building (Building 3A), Russell Building (Building 3B), and Tunnel
4.3	Backfill and Compaction of Foundations and Voids
5.1	Weather Tight Protection and Installation of Basement Entrance
6.1	Final Utility Modifications, Final Grading, and Gravel and Soil Cover
6.2	Provide Landscaped Berm
6.3	Replace Sidewalk Sections and Install Permanent Perimeter Fencing and Gates

END OF SECTION 01150

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SECTION 01230 – ALTERNATES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.

2. The cost or credit for each alternate is the net addition to the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. ALTERNATE NO. 1 – COMPLETELY ABATE AND DEMOLISH CANTERBURY BUILDING AND MAINTENANCE BUILDING

This alternate is identified as Alternate No. 1 on the Contract Plans. The Contractor shall provide a lump sum cost to provide all materials, and all plant, labor supplies, equipment, transportation and other facilities necessary or proper for, or incidental to the Work, to complete all Work in strict accord with the Contract Documents and as assigned in the Special Conditions for the abatement and demolition of the structures under Alternate No. 1. The Alternate includes additions to the base bid including complete abatement and demolition of the Canterbury Building (Building 1) and Maintenance Building (Building 6). Alternate No. 1 work shall include the complete abatement of all asbestos and universal/hazardous materials and demolition of the following Contract specified buildings and structures:

1. Canterbury Building (Building 1)
2. Maintenance Building (Building 6).

Alternate No. 1 work shall also include furnishing and installing temporary fencing, terminating utilities, protecting designated utilities, and backfilling to defined grades.

B. ALTERNATE NO. 2 - REPAIR DRAINAGE STRUCTURES, INSTALL TEMPORARY FENCING, TERMINATE UTILITIES, COMPLETE REMAINING ASBESTOS ABATEMENT AND COMPLETELY DEMOLISH ROBINSON ADDITION, THORNTON BUILDING, RUSSELL BUILDING; ROBINSON BUILDING, AND TUNNEL, STABILIZATION OF HUTCHINSON CHAPEL, AND SITE FINAL GRADING AND PREPARATION

This alternate is identified as Alternate No. 2 on the Contract Plans. The Contractor shall provide a lump sum cost to provide all materials, and all plant, labor supplies, equipment, transportation and other facilities necessary or proper for, or incidental to the Work, to complete all Work in strict accord with the Contract Documents and as assigned in the Special Conditions for the abatement, demolition, and site preparation of the structures under Alternate No. 2. Alternate No.2 adds exterior abatement, abatement of concealed or encapsulated asbestos not abated as part of Phase I, and demolition for the following Contract specified buildings:

1. Robinson Addition (Buildings 2 and 2A)
2. Thornton Building (Building 3A)
3. Russell Building (Building 3B)
4. Robinson Building (Building 4)
5. Tunnel between Thornton Building (Building 3A) and Hutchinson Chapel (Building 5).

Alternate No. 2 work shall also include removal of a closed underground storage tank, site preparation consisting of resetting of catch basins, termination of utilities, protecting remaining utilities, backfilling to defined grades, providing final grading using gravel and soil, replacing sidewalk sections, construction of a landscaped berm, and furnishing and installing temporary and new fencing. Alternate No. 2 work also includes stabilization, providing weather-tight enclosure, and installing a new basement entranceway for the Hutchinson Chapel (Building 5).

END OF SECTION 01230

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SECTION 01290 - PAYMENT PROCEDURES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Sections:

1. Division 1 Section "Summary of Work".
2. Division 1 Section “Measurement and Payment”
2. Division 1 Section "Project Management and Coordination" for administrative procedures for handling changes to the Contract.
3. Division 1 Section "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of Contractor's construction schedule.
4. All Division 2, Division 3, and Division 32 specifications.

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.

1. Correlate line items in the schedule of values with other required administrative forms and schedules, including the following:

a. Application for Payment forms with continuation sheets.
b. Submittal schedule.
c. Items required to be indicated as separate activities in Contractor's construction schedule.

2. Submit the schedule of values to Construction Manager at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

B. Format and Content: Use the phased work elements provided in Section 01150 Measurement and Payment and the Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each major task or Specification Section as appropriate.

1. Identification: Include the following Project identification on the schedule of values:

   a. Project name and location.
   b. Name of Engineer.
   c. Contractor's name and address.
   d. Date of submittal.

2. Arrange schedule of values consistent with format of AIA Document G703.

3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:

   a. Related Specification Section or Division.
   b. Description of the Work.
   c. Name of subcontractor.
   d. Change Orders (numbers) that affect value.
   e. Dollar value of the following, as a percentage of the Contract Sum to nearest one hundredth percent, adjusted to total 100 percent.

      1) Labor.
      2) Materials.
      3) Equipment.

4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the phased work elements provided in Section 01150 Measurement and Payment and Project Manual table of contents. Provide multiple line items for principal subcontract amounts where appropriate.

5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.

6. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

   a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.

7. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

8. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

   a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.

9. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by Construction Manager and paid for by Owner.

   1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

C. Application for Payment Forms: Use AIA Document 702 and AIA Document 703 as form for Applications for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Construction Manager will return incomplete applications without action.

   1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
   2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
   3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.

l. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
2. Provide supporting documentation that verifies amount requested, such as paid invoices.
Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
3. Provide summary documentation for stored materials indicating the following:

a. Materials previously stored and included in previous Applications for Payment.
b. Work completed for this Application utilizing previously stored materials.
c. Additional materials stored with this Application.
d. Total materials remaining stored, inc1uding materials with this Application.

F. Transmittal: Submit four (4) signed and notarized original copies of each Application for Payment to Construction Manager by a method ensuring receipt within 3 days. Each copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

G. Waivers of Lien: Complete and submit waivers of Lien forms (Agreement Exhibits K and L) and submit with each Payment Application.

H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of values.
3. Contractor's construction schedule (preliminary if not final).
4. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
5. Products list (if applicable).
6. Schedule of unit prices (if applicable).
7. Submittal schedule (preliminary if not final).
8. Copies of permits.
9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
10. Initial progress report.
11. Report of preconstruction conference.
12. Certificates of insurance and insurance policies.

13. Performance and payment bonds.
14. Data needed to acquire Owner's insurance.

I. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

J. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. Affidavit and Final Waiver of Claims and Liens and Release of Rights.
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01290

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SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION

PART I - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General project coordination procedures.
2. Administrative and supervisory personnel.
3. Coordination drawings.
4. Requests for Information (RFIs).
5. Project meetings.

B. Related Sections:

1. Division I Section "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
2. Division I Section "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

A. RFI: Request from Contractor seeking information from Engineer or Owner during construction.

1.4 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.

2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Pre-demolition conferences.
7. Project closeout activities.

D. Conservation: Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

1.5 COORDINATION DRAWINGS

A. Coordination Drawings, General: Prepare coordination drawings in accordance with requirements in individual Sections where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:

a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
b. Indicate required installation or removal sequences.
c. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Construction Manager indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

B. Submit five (5) copies of each submittal to Construction Manager.

1.6 KEY PERSONNEL

A. Key Personnel Names: Prior to starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.7 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Construction Manager will return RFIs submitted to Construction Manager by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Owner and Engineer.
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms: Form acceptable to Construction Manager.

D. Engineer's Action: Engineer and Construction Manager will review each RFI, determine action required, and respond. Allow 10 calendar days for response for each RFI. RFIs received by or Construction Manager after 1:00 p.m. will be considered as received the following working day.

1. The following RFIs will be returned without action:

a. Requests for approval of submittals.
b. Requests for approval of substitutions.
c. Requests for coordination information already indicated in the Contract Documents.
d. Requests for adjustments in the Contract Time or the Contract Sum.
e. Requests for interpretation of Engineer's actions on submittals.
f. Incomplete RFIs or inaccurately prepared RFIs.

2. Engineer and Construction Manager's action may include a request for additional information, in which case Engineer and Construction Manager's time for response will date from time of receipt of additional information.

3. Engineer and Construction Manager's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 1 Section "Contract Modification Procedures."

a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Construction Manager in writing within 7 calendar days of receipt of the RFI response.

E. On receipt of Construction Manager's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Construction Manager within seven calendar days if Contractor disagrees with response.

F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Contractor may use CSI Log Form 13.2B.

1. Project name.
2. Name and address of Contractor.
3. Name and address of Owner and Engineer.
4. RFI number including RFIs that were dropped and not submitted.
5. FI description.
6. Date the RFI was submitted.
7. Date Engineer's and Construction Manager's response was received.

8. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.8 PROJECT MEETINGS

A. General: Construction Manager will schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Construction Manager will inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Contractor of scheduled meeting dates and times.
2. Agenda: Construction Manager will prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Construction Manager will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Contractor, within five days of the meeting.

B. Preconstruction Conference: Construction Manager will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner, Contractor and Engineer, but no later than 7 days after the Notice to Proceed.

1. Conduct the conference to review responsibilities and personnel assignments.
2. Attendees: Authorized representatives of Owner, Construction Manager, Engineer, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect progress, including the following:

a. Tentative construction schedule.
b. Phasing.
c. Critical work sequencing and long-lead items.
d. Designation of key personnel and their duties.
e. Lines of communications.
f. Procedures for processing field decisions and Change Orders.
g. Procedures for RFIs.
h. Procedures for testing and inspecting.
i. Procedures for processing Applications for Payment.
j. Distribution of the Contract Documents.
k. Submittal procedures.
I. Preparation of record documents.
m. Use of the premises.
n. Work restrictions.
o. Working hours.
p. Owner's occupancy requirements.
q. Responsibility for temporary facilities and controls.

r. Construction waste management and recycling.
s. Parking availability.
t. Office, work, and storage areas.
u. Equipment deliveries and priorities.
v. First aid.
w. Security.
x. Progress cleaning.
y. Safety.

4. Minutes: The Construction Manager will conduct the meeting and record and distribute meeting minutes.

C. Progress Meetings: Construction Manager will conduct progress meetings at regular intervals.

1. Construction Manager will coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner, Construction Manager, and Engineer, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with
Project and authorized to conclude matters relating to the Work.
3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

1) Review schedule for next period.

b. Review present and future needs of each entity present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site utilization.
8) Temporary facilities and controls.

9) Progress cleaning.
10) Quality and work standards.
11) Status of correction of deficient items.
12) Field observations.
13) Status of RFIs.
14) Status of proposal requests.
15) Pending changes.
16) Status of Change Orders.
17) Pending claims and disputes.
18) Documentation of information for payment requests.

4. Minutes: The Construction Manager will record and distribute the meeting minutes to each party present and to parties requiring information.

a. Schedule Updating: Contractor to revise construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule prior to the next meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01310

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SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1- GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Contractor's construction schedule.
2. Daily construction reports.
3. Field condition reports.
4. Special reports.

B. Related Sections:

1. Division 1 Section "Submittal Procedures" for submitting schedules and reports.
2. Division 1 Section "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

B. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.4 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. PDF electronic file.
2. five (5) paper copies.

B. Daily Construction Reports: Submit at weekly intervals.

C. Field Condition Reports: Submit at time of discovery of differing conditions.

D. Special Reports: Submit at time of unusual event.

1.5 QUALITY ASSURANCE

A. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to the preliminary construction schedule and Contractor's construction schedule, including, but not limited to, the following:

1. Review content and format for reports.
2. Verify availability of qualified personnel needed to develop and update schedule.
3. Review and finalize list of construction activities to be included in schedule.
4. Review submittal requirements and procedures.
5. Review procedures for updating schedule.

1.6 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's construction schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from entities involved.
2. Coordinate each construction activity with other activities and schedule them in proper sequence.

PART 2 – PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of final completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Construction Manager.
2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
3. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Construction Manager's administrative procedures necessary for certification of Substantial Completion.
5. Punch List and Final Completion: Include not more than 10 calendar days for punch list and final completion.

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.
2. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division I Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
3. Work Restrictions: Show the effect of the following items on the schedule:

   a. Use of premises restrictions.
   b. Seasonal variations.
   c. Environmental control.

4. Work Stages: Indicate important stages of construction/demolition for each major portion of the Work, including, but not limited to, the following:

   a. Subcontract awards.
   b. Submittals.
   c. Purchases.
   d. Deliveries.
   e. Demolition.

D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.

E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:

1. Unresolved issues.
2. Unanswered RFIs.
3. Rejected or unreturned submittals.
4. Notations on returned submittals.

F. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's construction schedule within 7 days of date established for the Notice to Proceed. Base schedule on the start-up construction schedule and additional information received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1. For construction activities that require three months or longer completing, indicate an estimated completion percentage in 5 percent increments within time bar.

2.3 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain or snow.
7. Accidents.
8. Meetings and significant decisions.
9. Unusual events (refer to special reports).
10. Stoppages, delays, shortages, and losses.
11. Meter readings and similar recordings.
12. Emergency procedures.
13. Orders and requests of authorities having jurisdiction.
14. Change Orders received and implemented.
15. Work Change Directives received and implemented.

16. Services connected and disconnected.
17. Substantial Completions authorized.

B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.4 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 – EXECUTION

A. Contractor's Construction Schedule Updating: update schedule to reflect actual construction progress and activities. Issue schedule update before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate final completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Construction Manager, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 01320

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SECTION 01322 - PHOTOGRAPHIC DOCUMENTATION

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Preconstruction photographs.
2. Periodic construction photographs.
3. Final completion construction photographs.
4. Preconstruction video recordings.

B. Related Sections:

1. Division 1 Section "Submittal Procedures" for submitting photographic documentation.
2. Division 1 Section "Closeout Procedures" for submitting photographic documentation as project record documents at Project closeout.
3. Division 2 Section "Interior Demolition" for photographic documentation before building demolition operations commence.
4. Division 2 Section "Site Clearing" for photographic documentation before site clearing operations commence.

1.3 INFORMATIONAL SUBMITTALS

A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph and video recording.

B. Digital Photographs: Submit image files within seven days of taking photographs.

1. Digital Camera: Minimum sensor resolution of 8 megapixels.
2. Format: Minimum 1600 by 1200 pixels, 400 dpi minimum, in unaltered original files, with same aspect ratio as the sensor, uncropped, date- and time- stamped, in folder named by date of photograph, accompanied by key plan file.
3. Identification: Provide the following information with each image description:

a. Name of Project.
b. Name and contact information for photographer.

c. Name of and Construction Manager.
d. Name of Contractor.
e. Date photograph was taken.
f. Description of vantage point indicating location and direction (by compass point).
g. Unique sequential identifier keyed to accompanying key plan.
Construction Photographs: Submit two prints of each photographic view within seven days of taking photographs.

C. Construction photographs: Submit two prints of each photographic view within seven days of taking photographs.

1. Format: 8-by-10-inch smooth-surface matte prints on single-weight commercial-grade photographic paper, enclosed back to back in clear plastic sleeves that are punched for standard three-ring binder.
2. Identification: On back of each print, provide an applied label or rubber-stamped impression with the following information:

a. Name of Project.
b. Name and contact information for photographer.
c. Name of Construction Manager.
d. Name of Contractor.
e. Date photograph was taken if not date stamped by camera.
f. Description of vantage point, indicating location and direction (by compass point).
g. Unique sequential identifier keyed to accompanying key plan.

D. Video Recordings: Submit video recordings within seven days of recording.

1. Submit video recordings in digital video disc format acceptable to Owner.
2. Identification: With each submittal, provide the following information:

a. Name of Project.
b. Name and address of photographer.
c. Name of Construction Manager.
d. Name of Contractor.
e. Date video recording was recorded.
f. Description of vantage point, indicating location and direction (by compass point).
g. Weather conditions at time of recording.

1.4 QUALITY ASSURANCE

A. Photographer Qualifications: An individual who has been regularly engaged as a photographer of construction projects for not less than three years.

1.5 USAGE RIGHTS

A. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

1.6 COORDINATION

A. Coordinate with the Construction Manager and any archeological photographer engaged separately by the Owner to photograph historical elements of the Thornton Building (Building 3A) and Hutchinson Chapel (Building 5). Photographs for historical documentation may be taken by the archeological photographer within the structures and/or outside of the structures to document the historical setting of the buildings.

PART 2 – PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of 8 megapixels, and at an image resolution of not less than 1600 by 1200 pixels and 400 dpi.

B. Digital Video Recordings: Provide high-resolution, digital video disc in format acceptable to Owner.

PART 3 – EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS

A. Photographer: Engage a qualified photographer to take construction photographs.

B. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.

1. Maintain key plan with each set of construction photographs that identifies each photographic location.

C. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.

1. Date and Time: Include date and time in file name for each image.
2. Field Office Images: Maintain one set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to Construction Manager.

D. Preconstruction Photographs: Before commencement of demolition, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Construction Manager.

1. Take photographs to show existing conditions adjacent to property before starting the Work.
2. Take photographs of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
3. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.

E. Periodic Construction Photographs: Take photographs monthly, with timing each month adjusted to coincide with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.

F. Final Completion Construction Photographs: Take color photographs after date of Substantial Completion for submission as project record documents. Construction Manager will inform photographer of desired vantage points.

G. Additional Photographs: or Construction Manager may request photographs in addition to periodic photographs specified. Additional photographs will be paid for by Change Order and are not included in the Contract Sum.

1. Three days' notice will be given, where feasible.
2. In emergency situations, take additional photographs within 24 hours of request.
3. Circumstances that could require additional photographs include, but are not limited to, the following:

a. Special events planned at Project site.
b. Immediate follow-up when on-site events result in construction damage or losses.
c. Photographs to be taken at fabrication locations away from Project site.
d. Substantial Completion of a major phase or component of the Work.
e. Extra record photographs at time of final acceptance.
f. Owner's request for special publicity photographs.

END OF SECTION 01322

SECTION 01330 - SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

B. Related Sections:

1. Division I Section "Payment Procedures" for submitting Applications for Payment and the schedule of values.
2. Division I Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
3. Division I Section "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

C. Table of Submittals. A Table of Submittals is provided for convenience at the end of this Section. Contractor shall provide all submittals listed on the table and shall also provide all other submittals not listed or omitted from the list that are identified in or required by provisions of the Contract, including General and Supplementary Conditions and other all other Division 1, Division 2, Division 3, or Division 32 Specification Sections.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Engineer's and Construction Manager's responsive action.

B. Informational Submittals: Written and graphic information and physical samples that do not require Engineer's and Construction Manager's responsive action. Submittals may be rejected for not complying with requirements.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. General: Electronic copies of CAD Drawings of the Contract Drawings will be provided by Engineer for Contractor's use in preparing submittals, if requested.

1. Contractor shall provide five (5) copies of each submittal.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
   1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
   2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination. .

      a. Engineer and Construction Manager reserve the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Construction Manager's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

   1. Initial Review: Allow minimum of 10 calendar days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required.
   2. Construction Manager will advise Contractor when a submittal being processed must be delayed for coordination.
   3. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
   4. Resubmittal Review: Allow 7 calendar days for review of each resubmittal.

D. Identification and Information: Contractor shall use Submittal Form CM 103 under Special Conditions for all submittals.

   1. Indicate name of firm or entity that prepared each submittal on label or title block.
   2. Include the following information for processing and recording action taken:

      a. Project name.
      b. Date.
      c. Name of Contractor.
      d. Name of subcontractor.
      e. Submittal number or other unique identifier, including revision identifier.
      f. Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 06100.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 06100.01.A).
      g. Number and title of appropriate Specification Section.
      h. Drawing number and detail references, as appropriate.
      i. Other necessary identification.

E. Deviations: Identify deviations from the Contract Documents on submittals.

F. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Engineer or Construction Manager observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Engineer and Construction Manager.

G. Transmittal: Contractor shall use transmittal form CM103 which can be obtained from the Construction Manager.

H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked as approved.

I. Distribution: Furnish copies of final submittals to authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

J. Use for Construction: Use only final submittals that are marked approved.

PART 2 – PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections.

1. Submit "Contract Labor Rate Worksheet" on sample form CM 102 under the Special Conditions section.
2. Action Submittals: Submit five (5) paper copies of each submittal, unless otherwise indicated through the Construction Manager.
3. Informational Submittals: Submit five (5) paper copies of each submittal, unless otherwise indicated.
4. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division I Section "Closeout Procedures."
5. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.

b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

6. Test and Inspection Reports Submittals: Comply with requirements specified in Division I Section "Quality Requirements."

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:
   a. Manufacturer's catalog cuts.
   b. Manufacturer's product specifications.
   c. Standard color charts.
   d. Statement of compliance with specified referenced standards.
   e. Testing by recognized testing agency.
   f. Application of testing agency labels and seals.
   g. Notation of coordination requirements.
   h. Availability and delivery time information.
4. For equipment, include the following in addition to the above, as applicable:
   a. Wiring diagrams showing factory-installed wiring.
   b. Printed performance curves.
   c. Operational range diagrams.
   d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
5. Submit Product Data before or concurrent with Samples.
6. Submit Product Data in the following format:
   a. Five (5) paper copies of Product Data, unless otherwise indicated. Engineer, through Construction Manager, will return two copies.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

   a. Identification of products.
   b. Schedules.
   c. Compliance with specified standards.
   d. Notation of coordination requirements.
   e. Notation of dimensions established by field measurement.
   f. Relationship and attachment to adjoining construction clearly indicated.
   g. Seal and signature of professional engineer if specified.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 24 by 36 inches.
3. Submit Shop Drawings in the following format:

    a. Five (5) opaque copies of each submittal. Engineer and Construction Manager will retain two copies; remainder will be returned.

D. Samples: Submit Samples for review.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:

    a. Generic description of Sample.
    b. Product name and name of manufacturer.
    c. Sample source.
    d. Number and title of applicable Specification Section.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location.

1. Submit product schedule in the following format:

    a. Five (5) paper copies of product schedule or list, unless otherwise indicated. Engineer, through Construction Manager, will return two copies.

F. Contractor's Construction Schedule: Comply with requirements specified in Division 1 Section "Construction Progress Documentation."

G. Application for Payment: Comply with requirements specified in Division I Section "Payment Procedures."

H. Schedule of Values: Comply with requirements specified in Division I Section "Payment Procedures."

I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.
4. Submit subcontract list in the following format:

a. Number of Copies: Five (5) paper copies of subcontractor list, unless otherwise indicated. Engineer, through Construction Manager, will return two copies.

J. Coordination Drawings: Comply with requirements specified in Division I Section "Project Management and Coordination."

K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of engineers and owners, and other information specified.

L. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on American Welding Society (AWS) forms. Include names of firms and personnel certified.

M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

R. Product Test Reports: Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

S. Schedule of Tests and Inspections: Comply with requirements specified in Division 1 Section "Quality Requirements."

T. Field Test Reports: Submit reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

U. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

PART 3 – EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Engineer and Construction Manager.

B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Division 1 Section "Closeout Procedures."

C. Approval Stamp or Equivalent: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ENGINEER'S AND CONSTRUCTION MANAGER'S ACTION

A. General: Engineer and Construction Manager will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Engineer and Construction Manager will review each submittal, make marks to indicate corrections or modifications required, and return it. Engineer and Construction Manager will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.

C. Informational Submittals: Engineer and Construction Manager will review each submittal and will not return it, or will return it if it does not comply with requirements. Engineer and Construction Manager will forward each submittal to appropriate party.

D. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

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SECTION 01400 - QUALITY REQUIREMENTS

PART 1-GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality assurance and -control procedures that facilitate compliance with the Contract Document requirements.

C. Related Sections:

1. Division 1 Section "Construction Progress Documentation" for developing a schedule of required tests and inspections.
2. Divisions 1 through 3 Sections for specific test and inspection requirements.

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Engineer or Construction Manager.

C. Preconstruction Testing: Tests and inspections performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.

D. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

E. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.

F. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

H. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade or trades.

I. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Engineer for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Engineer for a decision before proceeding.

1.5 INFORMATIONAL SUBMITTALS

A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.

B. Contractor's Quality-Control Manager Qualifications: For supervisory personnel.

C. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work.

D. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

E. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Specification Section number and title.
2. Entity responsible for performing tests and inspections.
3. Description of test and inspection.
4. Identification of applicable standards.
5. Identification of test and inspection methods.
6. Number of tests and inspections required.
7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

1.6 CONTRACTOR'S QUALITY-CONTROL PLAN

A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice to Proceed. Submit in format acceptable to Construction Manager. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.

B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.

C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.

D. Testing and Inspection: Include in quality-control plan a comprehensive schedule of Work requiring testing or inspection.

E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.

F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.7 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: (As Applicable) Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and re-inspecting.

B. Manufacturer's Technical Representative's Field Reports: (As Applicable) Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

C. Factory-Authorized Service Representative's Reports (As Applicable): Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Statement whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.8 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to' practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for ,this Project.

1. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.9 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
2. Payment for these services will be made from testing and inspecting allowances, as authorized by Change Orders.
3. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.

2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

    a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 1 Section "Submittal Procedures."

D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in pre-installation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

E. Retesting/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that replaced Work that failed to comply with the Contract Documents.

F. Testing Agency Responsibilities: Cooperate with Engineer, Construction Manager Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Construction Manager and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.10 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Engage a qualified testing agency and/or special inspector as applicable to conduct special tests and inspections required by authorities having jurisdiction.

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 TEST AND INSPECTION LOG

A. Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Engineer.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Engineer's and Construction Manager's reference during normal working hours.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01400

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SECTION 01410 - TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. The Construction Manager will employ the services of an independent testing laboratory, subject to the approval of the Owner, to perform certain testing as specified herein, unless noted otherwise.

B. The Owner will pay for the services of an independent testing laboratory to perform specified backfill compaction testing or as deemed necessary by the Construction Manager.

1. Contractor shall cooperate with the laboratory to facilitate the execution of its required services.
2. Employment of the laboratory shall in no way relieve Contractor's obligations to perform the work of this contract.

C. The Contractor will be required to compensate the Owner for any/all retesting that would be required due to failure of initial testing where specified requirements were not met.

1.2 RELATED REQUIREMENTS

A. General Conditions of the Contract:

1. Inspections and testing required by laws, ordinances, rules, regulations, orders or approvals of public authorities.

B. Respective Sections of specifications: Certification of products.

C. Testing laboratory inspection, sampling and testing is required for, as appropriate to project:

1. Section 02200 - Earthwork
2. Section 02486 - Finish Grading

1.3 QUALIFICATION OF LABORATORY

A. Meet Recommended Requirements for Independent Laboratory Qualifications published by American Council of Independent Laboratories.

B. Meet basic requirements of ASTM E329, Standards of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction.

C. Authorized to operate in the State of New York.

D. Testing equipment:

1. Calibrated at reasonable intervals by devices of accuracy traceable to either:
   a. National Bureau of Standards
   b. Accepted values of national physical constants.

1.4 LABORATORY DUTIES

A. Cooperate with Owner/Owner Representative and Contractor. Provide qualified personnel after due notice.

B. Perform specified inspections, sampling and testing of materials and methods of construction:

1. Comply with specified standards.
2. Ascertain compliance of materials with requirements of Contract Documents.

C. Promptly notify Owner/Owner Representative and Contractor of observed irregularities or deficiencies of work or products.

D. Promptly submit written report of each test and inspection. One copy each to Owner/Owner Representative and Contractor. Each report shall include:

1. Date issued.
2. Project title and number.
3. Testing laboratory name, address and telephone number.
4. Name and signature of laboratory inspector.
5. Date and time of sampling or inspection.
6. Record of temperature and weather conditions.
7. Date of test.
8. Identification of product and specification section.
9. Location of sample or test in the project.
10. Type of inspection or test.
11. Results of tests and compliance with Contract Documents.
12. Interpretation of test results when requested by Owner/Owner Representative.

E. Perform additional tests as required by Owner/Owner Representative.

1.5 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY

A. Laboratory is not authorized to:

1. Release, revoke, alter or enlarge on requirements of Contract Documents.
2. Approve or accept any portion of the work.
3. Perform any duties of the Contractor.

1.6 CONTRACTOR'S RESPONSIBILITIES

A. Cooperate with laboratory personnel; provide access to work to manufacturer's facilities.

B. Secure and deliver to the laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.

C. Provide to the laboratory the preliminary design mix proposed to be used for concrete and other material mixes which require control by the testing laboratory.

D. Furnish copies of products test reports as required.

E. Furnish incidental labor and facilities:

1. To provide access to work to be tested.
2. To obtain and handle samples at the project site or at the source of the product to be tested.
3. To facilitate inspections and tests.
4. For storage and curing of test samples.

F. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

PART 2 - GENERAL

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION 01410

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SECTION 01420 – REFERENCES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Engineer's action on Contractor's submittals, applications, and requests, "approved" is limited to Engineer's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Engineer or Construction Manager. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown,"· "noted," "scheduled" and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent/limit of Project site is shown on Drawings and mayor may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01420

SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

B. Related Sections:

1. Division 1 Section "Summary".
2. All Division 2, Division 3, and Division 32 Sections.

1.3 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner, Engineer, Construction Manager, testing agencies, and authorities having jurisdiction.

B. Sewer Service: Pay sewer service use charges for sewer usage by all entities for construction operations.

C. Water Service: Pay water service use charges for water used by all entities for construction operations.

D. Electric Power Service: Pay electric power service use charges for electricity used by all entities for construction operations.

1.4 SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

B. Erosion and Sedimentation Control Plan: Show compliance with requirements of authorities having jurisdiction.

C. Dust/Noise Control Plan: Submit coordination drawing and narrative that indicates the dust and noise control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:

1. Locations of dust control partitions at each phase of the work.
2. Other dust and noise control measures.
3. Waste management plan.

D. Rodent Control: Submit documentation on company providing rodent control along with a detailed plan on control methods and approach.

1.5 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.6 PROJECT CONDITIONS

A. Temporary Use of Facilities: Contractor and his installer of each temporary service to assume responsibility for operation, maintenance, and protection of each service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Chain-Link Fencing: Provide materials to maintain existing perimeter fencing through the demolition phase of the Project and provide temporary fencing as specified by Contract Drawings before demolition is initiated and maintain until all basements are backfilled.

2.2 TEMPORARY FACILITIES

A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading. Provide separate field offices for Contractor and CM use.

B. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Engineer, Construction Manager and construction personnel office activities and to accommodate project meetings specified in other Division 1 Sections. Provide office

cleaning services and supplies as needed upon request. Furnish and equip offices as per Specification 01592 Construction Manager's Office Trailer.

C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

1. Store combustible materials apart from building.

2.3 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system; provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
2. Heating Units: Listed and labeled for type of fuel being consumed, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

PART 3 – EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

1. Locate facilities to limit site disturbance as specified in Division 1 Section "Summary."

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.

1. Connect temporary sewers to municipal system as directed by authorities having Jurisdiction.

C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction. Prevent service from freezing.

D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

E. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

F. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity.

G. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.

1. Install electric power service unless otherwise indicated.

H. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

I. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install one telephone line for each common office.

1. Provide additional telephone lines for the following:

a. Provide a dedicated telephone line for each facsimile machine and computer in each field office.
b. Provide one telephone line for Owner’s use.

2. At each telephone, post a list of important telephone numbers.

a. Police and fire departments.
b. Ambulance service.
c. Contractor's home office.
d. Engineers' offices.
e. Owner's office.
f. Principal subcontractors' field and home offices.

3. Provide superintendent with cellular telephone or portable two-way radio for use when away from field office.

J. Electronic Communication Service: Provide electronic communication service, including electronic mail, in common use facilities.

K. Provide DSL or T-I in primary field office.

L. Comply with all OSHA Standards and Regulations.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
2. Maintain support facilities until near Substantial Completion inspection. Remove before Substantial Completion.

B. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations.

1. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.

C. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

D. Parking: Provide temporary parking areas for Owner, Construction Manager, Engineer and visitors.

E. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
2. Remove snow and ice as required to minimize accumulations.
3. Pump and properly discharge water from the buildings basements and subbasements as per the requirements of the Buffalo Sewer Authority and authorities having jurisdiction. Contractor is responsible for all related costs.

F. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having

jurisdiction. Comply with Division 1 Section "Execution Requirements" for progress cleaning requirements.

G. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

H. Temporary Elevator Use: Use of elevators is not permitted.

I. Temporary Stairs: Provide temporary stairs where ladders are not adequate.

3.4 ENVIRONMENTAL PROTECTION AND SECURITY OF FACILITY

A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Division 1 Section "Summary."
2. Comply with all applicable federal, state and local rules and regulations.

B. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to erosion and sedimentation control Drawing and requirements of authorities having jurisdiction.

C. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains. Contractor shall comply with Buffalo Sewer Authority permit requirements.

D. Tree and Plant Protection (if applicable): Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

E. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Obtain extended warranty for Owner. Perform control operations lawfully, using environmentally safe materials.

F. Site Enclosure Fence: Preserve and maintain existing site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates. Install temporary fencing in accordance with Contract Drawings.

1. Extent of existing and temporary fencing: As indicated on Contract Drawings.

2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.
3. Remove and recycle or dispose of the existing and temporary fencing after all basements have been backfilled during rough grading or as approved by the Construction Manager. New perimeter fencing shall be installed, concurrently with or following final grading as approved by the Construction Manager, in accordance with Contract Drawings and Section 02821.

G. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction.

H. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

I. Temporary Egress: Maintain temporary egress from existing occupied facilities as required by authorities having jurisdiction.

J. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.

K. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.

1. Prohibit smoking in construction areas.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
4. Provide suitable fire extinguishers, temporary standpipes and hoses for fire protection.

L. Snow removal: Contractor is responsible for removing snow and ice at the Project Site to the extent that that removal: 1) provides adequate parking for the Contractor’s workers, Owner, and Construction Manager; 2) allows safe ingress and egress to all work areas; and 3) is adequate to enable work to proceed without delay.

M. Lawn Maintenance: The existing lawn areas, unless undergoing grading, shall be maintained at a level of 2- to 4-inches in length until final grading is complete.

3.5 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Termination and Removal: Remove each temporary facility when need for its service has ended or no later than Substantial Completion. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 1 Section "Closeout Procedures."

END OF SECTION 01500

SECTION 01520 - CONSTRUCTION AIDS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Design, furnish, install and maintain required Temporary Shoring and Construction Aids.

B. Remove on completion of Work.

1.2 RELATED SECTIONS

A. Related Sections:

1. Section 01010-Summary of Work
2. Section 01330-Submittal Procedures
3. Section 02086-Excavation of Contaminated Soil
4. Section 02221-Building Demolition
5. Section 02260-Excavation Support and Protection

1.3 PERFORMANCE REQUIREMENTS

A. Furnish, install, monitor, and maintain temporary shoring and protection system capable of supporting superimposed and construction loads anticipated throughout the demolition work.

1. Design temporary shoring and protection system, including comprehensive engineering analysis by a qualified professional engineer.
2. Submit design calculations prior to any work.
3 Install shoring systems without damaging existing structures.
4. Maintain temporary shoring throughout the life of the project.
5. Monitor vibrations, settlements, and movements.

1.4 SUBMITTALS

A. Shop Drawings: For temporary shoring system including comprehensive engineering analysis by a qualified professional engineer registered in the State of New York.

B. Other Informational Submittals:

1. Show existing conditions of adjacent construction and site improvements that might be misconstrued as damage caused by the absence of, the installation of, or the performance of excavation support and protection systems. Submit for review and approval before Work begins.

1.5 QUALITY ASSURANCE

A. Pre-installation Conference: Conduct conference at Project site

1. Review methods and procedures related to temporary shoring support system including, but not limited to, the following:
   a. Existing conditions.
   b. Proposed approach to demolition work.
   c. Proposed equipment.
   d. Monitoring of shoring system.
   e. Working area location and stability.
   f. Removal of temporary shoring system.

1.6 PROJECT CONDITIONS

A. Interruption of Existing Utilities: Do not interrupt any utility serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility according to requirements indicated:

1. Notify Construction Manager no fewer than 7 days in advance of proposed interruption of utility.
2. Do not proceed with interruption of utility without Construction Manager's written permission.

B. Monitoring: Promptly notify Construction Manager if changes in elevations or positions occur or if cracks, sags, or other damage is evident.

PART 2 -PRODUCTS

2.1 MATERIALS, GENERAL

A. Materials MAY BE new or used, suitable for the intended purpose, but MUST NOT violate requirements of applicable codes and standards.

2.2 CONSTRUCTION AIDS

A. Provide construction aids and equipment required by personnel and to facilitate execution of the Work; scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes and other such facilities and equipment.

B. Refer to respective sections for particular requirements for each trade.

C. Maintain facilities and equipment in first-class condition.

2.3 TEMPORARY SHORING

A. Provide temporary shoring within all levels of the parking garage and service tunnel to accommodate construction loadings imposed on the structures from the demolition work.

2.4 TEMPORARY ENCLOSURES

A. Enclosures shall be removable as necessary for work and for handling of materials.

PART 3 - EXECUTION

3.1 PREPARATION

A. Consult with the Owner's Construction Manager to review site conditions and factors which affect construction procedures and construction aids, including adjacent properties which may be affected by execution of the Work.

3.2 GENERAL

A. Comply with applicable requirements specified in sections of Division 2 through 7.

B. Relocate construction aids as required by progress of construction, by storage or work requirements, and to accommodate legitimate requirements of Owner and other contractors employed at the site.

3.3 REMOVAL

A. Completely remove temporary materials, equipment and services:

1. When construction needs can be met by use of permanent construction.

2. At completion of Project.

B. Clean, repair damage caused by installation or by use of temporary facilities.

1. Remove foundations and underground installations for construction aids.

2. Grade areas of site affected by temporary installations to required elevations and slopes, and clean the area.

C. Restore existing facilities used for temporary purposes to specified, or to original, condition.

END OF SECTION 01520

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SECTION 01524 - CONSTRUCTION WASTE MANAGEMENT

PART I – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Disposing of nonhazardous demolition and construction waste.

B. Related Sections:

1. Division 2 Section "Building Demolition" for disposition of waste resulting from demolition of buildings, structures, and site improvements.
2. Division 2 Section "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.3 DEFINITIONS

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into other Work.

1.4 PERFORMANCE REQUIREMENTS

A. The Contractor is solely responsible for costs and to comply with all current federal, state and, local regulations concerning waste characterization, waste handling, transportation and proper disposal of all waste generated from this project. Contractor is responsible to characterize waste as hazardous, non-hazardous or otherwise regulated and shall employ methods including testing of composite samples of waste material (through Toxic Characteristic Leachate Potential (TCLP) or other suitable protocols). Copies of all information and reports shall be provided to the Construction Manager.

1.5 ACTION SUBMITTALS

A. Waste Management Plan: Submit plan within 10 calendar days of date established for the Notice to Proceed.

1.6 INFORMATIONAL SUBMITTALS

A. Waste Characterization Reports or information classifying waste as hazardous or nonhazardous.

B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.

C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.

D. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.

E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

F. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.7 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:

1. Review and discuss waste management plan including responsibilities of waste management coordinator.
2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

1.8 WASTE MANAGEMENT PLAN

A. General: Develop a waste management plan according to requirements of this Section. Plan shall consist of waste identification, characterization, and means to establish quantities by weight or volume.

B. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

C. List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator.

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

1. Comply with Division I Section "Temporary Facilities and Controls" for operation, termination, and removal requirements.

B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan. Coordinator shall be present at Project site full time for duration of Project.

C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the work occurring at Project site.

1. Distribute waste management plan to everyone concerned within three days of submittal return.
2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials.
2. Comply with Division I Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Transport waste materials off Owner's property and legally dispose of them.

END OF SECTION 01524

SECTION 01563 - EMERGENCY SPILL CONTROL

PART 1 - GENERAL

1.1 SCOPE

A. This Section specifies requirements applicable to the establishment and implementation of a comprehensive Emergency Spill Control Plan for any and all Contractor-generated spills.

1. A spill is defined, for the purpose of this Section, as being a release to the environment of any quantity of gasoline, diesel fuel, oil, or any other potentially hazardous substance, controlled or uncontrolled, that warrants immediate and appropriate response to that event to immediately contain and control the event for the protection of the environment.

1.2 GENERAL REQUIREMENTS

A. The Contractor's methods, means, and facilities shall prevent new or further contamination of soil, surface water, groundwater, atmosphere, structures, equipment, or material by spills resulting from the Contractor's operations.

B. The Contractor shall prevent spills from contaminating soil, surface water, groundwater, atmosphere, structures, equipment, and construction materials.

C. Off-site disposal facilities shall be required for liquid spills. The Contractor shall bear the costs of all disposal.

D. The Contractor shall provide all required equipment and personnel to perform emergency measures necessary to contain any on-site spills and to dispose spilled materials and associated contaminated material (e.g., soil, debris, and similar materials) to approved disposal areas. The collected on-site spill and contaminated material shall be segregated from other material onsite, properly handled, and disposed in approved areas and in accordance with Federal and state regulations at no expense to the Owner.

E. Off-site (transportation related) spills of decontamination water and other liquid wastes shall be handled as per the approved Emergency Spill Control Plan. The Plan may consider use of subcontractors to control, contain, remove, and dispose the off-site spills and resulting debris.

F. The Contractor shall provide equipment and personnel to perform decontamination measures that may be required to remove spillage from previously uncontaminated structures, equipment, or material. Decontamination residues shall be properly disposed of in approved manner at no expense to the Owner.

G. In the event of a spill, the Contractor shall, at a minimum, take the following actions:

1. Take immediate approved measures to control and contain the spill.

2. Immediately, or at the first available instance, notify the Construction Manager.

3. Immediately, or at the first available instance, notify any applicable regulatory agencies. Contractor is responsible for making all official notifications within the required timeframes and informing the Construction Manager when regulatory notifications have been made.

4. Take necessary approved steps to clean up the spill including spilled material and any materials contaminated by the spill.

5. Notify the Construction Manager of action taken to mitigate off-site spills.

6. Perform decontamination as required and approved.

1.3 SUBMITTALS

A. The Contractor shall submit a comprehensive Emergency Spill Control Plan that includes, but is not limited to, the following components for approval by the Owner and Construction Manager.

B. The Contractor's Emergency Spill Control Plan shall include, but is not limited to, the following:

1. Assess and report on the availability, location, and amount of spill control equipment and clean-up materials.

2. Training of personnel in spill control.

3. Contingency plan for on-site spills.

4. Contingency plan for off-site spills.

5. Identify off-site and on-site disposal areas.

C. Spill Event Procedures:

1. Decontamination Procedures: Decontamination procedures may be required after cleanup to eliminate traces of the substance spilled or reduce it to an acceptable level.

a. The acceptable level will be subject to approval by the Owner and Construction Manager or, if the spill meets regulatory reporting criteria, the acceptable level will be subject to approval by the Owner and

Construction Manager and the New York State Department of Environmental Conservation and/or other applicable regulatory.

b. Complete cleanup may require on-site or off-site disposal of contaminated materials.

c. Personnel decontamination shall include showers and cleansing or disposing of clothing and equipment.

d. All contaminated materials including solvents, cloth, soil, and wood that cannot be decontaminated shall be properly containerized, labeled, and properly disposed as soon as possible in accordance with applicable Federal and State Laws, and with the approved Emergency Spill Control Plan.

2. Spill Incident Report: A written report detailing the spill or discharge shall include at a minimum, the nature and quantity of material spilled, the cause and resolution of incident, outside agencies involved, and date occurred.

a. The report shall be submitted to the Construction Manager within 24 hours of the incident.

b. The Contractor shall document on the drawings all spills and submit as part of the Record Drawings to the Construction Manager at project completion.

3. Notification: The Construction Manager and Contractor's Superintendent shall be notified immediately of a spill or discharge.

a. If human health or the environment is threatened, as judged by the Construction Manager, or if any other regulatory reporting criteria has been triggered, the Contractor shall immediately contact the agencies as listed in the Task Specific Waste Management and Spill Control and Response Plan, and as otherwise appropriate.

D. The Contractor shall submit Spill Incident Reports as required.

PART 2-PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION 01563

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SECTION 01570 - TRAFFIC REGULATION

PART 1 – GENERAL

1.1 BACKGROUND

A. This section provides specifications for regulation of traffic onsite and on neighboring roadways during construction and demolition activities. The work zone during demolition of the Canterbury Building will extend into Massachusetts Avenue.

1.2 SECTION INCLUDES

A. Construction parking control.

B. Flag persons.

C. Flares and lights.

D. Haul routes.

E. Traffic signs and signals.

F. Removal.

1.3 RELATED SECTIONS

A. Section 01010 - Summary of Work

B. Section 01500 - Construction Facilities and Controls

C. Section 01520 – Construction Aides

1.4 LOCAL REQUIREMENTS

A. Contractor shall coordinate both pedestrian and vehicular traffic control with the City of Buffalo (City) and Construction Manager prior implementing any traffic control measures. Contractor shall meet all requirements imposed by the City and shall not perform any work requiring pedestrian or vehicular regulation without providing the Construction Manager with evidence of City approval of the Traffic Control Plan.

1.5 SUBMITTALS

A. Within 7 days prior to the pre-construction conference, the Contractor shall submit 3 copies of a Traffic Control Plan for safe control of traffic along Massachusetts Avenue during the demolition of the Canterbury Building.

PART 2 – PRODUCTS

2.1 SIGNS, SIGNALS, AND DEVICES

A. Post Mounted and Wall Mounted Traffic Control and Informational Signs:

B. Traffic Control Signals: As approved by local jurisdictions.

C. Traffic Cones and Drums, Flares and Lights: As approved by local jurisdictions.

D. Flagman Equipment: As required by local jurisdictions.

PART 3 – EXECUTION

3.1 CONSTRUCTION PARKING CONTROL

A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and Owner's operations.

B. Monitor parking of construction personnel's vehicles. Maintain vehicular access to and through parking areas.

C. Prevent parking on or adjacent to access roads or in non- designated areas.

3.2 FLAGPERSONS

A. Provide trained and equipped flag persons to regulate traffic when demolition or construction operations or traffic encroach on public traffic lanes.

3.3 FLARES AND LIGHTS

A. Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.

3.4 HAUL ROUTES

A. Consult with authority having jurisdiction, establish public thoroughfares to be used for haul routes and site access.

B. Confine construction traffic to designated haul routes.

C. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.

3.5 TRAFFIC SIGNS AND SIGNALS

A. At approaches to site and on site, install at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.

B. Install and operate [automatic] traffic control signals to direct and maintain orderly flow of traffic in areas under Contractor's control, and areas affected by Contractor's operations.

C. Relocate as Work progresses, to maintain effective traffic control.

3.6 REMOVAL

A. Remove equipment and devices at Substantial Completion.

B. Repair damage caused by installation.

C. Remove post and any supporting attachments.

END OF SECTION 01570

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SECTION 01592 - CONSTRUCTION MANAGERS OFFICE TRAILER

PART 1 – GENERAL

1.1 SECTION INCLUDES

A. Furnishing, installing, maintaining and removing one rented "office trailer" for the use of the Construction Manager for the duration of the project. Contractor shall include all costs for equipment and services in its base lump sum bid price.

B. The office and its utilities services, furnishings and equipment shall be completely installed, connected, and in proper operating conditions as specified, and ready for occupancy by the Construction Manager within seven (7) calendar days after receipt of Notice of Proceed.

1. The office shall be maintained and serviced until 120 days after final acceptance of the work at which time the office shall be removed from the work site.
2. At the expiration of the above-specified time, all the trailer utilities and service shall become the property of the Contractor and shall be removed from the site. Disconnecting, capping and repair work resulting from such removal shall be performed by the Contractor at no additional cost to ESD.

1.2 LOCATION

The office shall be installed adjacent to the work area at a location designated by the Construction Manager. The Contractor is responsible for obtaining all permits required to install the trailer in this location

1. The trailer shall be tied down to withstand 100 mph winds.

1.3 SUBMITTALS

The Contractor shall submit for approval of the Construction Manager the following submittals:

A. Trailer layout drawing complete with dimensions showing trailer interior features, equipment and furnishings.

B. Equipment and furnishings catalog cuts.

PART 2 – PRODUCTS

2.1 CONSTRUCTION AND MATERIALS

A. The Contractor shall obtain and pay all costs for hauling, building and connecting permits. Materials shall be good commercial quality. Office and furnishings shall be new and unused. The trailer shall have minimum dimensions of 10’ x 40’. The trailer shall have dimensions compatible with the selected location.
   1. Exterior and interior surfaces, other than factory finished, shall be painted with two coats of approved paint.
      a. The side of the trailer shall bear the following legend in black block letters bordered with white directly on the trailer wall, or on a securely mounted MDO-plywood substrate:
         EMPIRE STATE DEVELOPMENT – 3- 1/2”
         CONSTRUCTION MANAGER’S OFFICE – 2-1/2”
      b. The front of the trailer shall bear the following in 3-1/2” “black letters”
         TRAILER NO. *
   2. Exterior walls, ceilings and floors shall be insulated. Interior walls and ceiling surfaces shall be paneled with ¼” thick finished plywood.
   3. Floors shall be constructed to withstand live load of 125 psf and shall be covered with vinyl sheeting or tile, complete vinyl, or rubber wall base.
   4. Lighting shall be provided to furnish a minimum of 100’ candles at desk height uniformly in all areas except restrooms. Restrooms shall be provided with adequate lighting.
   5. Duplex electrical receptacles shall be provided around interior walls at approximately 10’ spacing.
   6. A water cooler with refrigerator (bottled water) shall be installed for furnishing hot and cold water. Fountain shall be similar to “Oasis” Model DP3RH, or approved equal.
   7. Heating, air conditioning and telephone:
      a. The heating system shall consist of a thermostatically-controlled electric heater capable of maintaining 68 F in all areas.
      b. The air conditioning system shall be capable of maintaining 72 F in all areas.
      c. The Contractor shall pay all costs for installation of wireless communication service, including:
         1.) Three incoming service lines: one fax, one phone, and one modem
         2.) One desk phone
         3.) One wall phone

      Telephone services shall continue for a period of 120 days past occupancy

   8. Doors and windows shall be provided with-mesh security screens and aluminum insect screens. Windows shall be provided with narrow-slat, operable Venetian blind from head to sill. Exterior doors shall be equipped with heavy-duty cylinder lock and two keys, keyed alike.
   9. One restroom shall be provided with lavatory, flush toilet, mirror, soap holder, towel dispenser and hot/cold water supply.

2.2 EQUIPMENT AND FURNISHINGS

A. The contractor will provide and maintain for the Construction Manager's use, at the field office, the following:

QUANTITY	DESCRIPTION
2	Desks: 48" x 36", with file drawer and drawers, all lockable, with armchairs
1	Drafting table: 36" x 60:
1	Conference table
8	Conference chairs
2	File cabinets: steel, legal size, 5 drawers, with lock and two keys
1	Plan storage rack, 5 stick minimum
1	Coat rack
3	Waste baskets: metal
2	Fire extinguishers: wall mounted
1	All in one fax-scanner-copier Lanier LD550C Color Digital Imaging System or equivalent
1	Water Cooler: Water cooler with refrigerator (bottled water) shall be installed for furnishing hot and cold water. Fountain shall be similar to "Oasis" model DP3RH, or approved equal. Provide full water bottles as needed through Contract Acceptance plus 120 days.
1	Refrigerator: 4 Cubic foot capacity, under counter

PART 3 – EXECUTION

3.1 MAINTENANCE AND SERVICE

A. Maintenance and service shall be provided as follow:.

1. Provide all office supplies Office supplies should include, but not be limited to, pencils, pads, copy paper, toner, diskettes, tape, staples, and other sundry supplies.
2. Furnishing of utilities.

a. During other than normal working hours provide security measures and area protection equivalent to that by the Contractor for the Contractor's job site shop office facilities.
b. Provide and pay all costs for service contracts for the copying machine and fax machine for the duration of the contract
c. Provide and pay all cost for service contracts for internet service. Internet service shall be Verizon Broadband Wireless service or approved equal. Provide all required access devices and service contracts to support up to five personal notebook computers. Service contract shall allow minimum 5 GB data allowance for each notebook computer.
d. Provide and pay all costs for weekly cleaning and trash disposal.
e. The Contractor is advised that all of the above costs shall be included in his lump sum bid price.

3.2 CONNECTION OF UTILITIES TO TRAILER EQUIPMENT AND FIXTURES

A. The Contractor shall connect equipment and fixtures to the corresponding utilities. Connections shall be made, but not necessarily limited to, electrical wall receptacles and light fixtures and electrical supply lines; drinking fountain, refrigerator, lavatory and toilet fixtures and their water supply and drain lines; heating and air conditioning equipment and their respective power supply lines.

B. Electrical:

1. Three phase 4-wire, 120/208 volt electrical service shall be of sufficient capacity for all equipment in the trailer. The entire trailer and electrical system shall be properly grounded.
2. The electrical installation shall conform to the requirements of all applicable electrical codes. The Contractor shall pay all costs of supplying energy and maintaining service.

C. Plumbing:

1. Work shall include water supply, drainage and piping required for a complete operating installation. A temporary water service shall be provided from an existing water main and extended into the trailer; fixtures requiring water supply shall be properly connected.
2. Necessary soil, waste, vent and drainage piping shall be provided and connected to the existing sewer or connected to an acceptable holding tank system. The Contractor shall be responsible for the pump out and disposal of the holding tank waste.
3. Water pipes shall be frost-proofed to prevent freezing.

END OF SECTION 01592

SECTION 01710 - CLEANING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Maintain premises and public and adjacent properties free from accumulations of waste, debris and rubbish caused by operations.

B. At completion of work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, leave project area clean and ready for use.

1.2 SAFETY REQUIREMENTS

A. Standards: Maintain project in accord with State and Federal Safety Standards.

B. Hazards Control:

1. Store volatile wastes in covered metal containers, and remove from premises daily.

2. Prevent accumulation of Wastes which create hazardous conditions.

3. Provide adequate ventilation during use of volatile or noxious substances.

4. Identify Health and Safety provisions and methods for cleaning or working around guano-coated surfaces. Ensure that any wastes associated with guano removal are characterized and disposed in accordance with all applicable regulations.

C. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws:

PART 2 - PRODUCTS

2.1 MATERIALS

A. Acceptable Materials:

1. Potable water.

2. Other materials only as authorized by the Construction Manager.

PART 3 - EXECUTION

3.1 DURING CONSTRUCTION

A. Execute cleaning to ensure that the site is maintained free from accumulation of waste materials and rubbish.

B. For at least weekly intervals during progress work, or more frequently at directed by the Construction Manager, clean site and dispose of waste materials, debris and rubbish.

C. Provide on-site containers for collection of waste materials, debris and rubbish.

D. Remove waste materials, debris and rubbish from site and legally dispose of at public or private disposal areas off Owner's property. Disposal site must be approved by the Owner and Construction Manager.

E. Clean adjacent roadways as directed by the Construction Manager.

3.2 FINAL CLEANING

A. In preparation for substantial completion, conduct final inspection of sight-exposed exterior surfaces.

B. Clean site and adjacent roadways to the satisfaction of the Construction Manager.

END OF SECTION

SECTION 01770 - CLOSEOUT PROCEDURES

PART 1-GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final completion procedures.
3. Warranties.
4. Final cleaning.

B. Related Sections:

1. Division 1 Section "Photographic Documentation" for submitting final completion construction photographic documentation.
2. Division 1 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete with request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Advise Owner of pending insurance changeover requirements.
3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
5. Prepare and submit Project Record Documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.

6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and the model number where applicable.
7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
8. Terminate and remove temporary facilities from Project site, along with construction tools and similar elements.
9. Advise Owner of changeover of utilities.
10. Complete final cleaning requirements, including touchup painting.
11. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Engineer, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
2. Submit certified copy of Construction Manager's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Construction Manager. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report and warranty.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Construction Manager will either proceed with inspection or notify Contractor of unfulfilled requirements. Construction Manager will advise Contractor to prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate can be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Include the following information at the top of each page:
   a. Project name.
   b. Date.
   c. Name of Construction Manager.
   d. Name of Contractor.
   e. Page number.

2. Submit list of incomplete items in the following format:
   a. Three paper copies of product schedule or list, unless otherwise indicated. Construction Manager will return two copies.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
   a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
   b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.

c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
d. Remove tools, construction equipment, machinery, and surplus material from Project site.
e. Remove snow and ice to provide safe access to building.
f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
h. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
i. Leave Project clean and ready for occupancy.

C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.

D. Construction Waste Disposal: Comply with waste disposal requirements in Division 1 Section "Construction Waste Management."

END OF SECTION 01770

SECTION 01781 - PROJECT RECORD DOCUMENTS

PART I - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for project record documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.
4. Miscellaneous record submittals.

B. Related Sections:

1. Division I Section "Closeout Procedures" for general closeout procedures.
2. Divisions 2, 3, and 32 Sections for specific requirements for project record documents of the Work in those Sections.

1.3 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit one set(s) of marked-up record prints.
2. Number of Copies: Submit copies of record Drawings as follows:

a. Initial Submittal: Submit one paper copy set of marked-up record prints and one set of plots from corrected record digital data files. Construction Manager will indicate whether general scope of changes, and additional information recorded, are acceptable.
b. Final Submittal: Submit one paper copy set of marked-up record prints, one set of record digital data files, and one set of record digital data file plots. Plot each drawing file, whether or not changes and additional information were recorded.

B. Record Specifications: Submit one paper copy of Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit one paper copy of each submittal.

D. Miscellaneous Record Submittals: Refer to other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings.

l. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
b. Accurately record information in an acceptable drawing technique.
c. Record data as soon as possible after obtaining it.
d. Record and check the markup before enclosing concealed installations.
e. Cross, reference record prints to corresponding archive photographic documentation.

2. Content: Types of items requiring marking include, but are not limited to, the following:

a. Dimensional changes to Drawings.
b. Revisions to details shown on Drawings.
c. Depths of foundations below first floor.
d. Locations and depths of underground utilities.
e. Revisions to routing of piping and conduits.
f. Locations of concealed internal utilities.
g. Changes made by Change Order or Work Change Directive.
h. Details not on the original Contract Drawings.
i. Field records for variable and concealed conditions.

3. Mark the Contract Drawings and Shop Drawings completely and accurately. Utilize personnel proficient at recording graphic information in production of marked-up record prints.

4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.

5. Mark important additional information that was either shown schematically or omitted from original Drawings.

6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Construction Manager. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:

1. Format: Same digital data software program, version, and operating system as the original Contract Drawings.
2. Format: DGN, Version V8, operating in Microsoft Windows operating system.
3. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
4. Refer instances of uncertainty to Construction Manager for resolution.
5. Engineer will furnish Contractor one set of digital data files of the Contract Drawings for use in recording information.

    a. Refer to Division 1 Section "Submittal Procedures" for requirements related to use of Engineer's digital data files.
    b. Engineer will provide data file layer information with record markups in separate layers.

C. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing record Drawings where Engineer determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.

1. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.
2. Consult Engineer and Construction Manager for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared record Drawings into record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.

D. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.

2. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
3. Identification: As follows:

    a. Project name.
    b. Date.
    c. Designation "PROJECT RECORD DRAWINGS."
    d. Name of Construction Manager.
    e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
5. Note related Change Orders and record Drawings where applicable.

B. Format: Submit record Specifications as paper copy.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, record Specifications, and record Drawings where applicable.

B. Format: Submit record Product Data as paper copy.

1. Include record Product Data directory organized by specification section number and title, electronically linked to each item of record Product Data.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

B. Format: Submit miscellaneous record submittals as paper copy.

1. Include miscellaneous record submittals directory organized by specification section number and title, electronically linked to each item of miscellaneous record submittals.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and modifications to project record documents as they occur; do not wait until the end of Project.

B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Construction Manager's reference during normal working hours.

END OF SECTION 01781

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SECTION 02051 - PROTECTION OF EXISTING FACILITIES

PART 1 – GENERAL

1.1 DESCRIPTION

The work specified in this Section consists of the labor, equipment, tools, materials, and services needed to provide complete protection of all existing facilities during construction operations.

A. Work included in this Section:

1. Location of Facilities.
2. Notification of Owners and Authorities.
3. Coordination and Preparation.
4. Protection of Facilities.
5. Relocation of Facilities.
6. Restoration of Property Markers.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 LOCATION OF FACILITIES

A. Prior to demolition, verify location of existing underground facilities near or adjacent to project.

1. Consult with owners of facilities and arrange for field stake-out or other markings to show locations.

2. Perform exploratory excavation at key junctures and other critical points to aid in ascertaining locations.

B. Report field stake-out findings and results of exploratory excavations to the Construction Manager if possible changes in project location or design are indicated because of suspected interferences with existing facilities. Allow the Construction Manager sufficient time to determine magnitude of changes and to formulate instructions in that regard.

C. If location of an existing underground facility is uncertain, apply careful excavation and probing techniques during construction to locate and avoid damage to same.

3.2 NOTIFICATION OF OWNERS AND AUTHORITIES:

A. Prior to construction, notify owners of existing facilities, including local Police and Fire Departments, of general scope, nature and planned progress schedule of the Work.

B. When existing utilities, such as sewer, water, gas, telephone or electric power are damaged or disturbed during demolition, immediately notify affected owner, and the Construction Manager.

C. Notify Police and Fire Departments, including affected owners, immediately if hazardous conditions are created or have the potential for occurring, as a result of damage to existing facilities or as a result of other activities at project site. Hazardous conditions could be created from: fire, explosion, escape of gas, escape of fuel oil, gasoline or industrial fluids, downed electrical wires, and disrupted underground electrical cables.

3.3 COORDINATION AND PREPARATION:

Make preparations beforehand to repair and restore damaged utilities, including arrangements for standby materials and equipment to be promptly assembled at site and utilized immediately.

3.4 PROTECTION OF FACILITIES:

A. Plan and conduct abatement and demolition operations so that operation of existing facilities near or adjacent to the Work, including electric, telephone, sewer, water, gas or drainage utilities, are sustained insofar as the requirements of the project will permit.

B. Protect existing facilities from damage or movement through installation of adequate support systems and use of proper equipment, including application of careful excavation and backfilling techniques in sensitive areas.

C. Existing utilities and other facilities which are damaged by the Contractor's demolition operations shall be promptly repaired by Contractor to the satisfaction of the utility owner or, if he so elects, the utility owner will perform the repairs with his own forces. Under either arrangement, such repair work shall be done at Contractor's expense.

D. When aboveground visible facilities such as poles, wires, cables, fences, signs or structures constitute an unavoidable interference, notify the Construction Manager and utility owner regarding temporary removal and later restoration of the interfering item. Arrange with the Construction Manager and utility owner to remove and later restore the interfering item to the satisfaction of the utility owner, subject to approval of the utility owner, or, allow the utility owner to perform such work with his own forces. Under either arrangement, such work shall be done at Contractor's expense.

E. Take all necessary precautions to prevent fires at or adjacent to the work, buildings, and other facilities. No burning of trash or debris is permitted. Fire extinguishers are to be easily accessible in case of equipment fires, etc. and are to be maintained as required by OSHA.

3.5 RELOCATION OF FACILITIES:

A. If the location or position of an existing gas pipe, water pipe, sewer, drain, conduit, or structure requires its removal, realignment or change, such alteration shall be completed as directed by the Construction Manager at the Contractor’s cost as part of his lump sum bid price.

B. Uncovering, supporting and sustaining such facilities before its removal or before and after its realignment or change, shall be the Contractor's responsibility as part of the Work of this Contract.

3.6 RESTORATION OF PROPERTY MARKERS:

Property corner markers, boundary monuments, etc., disturbed or moved by the Contractor's operation shall be restored, in conformance with the property deed description, by a licensed land surveyor. Restoration of the property corner markers or boundary monuments shall be certified by said surveyor on a map prepared by him which shows the work accomplished. One copy of the map shall be given to the property owner and one copy given to the Construction Manager.

END OF SECTION 02051

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SECTION 02060 - INTERIOR DEMOLITION

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Contractor shall perform interior demolition as necessary to complete asbestos abatement of the Episcopal Church Home project site.

B. Interior demolition shall be performed at the Canterbury Building (Building 1) only to the extent necessary to minimize dust during demolition and does not require containment.

C. Interior demolition shall not be performed at the ground floor of the Hutchinson Chapel (Building 5) and only selectively as necessary to remove Asbestos Containing Material (ACM) and ACM contaminated debris in the basement level. All fixed and non-fixed contents in the Hutchinson Chapel (Building 5), other than hazardous wastes, universal wastes, and ACM, are and shall remain the property of the Owner, have historic value to the community, and shall be preserved by the Contractor.

D. Under the base bid, the contractor shall protect the exterior building envelope of the Robinson Addition (Buildings 2 and 2A), Thornton Building (Building 3A), Russell Building (Building 3B), Robinson Building (Building 4), Hutchinson Chapel (Building 5) and tunnel. Concealed ACM between exterior walls and interior beams, columns, etc. that cannot be abated from the interior of the building, except as designated on the drawings and specifications, will not be abated under the base bid lump sum bid price. ACM left in place under the base bid scope of work for these structures shall be properly abated according to Code Rule 56 as part of Alternate No. 2 and the cost of this abatement included in the Alternate No. 2 lump sum bid price.

E. The entire interior of the Robinson Addition (Buildings 2 and 2A), Robinson Building (Building 4), and basement level of the Hutchinson Chapel (Building 5) have been contaminated with ACM. ACM materials may be present between interior building walls and other layered construction. The contractor shall be responsible for the removal of all building contents, debris and non-washable building materials under full containment in accordance with code rule 56. All debris and non-washable building materials shall be removed handled and disposed of off-site as ACM waste in accordance with NYSDOL, NYSDEC, and USEPA requirements and regulations. Non-porous building materials may be decontaminated in accordance with Code Rule 56 and any NYSDOL approved variances obtained by the contractor and disposed of off-site as non-ACM debris in accordance with NYSDOL, NYSDEC, and USEPA requirements and regulations. The contractor shall be responsible for all debris and building materials removal and off-site disposal (all ACM and decontaminated waste) under his lump sum bid price. Contractor shall note that asbestos contaminated debris and building materials are not quantified in the asbestos survey and design drawings. All asbestos contaminated debris and building materials quantities shall be determined by the contractor and accounted for in his lump sum bid price.

F. Extensive delaminated paint, debris, and deteriorated or damaged ACM materials exist throughout the Thornton Building (Building 3A) and Russell Building (Building 3B). The contractor shall be required to abate all ACM, remove all debris, remove all loose and flaking paint, remove all non-cleanable materials and clean all surfaces under negative air containment in accordance with NYSDOL Code Rule 56, any NYSDOL approved variances, and applicable regulations. All non-cleanable materials shall be disposed of as an ACM material. Cleanable non-structural building components may remain provided that they can be decontaminated sufficiently to demonstrate completion of abatement to the asbestos project monitor. Cleanable materials required to be removed in order to perform the scope of work shall be properly disposed of by the contractor. The contractor shall be responsible for all debris and building materials removal and off-site disposal (all ACM and decontaminated/cleaned waste) under his lump sum bid price. Contractor shall note that asbestos contaminated debris and building materials are not quantified in the asbestos survey and design drawings. All asbestos contaminated debris and building materials quantities shall be determined by the contractor and accounted for in his lump sum bid price.

G. The Contractor shall note that all spray-on fireproofing, present at the Robinson Addition (Buildings 2 & 2A), the Robinson Building (Building 4), and a portion of the Thornton Building (Building 3A), shall be considered to be ACM and/or ACM contaminated and shall be removed as such under containment. Contractor shall note that spray-on fireproofing may be present on the exterior facing side of steel framing, beams, and columns. Under the base bid, the contractor shall protect the exterior building envelope and shall abate materials that are accessible from the building interior. Materials inaccessible from the building interior shall be properly encapsulated.

H. The ceiling system of the Russell building is contaminated with deteriorated ACM mud pipe fittings. The contractor shall perform exploratory work as necessary to define the limits of the contaminated debris. Ceiling system abatement and removal shall include abatement, removal, and disposal or decontamination of all materials above the drop ceilings/plaster ceilings, including the ceilings themselves that are identified through exploratory work as contaminated. The contractor shall note that multiple ceilings exist through the buildings. Additionally, HVAC duct work and equipment along with piping systems, conduits, lights and other obstructions exist. The contractor shall assume that all materials with ACM. Full exploratory investigations have not been completed during the design phase. The contractor shall assume that all above ceiling systems have been contaminated and shall be abated as an alternative, the contractor shall demonstrate through exploratory investigations to the satisfaction of the project monitor that areas of the above ceiling system have not been contaminated and those areas shall isolated by the contractor and protected to remain in-place. The contractor shall provide all labor, equipment, and materials required to abate, remove, and dispose or decontaminate, remove, and dispose of all material encountered in accordance with applicable regulations and the contract specifications.

I. The Contractor shall be responsible for evaluating all floor loading capacities prior to mobilizing and using equipment or scaffolding within the limits of the site. The Contractor shall review available structural drawings and provide the Construction Manager with a structural evaluation signed by a New York State licensed professional

engineer prior to placing equipment, scaffolding or materials on the various floor slabs of the site buildings.

J. Under the base bid the Contractor shall perform exploratory work to expose any interior concealed ACM. Under Alternate No. 2, the Contractor shall perform exploratory work to expose any concealed ACM not visible or identified at the request of the Construction Manager and as required to demonstrate completion of abatement to the Asbestos Project Monitor.

K. Perlite is commonly present between interior CMU block and exterior structural brick walls. It is also present within CMU block void spaces. Perlite that enters contained interior space during abatement shall be considered asbestos contaminated debris and as such shall be abated under the Contractor's lump sum bid price.

L. As required by the Contract Documents or as instructed by the Construction Manager, the Contractor shall furnish all labor, equipment, and materials required for the following activities:

1. Demolition of all interior walls all ceiling systems, walls, and all other interior structures and equipment necessary to perform the abatement work specified on the Contract Drawings and Section 02080.

2. Dispose of all demolition related wastes in accordance with State and Federal requirements. Unless the Contractor can document the demolished materials are free of asbestos, all generated demolition wastes shall be removed, handled, and disposed of as ACM.

3. Where ACM dust/debris and ACM fireproofing is present, interior demolition shall be performed in a controlled negative pressure environment as specified by Section 02080 – Asbestos Removal.

1.2 APPLICABLE REFERENCES

A. The regulations, including but not limited to, the Agencies listed below are a part of this specification. The requirements are referenced in the text by basic designation only and shall be the latest version published. In the case of conflict between the referenced documents and the following text, the stricter requirements shall apply.

1. OSHA Requirements.
2. Any other applicable Federal, State, local or utility company Regulations.

1.3 PERMIT AND LICENSE REQUIREMENTS

A. Prior to the commencement of work under this Contract, any permits or licenses required to perform the demolition work, shall be obtained by the Contractor at the Contractor's own cost and expense. Determining license and permit requirements shall be the responsibility of the Contractor. The Contractor shall act sufficiently ahead of time in

order to receive the permits in time. No delay claim or extension of time shall be entertained due to time lapse in this regard.

1.4 SUBMITTALS

A. Submit each item in this Article according to the Conditions of the Contract and the Specific Provisions Sections for approval by the Construction Manager. Refer to Section 01330 of Specific Provisions for other standard submittals:

1. Proposed dust-control measures (Dust Control Plan).

2. Proposed noise-control measures (Noise Control Plan).

3. Schedule of demolition activities including the following:

a. Detailed sequence of demolition and removal work, with starting and ending dates for each activity.

b. Dates for shutoff, capping, and continuation of utility services.

4. Detailed Demolition Plan outlining proposed means, methods and sequence. This plan shall include all appropriate information, data, and calculations (i.e., shielding requirements, loading capacities for floors, etc.) to support the proposed demolition method.

5. Inventory of items to be removed and salvaged.

6. Photographs or videotape, sufficiently detailed, of existing conditions of the work area at all structures prior to the start of work.

7. Record Drawings at Project Closeout. For Thornton Hall (Base Bid Scope), identify and accurately locate capped piping and other equipment left in place after the work.

8. Landfill or disposal facility records for record purposes indicating receipt and acceptance of each waste stream generated (i.e. asbestos, C&D debris, hazardous waste, etc.)

1.5 DEFINITIONS

A. Remove: Remove and legally dispose of items except those indicted to be reinstalled, salvaged, or to remain the Owner’s property.

B. Existing to Remain: Protect construction indicated to remain against damage and soiling during demolition. When permitted by the Construction Manager, items may be removed to a suitable, protected storage location during demolition and then cleaned and reinstalled to their original locations.

1.6 MATERIALS OWNERSHIP

Except for items or materials indicated to be reused, salvaged, or otherwise indicted to remain the Owner's property, demolished material shall become the Contractor's property and shall be removed from the site and disposed of in accordance with regulations. Carefully remove and salvage each item designated for salvage in a manner to prevent damage and deliver promptly to the Owner.

The Contractor shall leave in-place all copper and metal piping and duct work that does not necessitate removal in order to perform the specified abatement work. All major electrical lines and conduits shall not be removed unless the Contractor has the Construction Managers written approval. Secondary electrical lines within the work areas shall be removed during abatement and interior demolition activities. The Contractor shall identify which electrical, plumbing and HVAC components will be removed in his abatement or demolition Work Plan.

1.7 QUALITY ASSURANCE

A. Contractor's Qualifications

Engage an experienced firm that has five years experience and has successfully completed at least two demolition work projects in an urban setting similar in scope to this Project.

B. Regulatory Requirements

Comply with all governing notification regulations before starting demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.8 PROJECT CONDITIONS

A. Pre-work Conditions

A site investigation report which details the results of environmental sampling conducted at the facility is available through the Construction Manager. The site investigation report is provided for information and is not to be considered as part of the Contract Specifications.

The Contract Drawings show the major structures and equipment within the project work limits, but do not show all features requiring demolition and removal. It is the Contractor's responsibility to inspect and evaluate existing work area conditions prior to bidding the project.

B. Owner Responsibility

1. Owner assumes no responsibility for actual condition of the structures and equipment to be removed.

2. Conditions existing at time of inspection for bidding purposes shall be maintained by Owner as far as practical.

C. Asbestos and Hazardous Materials Contaminated Wastes

1. The Work Area must be decontaminated and abated as specified in the Contract Documents. Examine all available asbestos and hazardous material reports to become aware of locations where asbestos and hazardous materials are present.

2. Asbestos abatement and hazardous materials wastes clean up requirements are specified elsewhere in the Contract Documents.

3. Do not disturb any material suspected of containing asbestos or hazardous materials wastes except under the procedures specified elsewhere in the Contract Documents.

D. Storage or Sale of Removed Items or Materials.

Storage or sale of removed items or materials on-site shall not be permitted.

1.9 SCHEDULING

A. The Contractor shall submit a sequence of the interior demolition for the Construction Manager's approval. The Contractor's plan shall comply with Empire State Development's (ESD's) Master Schedule for Site abatement and demolition.

B. Schedule Submittal and Approval Requirements

1. Within 10 calendar days of the Notice to Proceed of contract, the Contractor shall prepare and submit to the Construction Manager a progress schedule which meets all the requirements of this section.

2. The Construction Manager shall, within 7 calendar days of receiving the schedule, either approve it as submitted or return it to the Contractor for revision and re-submission. This process shall continue until an approved schedule is in place.

3. No acceptance, review or approval or any other action under this section shall limit, affect or impair the Contractor's obligation to perform all the work defined in the Contract Documents by the times stated therein.

C. Schedule Requirements

1. All schedule submittals to the Construction Manager should be in the form of a logic diagram or a time-scaled logic bar chart. The following minimum information must be included for each schedule activity; activity number, activity description, activity duration, responsible contractor, early start and finish dates. All logical relationships between activities must be shown.

2. Schedule activities should be of sufficient detail so that no activity has a duration greater than ten working days, with the exception of procurement activities. The Contractor must identify, in supporting documentation, the number of work days per week and shift per day that he intends to perform the work. All planned holidays should be indicated.

3. Schedule activities should include, but are not limited to: NYSDOL asbestos variance requests and approvals, shop drawings and shop drawing approval time, catalog cuts, samples, permits, inspection points, surveys, temporary facilities and utilities.

4. It shall be the Contractor's responsibility to ensure that all of his work is described by the schedule and that the schedule correctly represents the sequence, means, methods, techniques and procedures by which he plans to do the work.

D. Schedule Review and Updating

1. The schedule shall be reviewed and the status of each activity determined at progress meetings with the Construction Manager.

2. If the latest completion time for any milestone activity does not meet the time allowed by the Contract, the sequence of activities and/or performance of activities shall be revised by the Contractor through concurrent operations, additional manpower, additional shifts, overtime, etc., until the schedule produced indicates that all Contract milestones shall be met. Should such expediting procedures be necessary, no additional cost shall be allowed the Contractor for: overtime, additional manpower, equipment, additional shifts, etc., except as provided for elsewhere in the Contract Documents. All modifications to the schedule must be submitted to and approved by the Construction Manager.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

A.1 EXAMINATION

A. Verify that utilities have been disconnected and capped as required to perform the contract work.

B. Provide documentation all electrical distribution lines have been de-energized within the project work areas.

C. Survey existing conditions and correlate with requirements indicated to determine extent of demolition required.

D. Survey the condition of the building to determine whether removing any element might result in a structural deficiency or unplanned collapse of any portion of the structure.

E. Perform surveys as the Work progresses to detect hazards resulting from demolition activities.

3.2 PREPARATION

A. Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammable or other dangerous materials before proceeding with demolition operations. Remove and decontaminate all building equipment and materials as specified in the contract Drawings and Specific Provisions and the Technical Specifications of this document.

B. Conduct demolition operations and remove debris to ensure minimum interference with roads, street, walks, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.

2. Provide Maintenance and Protection of Traffic for waste removal activities as per plan and/or as directed by the Construction Manager.

C. Conduct demolition operations in such a manner to prevent injury to workers and damage to adjacent rooms within the facility. Ensure safe passage of workers within the demolition area.

1. Erect temporary protection, such as walks, railings, canopies, covered passageways for workers.

2. Protect any site appurtenances and/or features that are designated by the Owner to remain.

D. Provide and maintain shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of equipment and structures to be demolished. Strengthen or add new supports when required during progress of demolition.

3.3 BURNING AND WELDING

The following guidelines have been developed to insure the safety of personnel and property from fire. Should hot work involve lead containing coatings, comply with 29 CFR 1926.62. The following safety guidelines must be followed:

1. If fire watch is required, the Contractor shall provide that individual.

2. Contractor must provide their own portable fire extinguisher for standby at hot work operations.

3. Compressed gas cylinders must be transported in wheeled carts and bottles secured in the carts. Cylinders must not be stored in buildings.

4. Cylinders are to be capped when not in use.

5. Back flow check valves must be installed at torch handles and hose to gauge connection point.

6. Welding screens must be placed to prevent exposing adjacent workers to arc.

7. Areas may require barricading to prevent personnel from exposure to sparks or slag.

8. Appropriate eye protection must be worn for cutting or welding operations.

9. All combustibles must be stored at least 35 feet from hot work area or covered by fire blanket. (Fire blankets cannot be asbestos material.)

10. Area should be under surveillance for 30 minutes after the job is completed, or longer if so determined by the Construction Manager.

11. Any fires must be reported immediately to the Construction Manager. The Contractor must have a phone available in the work area to call 911 for firefighting assistance if needed.

3.4 POLLUTION/DUST CONTROLS

A. Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. All asbestos abatement work within the project area must be performed under negative pressure and full containment as specified in Section 02080.

1. Comply with governing environmental protection regulations.

2. Do not create hazardous or objectionable conditions, such as ice, flooding, and pollution.

3. Conduct air monitoring of work areas and areas adjacent to work area as specified elsewhere in the Contract Documents.

B. Remove and transport debris in a manner that shall prevent spillage on adjacent surfaces and areas. Remove debris from elevated portions of building by chute, hoist, or other device that shall convey debris to grade level.

C Fugitive Dust Emissions

This project shall require a fugitive dust plan and asbestos/hazardous materials monitoring plan as specified elsewhere in the Contract Documents. At no time shall a fugitive dust plume or cloud be allowed to escape from the project work area. If a complaint is received by any member of the project team concerning fugitive dust emissions, or air monitoring indicates a release has occurred, the process shall be halted immediately until the issue is investigated and a satisfactory resolution can be implemented.

D. Debris Pile Minimization

The quantity of debris within the work area should be kept to a minimum. No debris piles resulting from any Contractor activity shall be allowed to remain onsite for more than 7 calendar days. The Contractor shall promptly remove all Site generated wastes.

E. Truck Tarping

All trucks transporting waste or debris shall be completely covered with tarpaulins. All trucks transporting hazardous or contaminated debris shall comply with all applicable waste transport regulations.

F. Truck Washing

To prevent the migration of any material or residue to the surrounding roadways, the wheels and body of each truck shall be cleaned (if directed by the Construction Manager) to remove any material or residue prior to leaving the site.

G. Truck Exhaust

The engine exhaust gases that are generated by the equipment used to load/unload and transport materials shall be directed upward whenever possible.

H. Debris Drop Distance

The drop distance of the material onto the pile, truck, process, etc., shall not exceed six (6) feet.

I. Container Leakage

All equipment transporting material shall be maintained in such a way to prevent leakage and spillage.

3.5 DEMOLITION

A. Contractor shall conduct demolition/dismantlement and disposal of all structures, equipment and accessories within the project work area limits as required to perform the

abatement work, unless specified otherwise, and as instructed by the Construction Manager.

B. Contractor shall disconnect, cap/seal, or reroute piping and utilities extending beyond the work area limits.

C. Contractor shall disconnect and remove all electrical lines within the project work areas.

D. Contractor shall remove and dispose of materials remaining in Site buildings including, but not limited to carpets, display racks, furniture, trash, debris, fixed and unfixed display cases, and stored building materials.

E. Conduct demolition of all interior components including but not limited to interior walls, ceiling systems, built in fixtures and display cases, encased or built out columns, soffits, counters and partitions. All wastes generated during the removal of interior walls and building components shall be treated as asbestos containing material (ACM) wastes unless the Contractor can demonstrate that they are free of asbestos.

F. No interior demolition work shall be performed on any of the ceiling systems unless the work area is under a NYSDOL-compliant containment structure. All wastes generated from the demolition of ceiling systems shall be handled and disposed of as ACM waste.

G. The Contractor shall coordinate all plumbing, HVAC, and electrical removal and rerouting work with the Construction Manager prior to starting work. The Contractor shall note that active electrical lines, steam lines, water lines, fire system lines and drain lines which service various areas of the Episcopal Church Home complex may be present within proposed abatement work areas. The Contractor shall be responsible for the termination and/or rerouting of lines in order to complete the specified work. All proposed terminations and rerouting of Site utilities shall be documented and approved by the Construction Manager prior to performing the work. All costs for electrical, plumbing and utility work required to perform the abatement work shall be included in the Contractor's lump sum bid price.

H. The Contractor shall be responsible for characterizing and tracking all generated waste streams for proper disposal. Any sampling for characterization shall be performed or witnessed by the Construction Manager's representative.

I. The Contractor shall note lead containing paints and coatings are present throughout the Episcopal Church Home complex. The Contractor shall implement a lead paint control plan for worker protection and proper handling and disposal of generated wastes. The Contractor shall use demolition methods that control the release of lead contaminated dust from deteriorated painted surfaces.

J. The Contractor shall be responsible for maintaining heat and electric within each building or work area as required to perform the abatement and interior demolition work.

K. The Contractor shall maintain a fire protection system water supply. In addition, the Contractor shall provide and maintain a fire detection system throughout the duration of the abatement project.

L. All demolition equipment used within the buildings and structures shall comply with allowable floor loading ratings for the area of work. The Contractor shall provide a floor loading evaluation prior to using demolition equipment within the buildings. The evaluation shall be signed by a New York State Licensed Professional Engineer.

3.6 RIGGING

A. All rigging equipment and hardware (chainfalls, slidings, etc.) shall be thoroughly inspected prior to the initiation of rigging activities. The inspection shall be documented in writing (listing equipment identity, serial number, etc.) or by some visual method of identification (inspection tag) on the actual piece of equipment initially and at least monthly thereafter.

B. The Contractor shall ensure that competent riggers are used for rigging tasks. The Contractor shall document, in writing, that the persons are competent and shall provide a copy of the written training material, test results, and other associated support material. Furthermore, the Contractor shall document, in writing, that crane operators are qualified per the requirements of American National Standards Institute (ANSI) B-30.5. The Contractor shall provide a copy of the Contractor's crane operator training program, test results, and other associated material.

C. All mobile equipment shall be inspected by the Contractor's mechanics. The Contractor shall provide proof of annual crane inspection, by an agency recognized by the U.S. Dept. of Labor.

D. Existing lifting lugs, I-bolts, etc. on structures and other equipment are not permitted to be used by the Contractor for rigging. Overhead supports, and I-beams are to be certified by the Contractor prior to use for rigging. The Contractor shall provide written plans on rigging methods to the Construction Manager prior to the initiation of sheet rigging activities for review and acceptance. Rigging methods shall not include field-modified tools or use of tools outside of tool manufacturers written consent. All structural steel, piping, and equipment, shall be rigged with at least two points of rigging - no single point picks shall be permitted without the written consent of the Construction Manager. All loads must be controlled - no loads shall be permitted to be dropped from elevated locations.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

A. General:

Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site. All waste generated from demolition activities shall be disposed of at a facility permitted to accept the waste.

B. Disposal:

Transport demolished materials off site. Legally dispose of them in accordance with all applicable Federal, State, and local regulations.

3.08 EXPLOSIVES

The use of explosives shall not be permitted.

END OF SECTION 02060

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SECTION 02080 – ASBESTOS REMOVAL

PART 1 GENERAL

1.1 SCOPE OF WORK:

A. This Contract includes the removal and disposal of all asbestos containing materials from the Episcopal Church Home Complex site in Buffalo, New York.

B. The Episcopal Church Home Complex site is comprised of the Canterbury Building, the Robinson Building, the Robinson Addition, the Russell Building, Thornton Hall, a Maintenance Building, and the Hutchinson Chapel and Tunnel. Brief descriptions of each of the above mentioned buildings are provided in Section 01010 – SUMMARY OF WORK. A summary of the asbestos containing materials identified that shall be removed under this Contract is provided below:

<u>Canterbury Building (Building 1) – Alternate No. 1</u>

- Tar at Stairwell and Capstone (Intact, Non-Friable) – 425 Square Feet (SF)
- Fire Doors with ACM Insulation (Intact, Friable) – 20 Each

<u>Robinson Addition (Buildings 2 & 2A) – Base Bid</u>

- Fire Doors with ACM Insulation (Intact, Friable) – 21 Each
- ACM Contaminated Sprayed-On Fireproofing (Damaged, Friable) – 59,750 SF
- ACM Contaminated Vermiculite Potting Soil (Intact, Friable) – 7,500 Cubic Feet (CF)

<u>Thornton Hall (Building 3A) – Base Bid</u>

- Sprayed-On Fire Proofing (Damaged, Friable) – 1,900 SF
- Floor Tile and Associated Mastic (Damaged, Non-Friable) – 16,500 SF
- Floor Tile with Non-ACM Mastic (Damaged, Non-Friable) – 2,100 SF
- Pipe Insulation and Mud Pipe Fittings (Damaged, Friable) – 14,150 Linear Feet (LF)
- Boiler/Exchange Tank Insulation (Damaged, Friable) – 880 SF
- Black Sink Insulation/Counter Mastic (Damaged, Non-Friable) – 600 SF
- Fire Doors with ACM Insulation (Intact, Friable) – 42 Each
- Fuse Box Insulation Paper (Intact, Friable) – 5 SF
- Perimeter Interior Flashing Tar and Felt (Intact, Non-Friable) – 120 SF
- Transite Pipe (Intact, Non-Friable) – 40 LF

<u>Thornton Hall (Building 3A) – Alternate No. 2</u>

- Roofing Felt Paper, Silver Paint and Tar (Damaged, Non-Friable) – 3,600 SF
- Caulk at Stone Edging (Damaged, Non-Friable) – 10 SF

Russell Building (Building 3B) – Base Bid

- Floor Tile and Associated Mastic (Damaged, Non-Friable) – 50 SF
- Floor Tile with Non-ACM Mastic (Damaged, Non-Friable) – 17,800 SF
- Mud Pipe Fittings (Damaged, Friable) – 6,850 LF
- Black Sink Insulation/Counter Mastic (Damaged, Non-Friable) – 15 SF
- Fire Doors with ACM Insulation (Intact, Friable) – 28 Each
- Door/Window Caulk (Intact, Non-Friable) – 20 SF
- ACM Contaminated Ceiling System (Damaged, Friable) – 19,550 SF
- Elevator Brake Shoes (Intact, Non-friable) – 10 SF

Russell Building (Building 3B) – Alternate No. 2

- Roofing Tar at Penetration and Seams (Damaged, Non-Friable) – 65 SF

Robinson Building (Building 4) – Base Bid

- Sprayed-On Fire Proofing (Damaged, Friable) – 99,000 SF
- Floor Tile and Associated Mastic (Damaged, Non-Friable) – 59,050 SF
- Pipe Insulation Wrap (Intact, Non-Friable) – 20 SF
- Interior Door Caulk (Intact, Non-Friable) – 10 SF
- Fire Doors with ACM Insulation (Intact, Friable) – 44 Each
- Light Fixtures with ACM wire insulation (Intact, Non-Friable) – 85 Each
- Pipe Flange Gaskets (Intact, Non-Friable) – 15 Each

Robinson Building (Building 4) – Alternate No. 2

- Built-Up Roof Field Including Associated Papers, Tars and Flashings (Intact, Non-Friable) – 15,000 SF

Hutchinson Chapel and Tunnel (Building 5) – Base Bid

- Pipe Insulation and Mud Pipe Fittings (Damaged, Friable) – 675 LF
- Pipe Insulation Debris (Damaged, Friable) – 3,850 SF

Maintenance Building (Building 6) – Alternate No. 1

- Black Roof Patching Tar (Damaged, Non-Friable) – 50 SF

C. The Contractor shall be aware of all conditions of the Project and is responsible for verifying quantities and locations of all Work to be performed. Failure to do so shall not relieve the Contractor of its obligation to furnish all labor and materials necessary to perform the Work.

D. All Work shall be performed in strict accordance with the Project Documents and all governing codes, rules, and regulations. Where conflicts occur between the Project Documents and applicable codes, rules, and regulations, the more stringent shall apply

1.2 SPECIAL JOB CONDITIONS

A. Any special job conditions are described below:
1. The contractor shall receive approval for all variances from the construction manager prior to requesting such variance from a regulatory agency. The construction manager retains the right to reject any variance petition which in the sole opinion of the construction manager puts additional burden on the owner, the construction manager, or the project monitor.
2. The contractor shall perform exploratory demolition work at the request of the construction manager to expose any concealed ACM not visible or identified and as required to demonstrate completion of abatement to the asbestos project monitor.
3. Due to extensive vandalism, the entire interiors of the Robinson Building (Building 4), the Robinson Addition (Buildings 2 & 2A), Thornton Hall (Building 3A), and the Russell Building (Building 3B) have been contaminated with ACM. The Contractor shall be responsible for the removal of all building contents, debris and non-washable building materials under full containment in accordance with all applicable regulations. All debris and non-washable building materials shall be removed handled and disposed of as ACM waste in accordance with applicable regulations. The Contractor will be permitted to leave non-porous building materials within the project work areas for removal during the demolition phase providing the materials can be decontaminated in accordance with all applicable regulations any approved variances obtained by the Contractor and sufficiently to demonstrate completion of abatement to the asbestos project monitor.
4. The contractor shall obtain clearance by the construction manager that all ACM inside each structure has been completely removed prior to initiating abatement of ACM associated with the exterior envelope of each structure (i.e. window/door caulks, exterior fire doors, roofing materials, etc.) unless otherwise approved in writing by the Construction Manager.

1.3 PERMITS AND COMPLIANCE

A. The Contractor shall assume full responsibility and liability for compliance with all applicable Federal, State, and local laws, rules, and regulations pertaining to Work practices, protection of Workers, authorized visitors to the site, persons, and property adjacent to the Work.

B. Perform asbestos related Work in accordance with New York State Department of Labor Industrial Code Rule, 12 NYCRR Part 56, effective 3/21/07, as specified herein. Where more stringent requirements are specified, adhere to the more stringent requirements.

C. The Contractor must maintain current licenses pursuant to New York State Department of Labor and Department of Environmental Conservation for all Work related to this Project, including the removal, handling, transport, and disposal of asbestos containing materials.

D. The Contractor must have and submit proof upon request that any persons employed by the Contractor to engage in or supervise Work on any asbestos Project have a valid NYS asbestos handling certificate pursuant to Industrial Code Rule, 12 NYCRR Part 56 effective 3/21/07.

E. It is the sole responsibility of the Contractor to determine what, if any, patents are applicable to the Project. The Contractor shall pay all royalties and/or license fees. He shall defend all suits or claims for infringement of any patent rights and save the Owner, Engineer, Environmental Consultant, and Construction Manager harmless from loss, including attorney's fees, on account thereof.

F. Failure to adhere to the Project Documents shall constitute a breach of the Contract and the Owner shall have the right to and may terminate the Contract provided, however, the failure of the Owner to so terminate shall not relieve the Contractor from future compliance.

1.4 SUBMITTALS

A. Pre-Work Submittals: Within 7 days prior to the pre-construction conference, the Contractor shall submit 3 copies of the documents listed below:
   1. Contractor license issued by New York State Department of Labor.
   2. A list of Projects performed within the past two (2) years and include the dollar value of all Projects. Provide Project references to include Owner, Environmental Consultant, and air monitoring firm's name, contact persons, address, and phone number.
   3. Progress Schedule:
      a. Show the complete sequence of abatement activities and the sequencing of Work within each building or building section.
      b. Show the dates for the beginning and completion of each major element of Work including substantial completion dates for each Work Area, building, or phase.
   4. Project Notifications: As required by Federal and State regulatory agencies together with proof of transmittal (i.e. certified mail return receipt).
   5. Building Occupant Notification: As required by regulatory agencies.
   6. Abatement Work Plan: Provide plans that clearly indicate the following:
      a. All Work Areas/containments numbered sequentially.
      b. Locations and types of all decontamination enclosures.
      c. Entrances and exits to the Work Areas/containments.
      d. Type of abatement activity/technique for each Work Area/containment.
      e. Number and location of negative air units and exhaust. Also provide calculations for determining number of negative air pressure units.
      f. Proposed location and construction of storage facilities and field office.
      g. Location of water and electrical connections to building services.
      h. Waste transport routes through the building to the waste storage container.
   7. Disposal Site/Landfill Permit from applicable regulatory agency.
   8. NYS Department of Environmental Conservation Waste Transporter Permit.

B. On-Site Submittals: Refer to Part 3.01.D for all submittals, documentation, and postings required to be maintained on-site during abatement activities.

C. Project Close-out Submittals: Within 30 days of project completion, the Contractor shall submit 4 copies of the documents listed below. **Originals** of all Waste Shipment Records and disposal logs.
   1. OSHA compliance air monitoring records conducted during the Work.
   2. Daily progress log, including the entry/exit log.
   3. A list of all Workers used in the performance of the Project, including name, social security number, and NYS DOL certification number.
   4. For each Worker used in the performance of the Project, submit the Worker's Acknowledgment Statement.
   5. Disposal Site/Landfill Permit from applicable regulatory agency.
   6. Final project notifications and variances.

1.5 PRE-CONSTRUCTION CONFERENCE

A. Prior to start of preparatory Work under this Contract, the Contractor shall attend a pre-construction conference attended by Owner, Construction Manager, and Environmental Consultant.

B. Agenda for this conference shall include but not necessarily be limited to:
   1. Contractor's scope of Work, Work plan, and schedule to include number of workers and shifts.
   2. Contractor's safety and health precautions including protective clothing and equipment and decontamination procedures.
   3. Environmental Consultant's duties, functions, and authority.
   4. Contractor's Work procedures including:
      a. Methods of job site preparation and removal methods.
      b. Respiratory protection.
      c. Disposal procedures.
      d. Cleanup procedures.
      e. Fire exits and emergency procedures.
   5. Contractor's required pre-work and on-site submittals, documentation, and postings.
   6. Contractor's plan for twenty-four (24) hour Project security both for prevention of theft and for barring entry of unauthorized personnel into Work Areas.
   7. Temporary utilities.
   8. Handling of furniture and other moveable objects.
   9. Storage of removed asbestos containing materials.
   10. Waste disposal requirements and procedures, including use of the Owner supplied waste manifest and container seals.

C. In conjunction with the conference the Contractor shall accompany the Owner, Construction Manager and Environmental Consultant on a pre-construction walk-through documenting

existing condition of finishes and furnishings, reviewing overall Work plan, location of fire exits, fire protection equipment, water supply and temporary electric tie-in.

1.6 APPLICABLE STANDARDS AND REGULATIONS

A. The Contractor shall comply with the following codes and standards, except where more stringent requirements are shown or specified:

B. Federal Regulations:
1. 29 CFR 1910.1200, "Hazard Communication" (OSHA)
2. 29 CFR 1910.134, "Respiratory Protection" (OSHA)
3. 29 CFR 1910.145, "Specification for Accident Prevention Signs and Tags" (OSHA)
4. 29 CFR 1926, "Construction Industry" (OSHA)
5. 29 CFR 1926.1101, "Asbestos" (OSHA)
6. 29 CFR 1926.500 "Guardrails, Handrails and Covers" (OSHA)
7. 40 CFR 61, Subpart A, "General Provisions" (EPA)
8. 40 CFR 61, Subpart M, "National Emission Standard for Asbestos" (EPA)
9. 49 CFR 171-172, Transportation Standards (DOT)

C. New York State Regulations:
1. 12 NYCRR Part 56, effective 3/21/07, "Asbestos", Industrial Code Rule 56 (DOL)
2. 6 NYCRR, Parts 360, 364, Disposal and Transportation (DEC)
3. 10 NYCRR, Part 73, "Asbestos Safety Program Requirements" (DOH)

D. Standards and Guidance Documents:
1. American National Standard Institute (ANSI) Z88.2-80, Practices for Respiratory Protection
2. ANSI Z9.2-79, Fundamentals Governing the Design and Operation of Local Exhaust Systems
3. EPA 560/585-024, Guidance for Controlling Asbestos Containing Materials in Buildings (Purple Book)
4. EPA 530-SW-85-007, Asbestos Waste Management Guidance

1.7 NOTICES

A. The Contractor shall provide notification of intent to commence asbestos abatement activities as indicated below.
1. At least ten (10) Working days prior to beginning abatement activities, send written notification to:
U.S. Environmental Protection Agency
National Emissions Standards for Hazardous Air Pollutants (NESHAPS) Coordinator
26 Federal Plaza
New York, NY 10007.

2. At least ten (10) calendar days prior to beginning abatement activities send written notification to:
   New York State Department of Labor
   Division of Safety and Health, Asbestos Control Program.
   State Office Campus
   Building 12 - Room 454
   Albany, NY 12240

B. The Contractor is required to send notifications to regulatory agencies via mail or package delivery service that will provide proof of delivery and receipt.

C. The Contractor shall post and/or provide Building Occupant Notification at least ten (10) calendar days prior to beginning abatement activities as required by Industrial Code Rule, 12 NYCRR Part 56. The posting shall include the following information:
   1. The locations of the abatement Project.
   2. The amounts and types of asbestos containing materials being abated.
   3. The commencement and completion dates of the Project.
   4. The name, address, and asbestos license number of the Abatement Contractor.
   5. The name, address, and asbestos license number of the Environmental Consultant and laboratory.

1.8 PROJECT MONITORING AND AIR SAMPLING

ESD has engaged the services of LiRo Engineers, Inc. to serve as the Construction Manager (CM). The CM shall be the initial point of contact for all Contract related work.

A. ESD shall also engage the services of an Environmental Consultant (the Consultant) who shall serve as the Owner's NYSDOL licensed Project Monitoring Firm to oversee the performance of the asbestos abatement Project and provide direction as required throughout the entire abatement period. The Consultant and CM may be employees of the same firm or of separate firms, as determined at ESD’s discretion.

B. The Contractor is required to ensure cooperation of its personnel with the CM and Consultant for the air sampling and Project monitoring functions described below. The Contractor shall comply with all direction given by the CM and Consultant during the course of the Project.

C. The Consultant shall provide the following administrative services:
   1. Review and approve or disapprove all submittals, shop drawings, schedules, and samples.
   2. Assure that all notifications to governmental agencies by the Contractor are submitted in a timely manner and are correct in content.
   3. Review and approve the Contractor's OSHA compliance testing laboratory.

D. The Consultant shall staff the Project with a trained and certified person(s) to act on the Owner's behalf at the job site. This individual shall be designated as the Abatement Project Monitor (APM).

1. The APM shall be on-site at all times the Contractor is on-site. The Contractor shall not be permitted to conduct any Work unless the APM is on-site.
2. The APM shall have the authority to direct the actions of the Contractor verbally and in writing to ensure compliance with the Project documents and all regulations. The APM shall have the authority to Stop Work when gross Work practice deficiencies or unsafe practices are observed, or when ambient fiber concentrations outside the removal area exceed 0.01 f/cc or background level.
   a. Such Stop Work order shall be effective immediately and remain in effect until corrective measures have been taken and the situation has been corrected.
   b. Standby time required to resolve the situation shall be at the Contractor's expense.
3. The APM shall provide the following services:
   a. Inspection of the Contractor's Work, practices, and procedures, including temporary protection requirements, for compliance with all regulations and Project specifications.
   b. Provide abatement Project air sampling as required by applicable regulations (NYS, AHERA) and the Owner. Sampling will include background, pre-abatement, during abatement and clearance sampling.
   c. Verify daily that all Workers used in the performance of the Project are certified by the appropriate regulatory agency.
   d. Monitor the progress of the Contractor's Work, and report any deviations from the schedule to the Owner.
   e. Monitor, verify, and document all waste load-out operations.
   f. Verify that the Contractor is performing personal air monitoring daily, and that results are being returned and posted at the site as required.
   g. The APM shall maintain a log on site that documents all project related and Consultant and Contractor actions, activities, and occurrences.

4. The following minimum inspections shall be conducted by the APM. Additional inspections shall be conducted as required by Project conditions. Progression from one phase of Work to the next by the Contractor is only permitted with the written approval of the APM.
   a. Pre-Construction Inspection: The purpose of this inspection is to verify the existing conditions of the Work Areas and to document these conditions.
   b. Pre-Commencement Inspection: The purpose of this inspection is to verify the integrity of each containment system prior to disturbance of any asbestos containing material. This inspection shall take place only after the Work Area is fully prepped for removal.
   c. Work Inspections: The purpose of this inspection is to monitor the Work practices and procedures employed on the Project and to monitor the continued integrity of the containment system. Inspections within the removal areas shall be conducted by the APM during all preparation, removal, and cleaning activities

at least twice every Work shift. Additional inspections shall be conducted as warranted.

d. Pre-Encapsulation Inspection: The purpose of this inspection is to ensure the complete removal of Asbestos Containing Material (ACM), from all surfaces in the Work Area prior to encapsulation.

e. Visual Clearance Inspection: The purpose of this inspection is to verify the Contractor's certification that all materials have been removed from the Work Area and the absence of all visible accumulations of debris in the Work Area. This inspection shall be conducted after encapsulation and removal of all surface plastic in the area, except for critical barriers, but before final air clearance testing.

f. Post-Clearance Inspection: The purpose of this inspection is to ensure the complete removal of ACM, including debris, from the Work Area after satisfactory final clearance sampling and removal of all critical barriers and equipment from the Work Area.

g. Punch List Inspection: The purpose of this inspection is to verify the Contractor's certification that all Work has been completed as contracted and the existing condition of the area prior to its release to the Owner.

E. The Consultant shall provide abatement Project air sampling and analysis as required by applicable regulations (New York State and/or AHERA). Sampling will include background, pre-abatement, during-abatement, and clearance sampling.

1. Unless otherwise required by applicable regulations, the Consultant shall have samples analyzed by Phase Contrast Microscopy (PCM). Results shall be available within 24 hours of completion of sampling.
2. For large and small Projects, samples shall be collected as required by applicable regulations (New York State and/or AHERA).
3. For tent removals, a minimum of at least one clearance sample shall be collected in each tent. Additional samples shall be collected in accordance with small or large Project requirements if cumulative Project quantities exceed those of a minor Project.
4. If the air sampling during abatement reveals airborne fiber levels at or above 0.01 fibers/cc or the pre-abatement/environmental level (whichever is greater) outside the Work Area, then the Consultant shall issue an immediate Stop Work order. The Contractor shall then inspect the barriers for leakage and HEPA vacuum and/or wet clean the surface outside the Work Area. The Contractor shall bear the burden of any and all costs incurred by this delay.
5. The Environmental Consultant shall submit copies of all final air clearance results to the NYS Department of Labor at the completion of the Project.

1.9 CONTRACTOR AIR SAMPLING

A. In addition to the requirements of OSHA 1926.1101, the Contractor shall be required to perform personal air monitoring every Work shift in each Work Area during which abatement

activities occur in order to determine that appropriate respiratory protection is being worn and utilized.

B. The Contractor shall conduct air sampling that is representative of both the 8-hour time weighted average and 30-minute short-term exposures to indicate compliance with the permissible exposure and excursion limits.

C. The Contractor's laboratory analysis of air samples shall be conducted by an NYS DOH ELAP approved laboratory, subject to approval of the Environmental Consultant.

D. Results of personal air sample analyses shall be available, verbally, within twenty-four (24) hours of sampling and shall be posted upon receipt. Written laboratory reports shall be delivered and posted at the Work site within five (5) days. Failure to comply with these requirements may result in all work being stopped until compliance is achieved.

1.10 PROJECT SUPERVISOR

A. The Contractor shall designate a full-time Project Supervisor who shall meet the following qualifications:
   1. The Project Supervisor shall hold New York State certification as an Asbestos Supervisor.
   2. The Project Supervisor shall meet the requirements of a "Competent Person" as defined by OSHA 1926.1101 and shall have a minimum of one year experience as a supervisor.
   3. The Project Supervisor must be able to read and write English fluently, as well as communicate in the primary language of the Workers.

B. If the Project Supervisor is not on-site at any time whatsoever, all Work shall be stopped. The Project Supervisor shall remain on-site until the Project is complete. The Project Supervisor cannot be removed from the Project without the written consent of the Owner and the Environmental Consultant. The Project Supervisor shall be removed from the Project if so requested by the Owner.

C. The Project Supervisor shall maintain the Project Log Book required by New York State Department of Labor and section 2.03 of the specifications and the Waste Disposal Log required by section 4.04 of the specifications.

D. The Project Supervisor shall be responsible for the performance of the Work and shall represent the Contractor in all respects at the Project site. The Supervisor shall be the primary point of contact for the Asbestos Project Monitor.

1.11 MEDICAL REQUIREMENTS

A. Before exposure to airborne asbestos fibers, provide Workers with a comprehensive medical examination as required by 29 CFR 1910.1001, and 29 CFR 1926.1101.

1. This examination is not required if adequate records show the employee has been examined as required by 29 CFR 1910.1001, and 29 CFR 1926.1101 within the past year.
2. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos fibers and within thirty (30) calendar days before or after the termination of employment in such occupations.

B. As required by 29 CFR 1910.1001, and 29 CFR 1926.1101 maintain complete and accurate records of employees' medical examinations for a period of thirty (30) years after termination of employment and make records of the required medical examinations available for inspection and copying to: The Assistant Secretary of Labor for Occupational Safety and Health, the Director of the National Institute for Occupational Safety and Health (NIOSH), authorized representatives of either of them, and an employees physician upon the request of the employee or former employee.

C. The Contractor shall furnish the Owner evidence of its firm's medical surveillance program required under 29 CFR 1910.1001, and 29 CFR 1926.1101.

1.12 TRAINING

A. As required by applicable regulations, prior to assignment to asbestos Work instruct each employee with regard to the hazards of asbestos, safety and health precautions, and the use and requirements of protective clothing and equipment.

B. Establish a respirator program as required by ANSI Z88.2 and 29 CFR 1910.134, and 29 CFR 1926.1101. Provide respirator training and fit testing.

1.13 RESPIRATORY PROTECTION

A. Select respirators from those approved by the Mine Safety and Health Administration (MSHA), and the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services.

B. Respirators shall be individually fit-tested to personnel under the direction of an Industrial Hygienist on a yearly basis. Fit-tested respirators shall be permanently marked to identify the individual fitted, and use shall be limited to that individual. Fit-test records shall be maintained on site for each employee.

C. Where fiber levels permit, and in compliance with regulatory requirements, Powered Air Purifying Respirators (PAPR) are the minimum allowable respiratory protection permitted to be utilized during gross removal operations.

D. No respirators shall be issued to personnel without such personnel participating in a respirator training program.

E. High Efficiency Particulate Air (HEPA) respirator filters shall be approved by NIOSH and shall conform to the OSHA requirements in 29 CFR 1910.134 and 29 CFR 1926.1101.

F. A storage area for respirators shall be provided by the Contractor in the clean room side of the personal decontamination enclosure where they will be kept in a clean environment.

G. The Contractor shall provide and make available a sufficient quantity of respirator filters so that filter changes can be made as necessary during the work day. Filters will be removed and discarded during the decontamination process. Filters cannot be reused. Filters must be changed if breathing becomes difficult.

H. Filters used with negative pressure air purifying respirators shall not be used any longer than one eight (8) hour work day.

I. Any authorized visitor, Worker, or supervisor found in the Work Area not wearing the required respiratory protection shall be removed from the Project site and not be permitted to return.

J. The Contractor shall have at least two (2) Powered Air Purifying Respirators stored on site designated for authorized visitors use. Appropriate respirator filters for authorized visitors shall be made available by the Contractor.

1.14 DELIVERY AND STORAGE

A. Deliver all materials to the job site in original packages with containers bearing manufacturer's name and label.

B. Store all materials at the job site in a suitable and designated area.
   1. Store materials subject to deterioration or damage away from wet or damp surfaces and under cover.
   1. Protect materials from unintended contamination and theft.
   2. Storage areas shall be kept clean and organized.

C. Remove damaged or deteriorated materials from the job site. Materials contaminated with asbestos shall be disposed of as asbestos debris as herein specified.

1.15 TEMPORARY UTILITIES

A. Shut down and lock out all electrical power to the asbestos Work Areas.

B. Provide temporary 120-240 volt, single phase, three wire, 100 amp electric service with Ground Fault Circuit Interrupters (GFCI) for all electric requirements within the asbestos Work Area.

1. Where available, obtain from Owner's existing system. Otherwise provide power from other sources (i.e. generator).
2. Provide temporary wiring and "weatherproof" receptacles in sufficient quantity and location to serve all HEPA equipment and tools.
3. Provide wiring and receptacles as required by the Environmental Consultant for air sampling equipment.
4. All power to the Work Area shall be brought in from outside the area through GFCI's at the source.

C. Provide temporary lighting with "weatherproof" fixtures for all Work Areas including decontamination chambers.
1. The entire Work Area shall be kept illuminated at all times.
2. Provide lighting as required by the Environmental Consultant for the purposes of performing required inspections.

D. All temporary devices and wiring used in the Work Area shall be capable of decontamination procedures including HEPA vacuuming and wet-wiping.

E. Provide temporary water source to meet all applicable project water requirements (i.e. decontamination units, wetting materials, etc.). Utilize domestic water service, if available, from Owner's existing system. Provide hot water heaters with sufficient capacity to meet Project demands.

PART 2 PRODUCTS

2.1 PROTECTIVE CLOTHING

A. Provide personnel utilized during the Project with disposable protective whole body clothing, head coverings, gloves and foot coverings. Provide disposable plastic or rubber gloves to protect hands. Cloth gloves may be worn inside the plastic or rubber for comfort, but shall not be used alone. Make sleeves secure at the wrists and make foot coverings secure at the ankles by the use of tape, or provide disposable coverings with elastic wrists or tops.

B. Provide sufficient quantities of protective clothing to assure a minimum of four (4) complete disposable outfits per day for each individual performing abatement Work.

C. Eye protection and hard hats shall be provided and made available for all personnel entering any Work Area.

D. Authorized visitors shall be provided with suitable protective clothing, headgear, eye protection, and footwear whenever they enter the Work Area.

2.2 SIGNS AND LABELS

A. Provide warning signs and barrier tapes at all approaches to asbestos Work Areas. Locate signs at such distance that personnel may read the sign and take the necessary protective steps required before entering the area.

1. Provide danger signs in vertical format conforming to 29 CFR 1926.1101, minimum 20" x 14" displaying the following legend.

DANGER
ASBESTOS CANCER AND LUNG DISEASE
HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING
ARE REQUIRED IN THIS AREA

2. Provide 3" wide yellow barrier tape printed with black lettered, "DANGER ASBESTOS REMOVAL". Locate barrier tape across all corridors, entrances and access routes to asbestos Work Area. Install tape 3' to 4' AFF.

B. Provide asbestos danger labels affixed to all asbestos materials, scrap, waste, debris and other products contaminated with asbestos.

1. Provide asbestos danger labels of sufficient size to be clearly legible, displaying the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

2. Provide the following asbestos labels, of sufficient size to be clearly legible, for display on waste containers (bags or drums) which will be used to transport asbestos contaminated material in accordance with United States Department of Transportation 49 CFR Parts 171 and 172:

RQ HAZARDOUS
SUBSTANCE
SOLID, NOS
ORM-E, NA 9188
ASBESTOS

3. Generator identification information shall be affixed to each waste container indicating the following printed in indelible ink:

Generator Name:
Facility Name:
Facility Address:

2.3 PROJECT LOG BOOK

A. Provide a permanently bound Project log book. Log book shall contain on title page the Project name, name, address and phone number of Owner; name, address and phone number of Environmental Consultant; name, address and phone number of Abatement Contractor; emergency numbers including, but not limited to local Fire/Rescue department.

B. All entries into the log shall be made in non-washable, permanent ink and such pen shall be strung to or otherwise attached to the log to prevent removal from the log-in area. Under no circumstances shall pencil entries be permitted.

C. All persons entering and exiting the Work Area shall sign the log and include name, social security number, and time.

D. The Project Supervisor shall document all Work performed daily and note all inspections required by NYS Industrial Code 12 NYCRR Part 56, i.e. testing and inspection of barriers and enclosures.

2.4 SCAFFOLDING AND LADDERS

A. Provide all scaffolding and/or staging as necessary to accomplish the Work of this Contract. Scaffolding may be of suspension type or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of all scaffolding and ladders shall comply with all applicable OSHA construction industry standards.

B. Provide scaffolding and ladders as required by the Environmental Consultant for the purposes of performing required inspections.

2.5 SURFACTANT (AMENDED WATER)

A. Wet all asbestos-containing materials prior to removal with surfactant mixed and applied in accordance with manufacturer's printed instructions.

B. Approved Manufacturer:
1. International Protective Coatings Corp.: Serpiflex Shield
2. American Coatings Corp.: EPA 55 Asbestos Removal Agent
3. Certified Technologies: CerTane 2075 Penetrating Surfactant

2.6 ENCAPSULANT

A. Encapsulant shall be tinted or pigmented so that application when dry is readily discernible.

B. Approved Manufacturer:
   1. International Protective Coatings Corp.: Serpiflex Shield
   2. American Coatings Corp.: FNE High Temperature Sealant
   3. Certified Technologies: CerTane 1000 Post Removal Encapsulant

2.7 DISPOSAL BAGS, DRUMS, AND CONTAINERS

A. Provide 6 mil polyethylene disposal bags printed with asbestos caution labels. Bags shall also be imprinted with U.S. Department of Transportation required markings.

B. Provide 30 or 55 gallon capacity fiber or metal drums capable of being sealed air and water tight if asbestos waste has the potential to damage or puncture disposal bags. Affix asbestos caution labels on lids and at one-third points around drum circumference to assure ready identification.

C. Containers and bags must be labeled with the names of the waste generator and the location at which the waste was generated in accordance with 40 CFR Part 61 NESHAPS.

D. Labeled ACM waste containers or bags shall not be used for non-ACM waste or trash. Any material placed in labeled containers or bags, whether turned inside out or not shall be handled and disposed of as ACM waste.

2.8 HEPA VACUUM EQUIPMENT

A. All dry vacuuming performed under this contract shall be performed with High Efficiency Particulate Absolute (HEPA) filter equipped industrial vacuums conforming to ANSI Z9.2.

B. Provide tools and specialized equipment including scraping nozzles with integral vacuum hoods connected to a HEPA vacuum with flexible hose.

C. Approved Manufacturers:
   1. Hako Minuteman
   2. Micro-Trap Inc.
   3. Control Resource Systems, Inc.

2.9 POWER TOOLS

A. Any power tools used to drill, cut into, or otherwise disturb asbestos material shall be equipped with HEPA filtered local exhaust ventilation.

2.10 POLYETHYLENE SHEETING

A. All polyethylene (plastic) sheeting used on the Project (including but not limited to sheeting used for critical and isolation barriers, fixed objects, walls, floors, ceilings, waste container) shall be at least 6 mil fire retardant sheeting.

B. Decontamination enclosure systems shall utilize at least 6 mil opaque fire retardant plastic sheeting. At least 2 layers of 6 mil reinforced fire retardant plastic sheeting shall be used for the flooring.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

A. Should the area beyond the Work Area(s) become contaminated with asbestos containing materials or elevated fiber levels, immediately stop Work and institute emergency procedures. Contaminated non-Work Areas shall be isolated and decontaminated in accordance with procedures established for asbestos removal. All costs incurred in decontaminating such non-Work Areas and the contents thereof shall be borne by the Contractor, at no additional cost to the Owner.

B. Medical approval, fit test reports, Worker Acknowledgments, and NYS DOL certificates shall be on site prior to admittance of any Contractor’s employees to the asbestos Work Area.

C. Perform all asbestos removal Work using wet removal procedures. Mix and apply surfactant in accordance with manufacturer's written instructions. Dry removal procedures are not permitted.

D. The following submittals, documentation, and postings shall be maintained on-site during abatement activities at a location approved by the Asbestos Project Monitor:
   1. Contractor license issued by New York State Department of Labor.
   2. Certification, Worker Training, Medical Surveillance, Acknowledgments:
      a. New York State Asbestos Handler certification cards for each person employed in the removal, handling, or disturbance of asbestos.
      b. Evidence that Workers have received proper training required by the regulations and the medical examinations required by OSHA 29 CFR 1926.1101.
      c. Documentation that Workers have been fit tested specifically for respirators used on the Project.
      c. Worker's Acknowledgments: Statements signed by each employee that the employee has received training in the proper handling of asbestos containing materials; understands the health implications and risks involved; and understands the use and limitations of the respiratory equipment to be used.
   3. Daily OSHA personal air monitoring results.

4. NYS Department of Health ELAP certification for the laboratory that will be analyzing the OSHA personal air samples.
5. NYS Department of Environmental Conservation Waste Transporter Permit.
6. Project documents (specifications and drawings.)
7. Notifications and variances (site specific). Ensure that the most up-to-date notifications and variances are on-site.
8. Applicable regulations.
9. Material Safety Data Sheets of supplies/chemicals used on the Project.
10. Approved Abatement Work Plan.
11. List of emergency telephone numbers.
12. Waste Disposal Log
13. Project Log Book

E. The Work Area must be vacated by building occupants prior to decontamination enclosure construction and Work Area preparation.

F. All demolition necessary to access asbestos containing materials for removal must be conducted within negative pressure enclosures by licensed asbestos handlers. Demolition debris may be disposed of as construction and demolition debris provided the Asbestos Project Monitor determines that it is not contaminated with asbestos. If the demolition debris is determined to be contaminated, it must be disposed of as asbestos waste.

3.2 PERSONAL DECONTAMINATION ENCLOSURE

A. Provide a personal decontamination enclosure consistent with ICR 56. The decontamination enclosure shall not be located within a work area. If the decontamination chamber is accessible to the public it shall be fully framed and sheathed to prevent unauthorized entry.

B. Access to the Work Area will be from the clean room through an air-lock to the shower, through an air lock to the equipment room, through an air lock to the Work Area. Each airlock shall be a minimum of three feet from door to door.

C. The decontamination enclosure ceiling and walls shall be covered with two layers of opaque 6 mil polyethylene sheeting. Two layers of reinforced polyethylene sheeting shall be used to cover the floor.

D. Establish a triple layer of six mil polyethylene at the decontamination chamber doorways, weighted to insure a tight seal of the enclosure. Prior to establishing doorway seals move all required tools, scaffolding, and equipment into the Work Area.

E. The entrance to the clean room shall have a lockable door. Provide suitable lockers for storage of Worker's street clothes. Storage for respirators along with replacement filters and disposable towels shall also be provided.

F. Provide a temporary shower with individual hot and cold water supplies and faucets. Provide a sufficient supply of soap and shampoo. There shall be one shower for every six Workers. The shower room shall be constructed in such a way so that travel through the shower chamber shall be through the shower. The shower shall not be able to be bypassed.

G. Shower water shall be drained, collected and filtered through a system with at least a 5.0 micron particle size collection capability containing a series of several filters with progressively smaller pore sizes to avoid rapid clogging of the system. The filtered waste water shall then be discharged in accordance with applicable codes and the contaminated filters disposed of as asbestos waste.

H. The equipment room shall be used for the storage of tools and equipment. A walk-off pan filled with water shall be located in the Work Area outside the equipment room for Workers to clean foot coverings when leaving the Work Area. A labeled 6 mil plastic ACM waste bag for collection of contaminated clothing shall be located in this room.

I. The personal decontamination enclosure shall be cleaned and disinfected minimally at the end of each Work shift and as otherwise directed by the Asbestos Project Monitor.

3.3 WASTE DECONTAMINATION ENCLOSURE

A. Provide a waste decontamination enclosure consistent with ICR 56. The decontamination enclosure shall not be located within a work area. If the decontamination chamber is accessible to the public it shall be fully framed and sheathed to prevent unauthorized entry.

B. The waste decontamination enclosure system shall consist of a washroom/cleanup room with an airlock to the Work Area and another airlock doorway to the holding area. Each airlock shall be a minimum of three feet from door to door. The entrance to the holding area shall have a lockable door.

C. The decontamination enclosure ceiling and walls shall be covered with two layers of opaque 6 mil polyethylene sheeting. Two layers of reinforced polyethylene sheeting shall be used to cover the floor.

D. Establish a triple layer of six mil polyethylene at the decontamination chamber doorways, weighted to insure a tight seal of the enclosure. Prior to establishing doorway seals move all required tools, scaffolding, and equipment into the Work Area.

E. Where there is only one egress from the Work Area, the holding area of the waste decontamination enclosure system may branch off from the personal decontamination enclosure equipment room, which then serves as the waste wash room.

F. The waste wash room water shall be drained, collected, and filtered through a system with at least a 5.0 micron particle size collection capability containing a series of several filters with

progressively smaller pore sizes to avoid rapid clogging of the system. The filtered waste water shall then be discharged in accordance with applicable codes and the contaminated filters disposed of as asbestos waste.

G. In small asbestos Projects where only one egress from the Work Area exists, the shower room may be used as a waste washroom. In this instance, the clean room shall not be used for waste storage, but shall be used for waste transfer to carts, which shall immediately be removed from this enclosure.

3.4 WORK AREA ENTRY AND EXIT PROCEDURES

A. Access to and from the asbestos Work Area is permitted only through the personal decontamination enclosure unless otherwise stipulated in a site specific variance.

B. Workers shall sign the entry/exit log upon every entry and exit.

C. The following procedures shall be followed when entering the Work Area:
1. Before entering the Work Area, Workers shall proceed to the clean room, remove all street clothes, and don protective clothing, equipment, and respirators.
2. Workers shall proceed from the clean room through the shower room and the equipment room and into the Work Area.

D. The following procedures shall be followed when exiting the Work Area:
1. Before leaving the Work Area, gross asbestos contamination will be removed by brushing, wet cleaning and/or HEPA vacuuming.
2. In the equipment room, Workers shall remove disposable clothing, but not respirators, and shall place clothing in plastic disposal bags for disposal as contaminated debris prior to entering the shower room.
3. Workers shall shower thoroughly while wearing respirators then wash respirator with soap and water prior to removal.
4. Upon exiting the shower, Workers shall don new disposable clothing if the Work shift is to continue or street clothes to exit area. Under no circumstances shall Workers enter public non-Work Areas in disposable protective clothing.

3.5 WORK AREA PREPARATION

A. Asbestos danger signs shall be posted at all approaches to the asbestos Work Area. Post all emergency exits as emergency exits only on the Work Area side, post with asbestos caution signs on the non-Work Area side. Provide all non-Work Area stairs and corridors accessible to the asbestos Work Area with warning tapes at the base of stairs and beginning of corridors. Warning tapes shall be in addition to caution signs.

B. Shut down and lock out the building heating, ventilating, and air conditioning and electrical systems. Provide temporary electric power and lighting as specified herein.

C. All surfaces and objects within the Work Area shall be pre-cleaned using HEPA vacuuming and/or wet-wiping methods. Dry sweeping and any other methods that raise dust shall be prohibited. ACM shall not be disturbed during pre-cleaning.

D. Movable objects within the Work Area shall be HEPA vacuumed and/or wet-wiped and removed from the Work Area.

E. All non-movable equipment in the Work Area shall be completely covered with 2 layers of polyethylene sheeting, at least 6 mil in thickness, and secured in place with duct tape and/or spray adhesive.

F. Provide enclosure of the asbestos Work Area necessary to isolate it from unsealed areas of the building in accordance with the approved asbestos Work plan and as specified herein.

G. Seal off all openings including but not limited to windows, diffusers, grills, electrical outlets and boxes, doors, floor drains, and any other penetrations of the Work Area enclosure, using 2 layers of at least 6 mil polyethylene sheeting to form a critical barrier or as described in the site specific variance.

H. Provide temporary framing and sheathing at openings larger than 32 square feet forming the limits of the asbestos Work Area. Sheathing thickness must be a minimum of 3/8 inch and all sheathing shall be caulked and the Work Area side sealed with two layers of 6 mil polyethylene sheeting to form an isolation barrier, or as described in the site specific variance.

I. Isolation barriers shall be installed at all elevator openings in the Work Area. Elevator controls shall be modified so that elevators bypass the Work Area.

J. Provide two layers of 6 mil polyethylene sheeting over all floor, wall, and ceiling surfaces. Isolation barriers shall also be covered with two layers (for a total of four layers) or perform as modified by the site specific variance. Sheeting shall be secured with spray adhesive and then sealed with duct tape. All joints in polyethylene sheeting shall overlap 12" minimum.

K. Unless otherwise specified for removal, the Contractor shall either protect all fiberglass insulation on piping, ductwork, tanks, etc. in the Work Area using two layers of six mil polyethylene or remove the insulation as asbestos containing waste.

L. Frame out emergency exits. Provide double layer 6 mil polyethylene sheeting and tape seal opening. Post as emergency exits only. Within the Work Area, mark the locations and directions of emergency exits throughout the Work Area using exit signs and/or duct tape.

M. Remove all items attached to or in contact with ACM only after the Work Area enclosure is in place. HEPA vacuum and wet wipe with amended water all removed items prior to their removal from the Work Area and before the start of asbestos removal operations.

N. Suspended ceiling tiles shall only be removed after Work Area preparation is complete, or as specified in the site specific variance. Non-contaminated ceiling tiles shall be HEPA vacuumed and removed from the Work Area before asbestos removals begin. Contaminated ceiling tiles shall be disposed of as asbestos waste.

3.6 NEGATIVE AIR PRESSURE FILTRATION SYSTEM

A. Provide a portable asbestos filtration system that develops a minimum pressure differential of negative 0.02 in. of water column within all full enclosure areas relative to adjacent unsealed areas and that provides a minimum of 4 air changes per hour in the Work Area during abatement.

B. Such filtration systems must be operated 24 hours per day during the entire Project until the final cleanup is completed and satisfactory results of the final air samples are received from the laboratory.

C. The system shall include a series of pre-filters and filters to provide High Efficiency Particulate Air (HEPA) filtration of particles down to 0.3 microns at 100% efficiency and below 0.3 microns at 99.9% efficiency. Provide sufficient replacement filters to replace pre-filters every 2 hours, secondary pre-filters every 24 hours, and primary HEPA filters every 600 hours of operation.

D. A minimum of one additional filtration unit of at least the same capacity as the primary unit(s) shall be installed and fully functional to be used during primary unit (s) filter changing and in case of primary failure. There shall be at least one back-up unit for every five primary units.

E. At no time will the unit exhaust indoors, within 50 feet of a receptor, including but not limited to windows and doors, or adversely affect the air intake of the building.

F. Upon electric power failure or shut-down of any filtration unit, all abatement activities shall stop immediately and only resume after power is restored and all filtration units are fully operating. For shut-downs longer than one hour, all openings into the Work Area, including the decontamination enclosures, shall be sealed.

G. During final air clearance sampling, negative air filtration shall be reduced to half the required air changes per hour.

H. The Contractor shall provide either a manometer or a photohelic style negative air pressure gauge with chart recorder to measure and record negative pressure differential across the Work Area barriers without interruption 24 hours per day as directed by the Environmental Consultant.

I. The contractor shall observe all applicable preparation phase, removal and cleaning phase, and settling/ drying waiting periods as described in ICR 56.

3.7 REMOVAL OF ASBESTOS CONTAINING MATERIALS:

A. Asbestos-containing materials shall be removed in accordance with the Contract Documents and the approved Asbestos Work Plan.

B. Sufficiently wet asbestos materials with a low pressure, airless fine spray of surfactant to ensure full penetration prior to material removal. Re-wet material that does not display evidence of saturation.

C. One Worker shall continuously apply amended water while ACM is being removed.

D. Perform cutting, drilling, abrading, or any penetration or disturbance of asbestos containing material in a manner to minimize the dispersal of asbestos fibers into the air. Use equipment and methods specifically designed to limit generation of airborne asbestos particles. All power operated tools used shall be provided with HEPA equipped filtered local exhaust ventilation.

E. Upon removal of ACM from the substrate, the newly exposed surfaces shall be HEPA vacuumed and/or wet cleaned. Surfaces must be thoroughly cleaned using necessary methods and any required solvents to completely remove any adhesive, mastic, etc, unless stated otherwise in the site specific variance.

F. Upon removal of ACM from substrate, the material shall be carefully lowered to the ground and floor, not dropping, throwing, sliding, or otherwise damaging or disturbing the material.

G. All removed material shall be placed into 6 mil plastic disposal bags or other suitable container upon detachment from the substrate or whenever there is enough accumulation to fill a single bag or container. Maintain the surfaces of the Work Area free of accumulation of asbestos debris.

H. Large components shall be wrapped in two layers of 6 mil polyethylene sheeting. Sharp components likely to tear disposal bags shall be placed in fiber drums or boxes and then wrapped with sheeting.

I. Power or pressure washers are not permitted for asbestos removal or clean-up procedures.

J. All open ends of pipe and duct insulation not scheduled for removal shall be encapsulated using lag cloth.

K. All construction and demolition debris determined by the Environmental Consultant to be contaminated with asbestos shall be handled and disposed of by the Contractor as asbestos waste.

L. The use of metal shovels, metal dust pans, etc. are not permitted inside the work area.

3.8 EQUIPMENT AND WASTE CONTAINER DECONTAMINATION AND REMOVAL PROCEDURES

A. External surfaces of contaminated containers and equipment shall be cleaned by wet cleaning and/or HEPA vacuuming in the Work Area before moving such items into the waste decontamination enclosure system airlock by persons assigned to this duty. The Work Area persons shall not enter the airlock.

B. The containers and equipment shall be removed from the airlock by persons stationed in the washroom during waste removal operations. The external surfaces of containers and equipment shall be cleaned a second time by wet cleaning.

C. The cleaned containers of asbestos material and equipment are to be dried of any excessive pooled or beaded liquid, placed in uncontaminated plastic bags or sheeting, as the item's physical characteristics demand, and sealed airtight.

D. The clean recontainerized items shall be moved into the airlock that leads to the holding area. Workers in the washroom shall not enter this airlock or the Work Area until waste removal is finished for that period.

E. Containers and equipment shall be moved from the airlock and into the holding area by persons dressed in clean personal protective equipment, who have entered from uncontaminated areas.

F. The cleaned containers of asbestos material and equipment shall be placed in water tight carts with doors or tops that shall be closed and secured. These carts shall be held in the holding area pending removal. The carts shall be wet cleaned and/or HEPA vacuumed at least once each day.

G. The exit from the decontamination enclosure system shall be secured to prevent unauthorized entry.

H. Where the waste removal enclosure is part of the personal decontamination enclosure, waste removal shall not occur during shift changes or when otherwise occupied. Precautions shall be taken to prevent short circuiting and cycling of air outward through the shower and clean room.

3.9 APPLICATION OF ENCAPSULANT

A. After first cleaning, prior to first sheeting removal, and after Work Area has been rendered free of visible residues, a thin coat of encapsulant shall be applied to any surfaces in the Work Area which were not the subject of removal.

B. In no event shall encapsulant be applied to any surface that was the subject of removal prior to obtaining satisfactory air monitoring results.

C. Encapsulants shall be pigmented or tinted to provide an indication for completeness of coverage. The Asbestos Project Monitor shall determine adequacy of coverage.

3.10 WORK AREA DECONTAMINATION

A. Following completion of gross abatement and after all accumulations of asbestos waste materials have been containerized, the following decontamination procedures shall be followed unless modified by a site specific variance.

B. First Cleaning:
1. All bagged asbestos waste and unnecessary equipment shall be decontaminated and removed from the Work Area.
2. All surfaces in the Work Area shall be wet cleaned. A wet-purpose shop vacuum may be used to pick up excess liquid, and may either be decontaminated prior to removal from the Work Area or disposed of as asbestos waste.
3. The Asbestos Project Monitor shall conduct a visual inspection of the Work Area for cleanliness and completion of abatement.
4. The Contractor shall then apply a thin coat of encapsulant to all surfaces in the Work Area that were not the subject of removal. In no event shall encapsulant be applied to any surface that was the subject of removal prior to obtaining satisfactory air monitoring results.
5. After the encapsulant has dried, the first layer of polyethylene sheeting shall then be removed and bagged, and the Work Area shall be vacated for a minimum of 12 hours.

C. Second Cleaning
1. All surfaces in the Work Area shall be HEPA vacuumed and/or wet cleaned.
2. The Asbestos Project Monitor shall conduct a second visual inspection of the Work Area for cleanliness.
3. The second layer of polyethylene sheeting shall be removed and bagged and the Work Area shall be vacated for a minimum of 12 hours.

D. Third Cleaning
1. All surfaces in the Work Area shall be HEPA vacuumed and/or wet cleaned.
2. The Asbestos Project Monitor shall conduct a third visual inspection of the Work Area for cleanliness.

3. The Work Area shall be vacated for a minimum of 12 hours regardless of the cleaning method (HEPA vacuuming or wet cleaning) utilized.
4. Aggressive final clearance air sampling shall then be conducted by the Environmental Consultant.
5. Upon receipt of satisfactory final clearance air sampling results, the negative air pressure equipment can then be shut down and decontamination areas and isolation and critical barriers removed.

E. After isolation and critical barriers are removed, the Asbestos Project Monitor shall inspect the Work Area for cleanliness. If necessary, additional cleaning shall be performed by the Contractor as directed by the Asbestos Project Monitor.

F. As a result of any visual inspection by the Asbestos Project Monitor or should air sampling results indicate high fiber levels, the Contractor will clean or reclean the affected areas at no additional expense to the Owner.

3.11 TENT ENCLOSURES

A. Tent enclosures may only be used in areas specifically permitted by NYS Department of Labor Code 12 NYCRR Part 56 or a Project specific variance issued by the NYS Department of Labor.

B. The Contractor shall restrict access to the immediate area where tent removal procedures are taking place using barrier tape and/or construction barriers. Caution signs shall be posted.

C. Remote personal and waste decontamination enclosures shall be constructed. Configuration shall be as required by Project size.

D. The Work Area shall be precleaned. All objects and equipment that will remain in the restricted area during abatement shall be sealed with two layers of six mil polyethylene and tape.

E. The tent shall be a single use barrier constructed with a rigid frame and at least two layers of six mil polyethylene unless one layer of six mil polyethylene is otherwise permitted by a site specific variance. All seams shall be sealed airtight using duct tape and/or spray adhesive.

F. The tent shall be constructed with at least one airlock for worker/waste egress.

G. During removals, a HEPA vacuum or small capacity negative pressure filtration unit shall be used to provide a negative air pressure inside the tent.

H. Workers shall wear two disposable suits for all phases of Work. Workers exiting the tent shall HEPA vacuum the outer suit, enter the airlock, remove the outer suit and then place it back

into the Work Area. A clean second suit shall be donned before exiting the airlock and proceeding to the decontamination enclosure or another work area.

I. OSHA compliance air monitoring is required per section 1.09.

J. ACM removal shall follow procedures defined in section 3.07.

K. Waste material shall be placed in properly labeled 6 mil plastic bags or other appropriate containers. The outside of the bags or containers shall be wet wiped and/or HEPA vacuumed before being passed into the airlock for double- bagging. The bags or containers shall then be transported to the decontamination enclosure and then bagged for a third time and transported to the waste storage container. All transportation of waste bags and containers outside the Work Area shall be in watertight carts.

L. Following completion of gross abatement and after all accumulations of asbestos waste materials have been containerized, the following decontamination procedures shall be followed.
   1. All bagged asbestos waste and unnecessary equipment shall be decontaminated and removed from the Work Area.
   2. All surfaces in the Work Area shall be wet cleaned. A wet-purpose shop vacuum may be used to pick up excess liquid, and shall be decontaminated prior to removal from the Work Area.
   3. The Asbestos Project Monitor shall conduct a visual inspection of the Work Area for cleanliness and completion of abatement.
   4. The Contractor shall then apply a thin coat of encapsulant to all surfaces in the Work Area that were not the subject of removal. In no event shall encapsulant be applied to any surface that was the subject of removal prior to obtaining satisfactory air monitoring results.
   5. After the encapsulant has dried, aggressive final clearance air sampling shall then be conducted by the Environmental Consultant.
   6. Upon receipt of satisfactory final clearance air sampling results, the tent shall be collapsed into itself, placed in suitable disposal bags, and transported to the waste decontamination enclosure. Isolation and critical barriers shall then be removed.

3.12 GLOVEBAG REMOVAL

A. Glovebag removals may only be used as specifically permitted by NYS Department of Labor Code 12 NYCRR Part 56, or a Project specific variance issued by the NYS Department of Labor. Glovebags may only be used on piping.

B. In addition to conformance with applicable regulations and variances, glovebag removals are only permitted to be conducted within tent enclosures complying with these specifications. Removal and disposals must also be conducted in conformance with all Project variance conditions.

C. The Contractor shall restrict access to the immediate area where tent/glovebag removal procedures are taking place using barrier tape and/or construction barriers. Caution signs shall be posted.

D. Remote personal and waste decontamination enclosures shall be constructed. Configuration shall be as required by Project size.

E. The Work Area shall be precleaned. All objects and equipment which will remain in the restricted area during abatement shall be sealed with two layers of six mil polyethylene and tape.

F. Glovebag removals shall utilize commercially available glovebags of at least six mil thickness. Use shall be in accordance with the manufacturer's instructions and the following minimum requirements:
   1. The sides of the glovebag shall be cut to fit the size pipe being removed. Tools shall be inserted into the attached tool pocket.
   2. The glovebag shall be placed around the pipe and the open edges shall be folded and sealed with staples and duct tape. The glovebag shall also be sealed at the pipe to form a tight seal.
   3. Openings shall be made in the glovebag for the wetting tube and HEPA vacuum hose. The opening shall be sealed to form a tight seal.
   4. All glovebags shall be smoke tested by the Asbestos Project Monitor before removal operations commence. Glovebags that do not pass the smoke test shall be resealed and then retested.
   5. After first wetting the materials to be removed, removal may commence ACM shall be continuously wetted. After removal of the ACM, the piping shall be scrubbed or brushed so that no visible ACM remains. Open ends of pipe insulation shall be encapsulated.
   6. After the piping is cleaned, the inside of the glovebag shall be washed down and the wetting tube removed. Using the HEPA vacuum, the glovebag shall be collapsed and then twisted and sealed with tape with the ACM at the bottom of the bag.
   7. A disposal bag shall be placed around the glovebag that is then detached from the pipe. The disposal bag is then sealed and transported to the decontamination enclosure.

G. After glovebag removals are complete, tent decontamination procedures shall be followed.

3.13 ROOF REMOVALS

A. Except as modified by this section, removal of roof flashings and built-up roofing shall conform to all provisions of this specification.

B. Unless Project specific variances have been otherwise obtained, roofing removals shall be conducted in accordance with the provisions of New York State Department of Labor (NYS DOL) 12 NYCRR Part 56.

C. The work area shall be the roof area from which ACM materials are being removed and shall extend 25 feet from the perimeter of the removal area, or as otherwise stated in the site specific variance.

D. Non-certified Workers are not allowed in the Work Area until the Work Area is cleared by the Asbestos Project Monitor.

E. Remote personal and waste decontamination enclosures shall be constructed at a location in accordance with the approved Work Plan. Unless located outside the Work Area, decontamination enclosures are not permitted to be constructed on the roof. Decontamination enclosures shall be stationary and located in accordance with NYSDOL 12 NYCRR Part 56 requirements.

F. All openings (including but not limited to windows, doors, hatches, vents, ducts, and grilles) on the roof level and the floor below shall be sealed with two layers of six mil polyethylene. Alternately, a polyethylene drape may be used instead of sealing windows individually.

G. The removal of the ACM may require the use of scrapers, solvents, mastic removal chemicals, or other methods/procedures to ensure complete removal.

H. The Contractor is required to provide temporary protection of the roof at the end of each Work shift so as to maintain the roof in a watertight condition.

I. Dumpsters used for waste storage shall be lined with two layers of six mil polyethylene and shall have a hard top. Where open-top dumpsters are permitted, the top shall closed with polyethylene flaps that are sealed at the end of each work shift.

J. Personal protective equipment, including respirators, shall be utilized and worn during all removal operations until the Work Area is cleared by the Asbestos Project Monitor.

K. The Owner may, at his discretion, choose to conduct air sampling. If air samples collected during abatement indicate any airborne asbestos fiber concentration(s) at or above 0.01 f/cc, Work shall be stopped immediately and Work methods shall be altered to reduce the airborne asbestos fiber concentration(s).

3.14 RESTORATION OF UTILITIES, FIRESTOPPING, AND FINISHES

A. After final clearance remove locks and restore electrical and HVAC systems. All temporary power shall be disconnected, power lockouts removed and power restored. All temporary plumbing shall be removed.

B. Finishes damaged by asbestos abatement activities including, but not limited to, plaster/paint damage due to duct tape and spray adhesives, and floor tile lifted due to wet or humid conditions, shall be restored prior to final payment.
   1. Finishes unable to be restored shall be replaced under this Contract.
   2. All foam and expandable foam products and materials used to seal Work Area openings shall be completely removed upon completion of abatement activities.

C. All penetrations (including, but not limited to, pipes, ducts, etc.) through fire rated construction shall be firestopped using materials and systems tested in accordance with ASTM E814 on Projects where reinsulation is part of the required work.

PART 4 DISPOSAL OF ASBESTOS WASTE

4.1 APPLICABLE REGULATIONS

A. All asbestos waste shall be stored, transported and disposed of in accordance with the following regulations as a minimum:
   1. 12 NYCRR Part 56-10
   2. US EPA NESHAPS 40 CFR 61
   3. US EPA Asbestos Waste Management Guidance EPA/530-SW85

4.2 TRANSPORTATION AND DISPOSAL SITE

A. The Contractor's Hauler and Disposal Site shall be approved by the Owner.

B. The Contractor shall give twenty-four (24) hour notification prior to removing any waste from the site. Waste shall be removed from the site only during normal working hours unless otherwise specified. No waste may be taken from the site unless the Contractor and Environmental Consultant are present and the Environmental Consultant authorizes the release of the waste as described herein.

C. The Contractor shall have the Hauler provide the estimated date and time of arrival at the Disposal Site.

D. Upon arrival at the Project Site, the Hauler must possess and present to the Environmental Consultant a valid New York State Department of Environmental Conservation Part 364 Asbestos Hauler's Permit. The Environmental Consultant may verify the authenticity of the hauler's permit with the proper authority.

E. The Hauler, with the Contractor and the Environmental Consultant, shall inspect all material in the transport container prior to taking possession and signing the Asbestos Waste Shipment Records.

F. Unless specifically approved by the Owner, the Contractor shall not permit any off-site transfers of the waste or allow the waste to be transported or combined with any other off-site asbestos material. The Hauler must travel directly to the disposal site as identified on the notifications with no unauthorized stops.

4.3 WASTE STORAGE CONTAINERS

A. All waste containers shall be fully enclosed and lockable (i.e. enclosed dumpster, trailer, etc.). No open containers will be permitted on-site (i.e. open dumpster with canvas cover, etc.) unless specifically permitted by a site specific variance.

B. The Environmental Consultant shall verify that the waste storage container and/or truck tags (license plates) match that listed on the New York State Department of Environmental Conservation Part 364 permit. Any container not listed on the permit shall be removed from the site immediately.

C. The container shall be plasticized and sealed with a minimum of one (1) layer of 6 mil polyethylene on the sides and two (2) layers of 6 mil polyethylene on the floor. Once on site, it shall be kept locked at all times, except during load out. The waste container shall not be used for storage of equipment or contractor supplies.

D. While on-site, the container shall be labeled with EPA Danger signage:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

E. The New York State Department of Environmental Conservation Asbestos Hauler's Permit number shall be stenciled on both sides and back of the container.

F. The container is not permitted to be loaded unless it is properly plasticized, has the appropriate danger signage affixed, and has the permit number appropriately stenciled on the container.

4.4 ASBESTOS WASTE SHIPMENT RECORDS

A. Asbestos Waste Shipment Records shall be completed by the Contractor and verified by the Construction Manager that all the information and amounts are accurate and the proper signatures are in place.

B. The Waste Shipment Records shall have the appropriate signatures of the Owner’s Representative, the Contractor, and the Hauler representatives prior to waste being removed from the site.

C. Copies of the completed Waste Shipment Records shall be retained by the Construction Manager and the Contractor and shall remain on site for inspection.

D. Upon arrival at the Disposal Site, the Waste Shipment Record shall be signed by the Disposal Facility operator to certify receipt of ACM covered by the manifest.

E. The Disposal Facility operator shall return the original Waste Shipment Records to the Owner's Representative.

F. The Contractor shall forward copies of the Waste Shipment Records to the Construction Manager within 5 days of the waste container being removed from the site. Failure to do so may result in payment being withheld from the Contractor.

G. The Contractor shall create and utilize a Waste Disposal Log to track the disposal of all project generated waste. This log shall be maintained by the Project Supervisor and shall be kept on site at all times.

H. Copies of all Waste Shipment Records and disposal logs shall be submitted by the Contractor to the Construction Manager with the final close-out documentation.

END OF SECTION 02080

SECTION 02082- LEAD BASED PAINT CONTROL

PART 1 - GENERAL

1.1 SCOPE:

A. There are several areas of the Episcopal Church Home complex where interior paint is flaked and chipped. Lead paint samples were collected in pre-demolition investigations, which shall be made available to the Contractor. Flaked and loose chipped lead based paint shall be removed by the Contractor from walls, piping and equipment prior to demolition. Lead-contaminated dust/debris is also present in several areas of the Episcopal Church Home site which also shall be removed prior to demolition. Removal of lead-contaminated dust/debris shall be performed in a controlled negative pressure environment as specified by Section 02080 – Asbestos Removal. Hazards of lead based paint at the Site pose a potential risk to workers and shall be addressed by the Contractor's HASP, the requirements of this Section, and Contractor's work practices.

B. Perform all work necessary to carry out the proper management and control of all flaking or chipping lead based paint (LBP) from all walls, piping and equipment and lead-contaminated dust/debris in accordance with all applicable laws, codes, rules and regulations and in accordance with the requirements set forth in this section. Provide all appropriate controls and protection for worker exposure to lead based paint in accordance with OSHA requirements.

1.2 REGULATORY REQUIREMENTS:

A. Applicable guidelines and standards listed in this Scope of Work include, but are not limited to, the following:

1. New York State Department of Environmental Conservation

   6 NYCRR Subparts 371-376

2. Code of Federal Regulations (CFR) Publications:

   - 29 CFR Part 1926.62 Lead Exposure in Construction; Interim Final Rule Vol. 58, No. 84
   - 40 CFR 61, Subpart A General Provisions (Hazardous Air Pollutants Listing)
   - 40 CFR 61.152 Standard for Waste Manufacturing, Demolition, Renovation, Spraying and Fabricating Operations
   - 40 CFR 241 Guidelines for the Land Disposal of Solid Wastes
   - 40 CFR 257 Criteria for Classification of Solid Waste
   - 40 CFR 281 Identification and Listing of Hazardous Wastes
   - 40 CFR 262 Standards Applicable to Generators of Hazardous Waste

3. American National Standards Institute (ANSI) Publications:

- Z88.2-80 Practices for Respiratory Protection
- Z87.1 Eye Protection

4. Steel Structure Painting Council (SSPC)

SSPC Guide 6 (CON): Guide for Containing Debris Generated During Paint Removal Operations

1.3 WORKER PROTECTION:

A. General

1. Any surface coating and/or underlying substrate containing lead in any concentration that shall be disturbed shall be treated as a potential lead hazard to workers in accordance with 29 CFR 1926.62 (Lead Exposure in Construction: Interim Final Rule - May 1993). This standard applies to all construction work in which lead in any concentration is present.

2. The Contractor shall be responsible for maintaining a program in accordance with 29 CFR 1926.62 at minimum and shall be responsible for protecting and training his employees on worker safety, health hazards, etc. relating to lead. The following sections must be addressed by the Contractor in a lead health and safety program. This program shall be incorporated into the Contractor's written safety plan. These sections are not intended to constitute an exhaustive summary of all relevant obligations. The Contractor should consult the following publications and/or competent environmental counsel.

OSHA - 3079 Respiratory Protection

OSHA - 3142 Lead in Construction

B. Exposure Assessment/Personal Air Monitoring

1. Exposure assessment is the primary means of determining to what airborne level of lead workers are being exposed. The Contractor shall insure that workers are not exposed to lead at concentrations greater than the Permissible Exposure Limit (PEL) of 50 micrograms per cubic meter (ug/m^3) over an eight-hour time weighted average (TWA). The Contractor must initially determine if any employee is exposed to lead at or above the PEL. Until the findings of this initial exposure assessment indicate that the airborne concentrations do not exceed the PEL, the Contractor must provide respirator protection that shall adequately prevent worker exposure to airborne lead above the PEL. At a minimum, respirators must have a protection factor of at least ten. The Contractor must make this initial exposure assessment by personal air sampling representative of a full shift, including at least one sample for each job classification in each work area, either for each shift or for the shift with the highest exposure level.

2. If available, use exposure assessment data obtained within the last 12 months from previous jobs conducted under similar work conditions, control methods, work practices, and environmental conditions to be used in this contract or other objective data to demonstrate that work activities in this contract shall not exceed the PEL, provided that the assessment entailed comparable lead concentrations in coating materials, work practices, engineering controls, and rates of work.

3. Until the exposure assessment is performed, the Contractor must provide to his workers the following: respiratory protection with a protection factor of at least ten, personal protective clothing, lead-free change areas, hand washing facilities, biological monitoring and training

C. Medical Surveillance

Provide medical surveillance to workers until exposure monitoring reveals that workers are not exposed on any day of the job to airborne lead at or above the Action Level of 30 ug/m^3. This consist of a blood test measuring the level of lead and zinc protoporphyrin by a licensed physician. Further testing and medical exams may be necessary depending on the results of initial blood tests and/or the initial exposure assessment as stated in CFR 1926.62.

D. Training

Before workers start a job in a leaded environment, they must receive training. This training must include a description of the OSHA lead standard, the sources of lead exposure, the uses and limitations of respirators, the purpose of getting a blood lead test, the purpose of the initial exposure assessment, their rights to the results of the blood tests and air monitoring and the methods of controlling the level of lead exposure to a minimum.

E. Written Program

Have a written lead health and safety program which is to be submitted to the Construction Manager for written approval and imposed on all of his employees involved in operations that disturb or remove lead paint or lead dust or dirt for this contract. The program, at a minimum, shall address respirator protection that is in full compliance with all aspects of 29 CFR 1910.134, exposure assessment, signs to be posted in work areas, protective clothing, engineering and administrative controls, hygiene facilities and practices, decontamination, housekeeping, medical surveillance, training and other items to satisfy OSHA standards as required.

F. Respirator Protection

1. Have a respirator protection program in accordance with 29 CFR 1910.134. If respirators are necessary, the Contractor shall have his employees medically approved to wear respirators, establish and submit a written respirator program, select the proper respirator for the level of exposure to be encountered on the job, and have workers fit-tested to insure proper fit.

2. The minimum respiratory protection requirements for lead paint removal operations and lead-paint clean-up operations and for the disturbance of any other lead containing material for this contract shall be as per 29 CFR 1926.62 which includes job categories and functions where workers may be exposed to lead, including but not limited to, manual scraping, sanding, abrasive blasting, painting, clean-up operations and containment breakdown.

3. All workers are required to don an appropriate level of protection commensurate with the airborne concentrations of lead in which they are working. The level of protection shall be determined by the Contractor, based on objective air monitoring data.

G. Controlling Lead Exposure

Engineering and work practice controls are the primary means of maintaining exposures to lead below the PEL. Paint removal and surface preparation activities must keep dust level at a minimum. Torch cutting of surfaces with LBP shall require appropriate PPE and exposure controls. Power tools must be equipped with vacuum shrouds with high efficiency particulate air filters (HEPA). Eating and drinking must be prohibited in the work area. Hand washing facilities must be provided. All personal protective clothing shall be removed at the end of the day.

1.4 ABATEMENT OF LEAD BASED PAINT

A. General

1. Ensure that work plans and work methods utilized for lead abatement of flaked and loose chipped lead based paint conform to all applicable laws, codes, rules and regulations, including, without limitation, the federal statutes governing lead Exposure Reduction, 15 U.S.C.A. Section 2681 et. seq., and OSHA regulation 29 CFR, Part 1926.62; Lead Exposure in Construction, Interim Final Rule.

B. Work Plans

1. The Contractor shall be required to prepare task specific Work Plans prior to starting Work detailing how he shall accomplish each task of work related to the disturbance of any lead containing paint surface or material. In each case the Contractor shall prepare the work plan with the needs, logistics and constraints of the individual job in mind, taking into account such factors as paint removal method, worker safety, proximity to the public, protection of the environment including containment and air monitoring requirements, condition of the underlying substrate and surface preparation where painting post abatement is required. Torch cutting of LBP surfaces should be avoided and shall require exposure control measures including exposure monitoring and respiratory protection.

2. The Work Plans shall also include methods of minimizing and containing the generation of all dust, including dust generated while cleaning up construction

and demolition debris. These methods may include such techniques as wet mopping and/or wiping, HEPA vacuuming or the use of a negative pressure ventilation system where lead dust is generated. Once the Work has been complete and debris has been properly removed from the site, all surfaces shall be free and clear of visible dust. All work areas shall be cleaned on a daily basis at the end of each shift.

C. At no time shall the Contractor be permitted to perform any Work which may impact upon lead containing material until the Work Plan has been approved by the Construction Manager.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.1 PROTECTION OF ADJACENT AREAS AND THE ENVIRONMENT:

A. General

1. In the event lead containing material is to be disturbed during any phase of the work, take all necessary actions to ensure that all dust and debris is contained within the work area and that activities in no way results in the contamination with lead dust of any adjacent areas, building, or the environment. Areas of deteriorated paint requiring removal are present throughout the facility.

B. Containment

1. In the event a containment structure is required, ensure that such containment prevents lead containing materials (LCM) from contaminating adjacent areas, building, or the environment in any fashion. This shall include any water runoff from wet removal methods. If a containment structure is not specified, the Contractor shall specify paint removal tools and methodologies which are fitted with HEPA filter vacuum shroud attachments or are otherwise designed to eliminate the possible release of LCM emissions into the air (i.e. chemical strippers).

C. Contamination

1. If it is determined by visual identification that adjacent areas, buildings, or the environment have been contaminated as a result of the Contractor’s work, the Contractor agrees to clean the affected premises at no charge and be responsible for all costs incurred by this clean-up activity.

3.2 DISPOSAL REQUIREMENTS:

A. General

1. The Construction Manager shall perform sampling and analysis as required using Toxicity Characteristic Leaching Procedure (TCLP) required to assure the proper and legal handling of the waste. Wastes to be characterized include all materials coated with LBP including, but not limited to, concrete, brick, metal, and wood. All removed LBP material/residue shall also be characterized for proper disposal. Samples may be composited for analysis. If any chemical analysis or sampling is performed by or on behalf of the Contractor, its Transporter, or its Treatment Storage and Disposal Facility (TSD), a copy of such analysis must be provided to the Construction Manager at no additional cost. (Note: Painted metal may be designated as recyclable and disposed of at a scrap metal facility for reuse or resale.)

2. Ensure that the waste disposal Subcontractor warrants and represent possession of all permits and/or licenses required under the Resource Conservation's and Recovery Act (RCRA) as well as any state or local permits or licenses required for removal, repacking, transportation and disposal of hazardous waste.

3. All hazardous waste materials removed hereunder must be lawfully treated and disposed by the waste disposal Subcontractor at an Environmental Protection Agency (EPA) permitted Treatment Storage and Disposal Facility.

4. All wastes, drums, and other items removed hereunder must be lawfully treated and disposed of by the Contractor's waste disposal Subcontractor within sixty (60) days after the removal from the site. Ensure that the waste disposal Subcontractor provides completed shipping documents for all hazardous wastes removed, which contain the information required under 40 CFR Part 262 Subpart B (hereinafter the "Manifest Form") and 6 NYCRR Part 372 as well as all Certificates of Disposal which specify where each component of all wastes removed from the property is ultimately treated or disposed. Such Certificates shall include references to the Manifest Form for the shipment as well as address and EPA identification numbers for the generator facility.

5. Ensure that all TSD facilities or transporters which the waste disposal Subcontractor intends to use to treat and/or dispose of hazardous waste picked up hereunder are approved for use by the Construction Manager prior to any delivery of waste by the waste disposal subcontractor to such TSD facility.

6. Should any problems arise regarding the TSD facility chosen to accept the waste for treatment and disposal that would require the return of waste or should such TSD facility have violated any environmental regulation which would result in regulatory enforcement action, ensure that the waste disposal Subcontractor immediately notifies the Contractor and the Construction Manager in writing of such situation, identifies an alternative TSD and obtains written approval from the Construction Manager for disposal at such TSD.

7. Insure that the waste disposal Subcontractor provides completed shipping documents, hereinafter referred to as "Bills of Lading" for all nonhazardous "industrial" waste removed from the property. A Bill of Lading must accompany each waste shipment and must include information regarding the quantity and type of waste, the waste transporter name, and the date of removal from the property.

B. Transportation Requirements

1. Insure that the waste disposal Subcontractor providing waste transportation services possesses a valid Waste Hauler's permit issued pursuant to the New York State Department of Environmental Conservation (NYSDEC) regulations, 6 NYCRR Part 364. In addition, if the waste is to be transported and disposed of out of New York State, permits for those states through which the waste shall be transported and for where it shall be disposed may be required. It is the Contractor's responsibility to insure that the waste disposal Subcontractor correctly determines which permits are required and to provide such permits for review and approval of the Construction Manager.

2. Packaging and transporting of all wastes shall be in accordance with the applicable sections of the Department of Transportation (DOT) regulations.

3.3 QUALIFICATIONS:

A. The Contractor and/or Subcontractors involved in any activity which may impact upon lead paint or other lead-containing materials (i.e., lead paint sampling, lead abatement, and abatement design) shall have demonstrated two years of experience in lead hazard assessment and management, environmental and personal air monitoring, worker protection and training, and lead remediation specification writing.

B. The Contractor shall provide demonstration that the minimum insurance criteria have been met.

END OF SECTION 02082

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SECTION 02086 - EXCAVATION OF CONTAMINATED SOIL

PART 1 - GENERAL

1.1 SCOPE OF WORK

The work covered by this specification includes the excavation, management, transport and disposal of petroleum contaminated soil. Contractor shall conduct excavation of contaminated soil associated with a former 10,000 gallon heating oil underground storage tank (NYSDEC Inactive Spill No.0806256) and piping as necessary to meet regulatory requirements. The tank has been currently filled with concrete. The work also includes removal and disposal of the concrete-filled tank and any associated piping, backfilling, final site restoration and monitoring of soil and groundwater associated with the excavations and stockpiles, and any associated incidental work as deemed appropriate by the Construction Manager. All work shall be conducted in accordance with all applicable Federal, State, and local regulations and the provisions of this and accompanying specifications.

Currently available analytical data indicates that petroleum contamination exists in soils near piping running between the closed tank and a nearby building. In order to ensure that contaminated soils and other materials are disposed of properly, all excavated soils or soils generated from site activities within the limits of excavation of the closed tank and piping shall be stockpiled on site for sampling and characterization analysis by the Contractor prior to removal from site. Endpoint samples from the excavation shall be collected by the Contractor and turned over to the Construction Manager under custody for testing. Contractor shall cover the cost of this testing in his lump sum bid price. Contractor shall excavate additional contaminated soil as directed by the Construction Manager. The Contractor shall include all testing, excavation, stockpiling and loading/hauling and disposal costs of C&D and contaminated soils within the limits of excavation in his base bid price. The location and estimated quantity of contaminated soil is included on the Contract Drawings.

1.2 REFERENCES

The publications listed below are incorporated into this specification and shall be read as if printed herein. In the case of conflict between the referenced documents and the following text, the stricter requirements shall apply.

AMERICAN PETROLEUM INSTITUTE (ANSI)

Supplement	Underground Spill Cleanup
Bulletin 1628	Manual Protection Against Ignitions Arising out of Static, Lightning and Stray Currents

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) PUBLICATIONS

D 3587-85	Classification of Soils for Engineering Purposes

CODE OF FEDERAL REGULATIONS (CFR)

40 CFR 260 - 270	USEPA's Hazardous Waste Requirements
40 CFR 136	Guideline for Establishing Test Procedures for Analysis of Pollutants

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 30	Flammable and Combustible Liquids Codes
NFPA 327	Recommended Practice for Handling Underground Leakage of Flammable and Combustible Liquids

U.S. ENVIRONMENTAL PROTECTION AGENCY (USEPA)

USEPA-SW-846	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. Third Edition. November 1986
USEPA	Standard Operating Guide. July 1988

MANIFESTING AND TRANSPORTING (DOT)

49 CFR	Hazardous Materials Transportation Regulations

1.3 CONTRACTOR SERVICES

The Contractor shall furnish all materials, labor, tools, equipment, utilities, water and fuel supply, vehicular transportation, field log preparation, and necessary incidental services. The work shall include, but not necessarily be limited to, the excavation, handling and disposal of contaminated fill/wastes and soils to an estimated depth of 10 feet at the site. Supplemental instructions may be furnished by the Construction Manager in the field.

1. Excavation of contaminated soil;

2. Removal and transport of contaminated soils;

3. Transport and disposal of all cleaning wastes;

4. All necessary incidental services not specifically noted but which are required for completion of the specified work; and,

5. Environmental reporting. This includes submittal of the following items and their subparts described herein in accordance with technical specification SUBMITTALS:

a. Proof of qualification credentials;
b. Copies of transport manifests;
c. Contaminated Soil Field Report;
d. Logs, reports, and record keeping, as required by the Construction Manager;
e. Bills of lading, Certified Weight Tickets.

1.4 REGULATORY REQUIREMENTS

All work included in this contract shall be conducted in strict compliance with all applicable Federal, State and local regulations, statutes, codes and policies. The Contractor shall notify the Construction Manager immediately should visual signs of contamination be observed during the excavation. Construction Manager will correspond with the New York State Department of Environmental Conservation and execute spill reporting for spills related to the tank removal, if necessary. The Construction Manager shall be responsible for obtaining a spill closure notice once all contaminated soil is excavated and disposed by the Contractor.

1.5 CONTAMINANTS:

Available soil sampling results will be furnished to the Contractor. Soils are contaminated with petroleum products. The Contractor shall be prepared to work with any materials as necessary and at all levels of OSHA mandated personal protection.

1.6 SUPERVISION:

The Contractor shall assign a foreman to be directly responsible for coordinating and directing all work required for the operations.

PART 2 - PRODUCTS
Not Used

PART 3 - EXECUTION

3.1 REMOVAL OF CONTAMINATED SOIL, EXCAVATED MATERIALS AND ASSOCIATED BERM/CONTAINMENT STRUCTURES:

A. The Contractor shall confine operations to the active work area portion of the site as much as practical. The Contractor shall reduce the potential for cross-contamination of uncontaminated areas with contaminated soils by using appropriate decontamination protocols prior to moving between areas of contamination and minimizing double moving of materials.

B. The Contractor will be responsible for sloping, benching or otherwise shoring the excavation areas as necessary in accordance with applicable New York State and OSHA regulations (New York State Code Rule 753, OSHA Part 1926).

C. The Contractor will be responsible for determining if perched water is

present within the proposed excavation depth and area. If free water is encountered, the Contractor will be responsible for dewatering prior to excavation in accordance with Section 02240.

D. All fill/waste and soils to be excavated for off-site disposal are to be properly characterized for disposal requirements by the Contractor at its own cost. All sampling will be conducted with the Construction Manager present.

E. The excavated fill/waste or soils may be loaded directly into the containers to be used during transportation, without any stockpiling of excavated materials. Should the "direct-loaded" methodology be selected by the Contractor, the means and methods to characterize the soils in place prior to excavation will need to be first approved by the Construction Manager.

F. If staging areas for soil stockpiling are proposed by the Contractor, they shall meet the following requirements:

1. The staging area(s) shall be constructed to prevent the spread of any contamination to surrounding uncontaminated soils, surfaces, and/or groundwater.

2. The staging area(s) shall have bermed sides and be lined with a minimum 20 mil HDPE sealed, watertight liner. Within the bermed area there will be sump to allow the removal of any liquids that may accumulate within staging area. The Contractor shall take sufficient precautions (i.e., placement of geotextile and /or aggregate above and/or below the liner) to ensure the integrity of the liner during its use. This liner shall be properly transported and disposed of by the Contractor when the staging area is no longer needed

3. The Contractor shall provide a minimum 20 mil sealed, watertight liner to cover staged materials. Staged materials shall be covered at all times to prevent contaminated runoff, wind blowing, or dust generation.

G. The Contractor shall keep contaminated materials classified for different types of disposal segregated. Excavation and stockpiling operations for the different materials must not be mixed, unless otherwise approved by the Construction Manager.

H. Groundwater or standing water in excavations must be removed and properly handled in accordance with Section 02240 – Dewatering. The Contractor shall be responsible for implementing any run-on controls necessary to minimize run-on from entering excavations. Standing water from precipitation events in excavations must be handled per approval of the Construction Manager.

I. The Contractor shall employ dust control methods during handling activities as necessary. The Contractor shall use water or water amended with an appropriate surfactant, used in accordance with the manufacturer's recommendations, or other means to control dust acceptable to the Construction Manager. No visible dust is permitted beyond the limits of the exclusion zone as a result of excavation activities, as determined by the Construction Manager.

J. The Contractor shall not load fill/waste and/or other material into the vehicles/containers when it is raining without prior approval from the Construction Manager. All fill/waste, soil and other material shall remain covered during rain.

K. The Contractor shall be responsible for providing adequate protection against erosion during all field activities.

3.1.1 Removal and Transport of Contaminated Soil Stockpiles

A. Security of Materials during Transport. The Contractor shall ensure that all materials are secured during transport.

3.1.2 Transport Manifests, Bills of Lading, Certified Weight Tickets

A. The Contractor shall obtain and submit two (2) copies of all transport manifests, bills of lading, and certified weight tickets for recycling and/or disposal of all materials to the Construction Manager within 3 calendar days of transport of any material. Soils shall be transported to either a RCRA permitted facility or permitted transport facility for treatment and disposal. All other materials shall be transported for recycling. Receipts shall indicate at a minimum the following information: date, time, driver, remediation or recycling facility, quantity and type of material delivered, remediation method, RCRA facility permit number, as appropriate, and roundtrip travel mileage from the work Site to the facility.

3.1.3 Treatment and Disposal of Contaminated Soil

A. Contaminated soil shall be treated and disposed of in an environmentally safe and responsible manner in accordance with all applicable Federal, State or local requirements. The Contractor shall utilize disposal facility permitted to receive site wastes. Contaminated soil shall not be disposed of on-site.

3.1.4 Maintenance of Soil Stockpile Containment Structures during Construction

A. The Contractor shall ensure during all stages of field work that contaminated soil is properly isolated from the surrounding environment to prevent contamination migration. The Contractor shall at no time leave stockpiled

materials uncovered and unattended. The Contractor shall replace, secure and maintain soil containment structures (berming, poly sheeting, hold down tires, etc.) whenever the Site is left unattended, until such time as the entire quantity of stockpiled material is safely removed and the Site has met final restoration requirements. Contractor shall maintain stockpiles until removal. Stockpiles must be removed within three months and prior to final completion.

3.1.5 Berms

A. Berms shall be constructed around stockpiled or drummed materials to contain contaminated soils and to prevent contamination from migrating. Upon arrival at the Site, the Contractor shall inspect the berms for integrity. In the event that damage to the berms is identified, the Contractor shall notify the Construction Manager immediately. The Contractor shall maintain the existing berms at a minimum height and thickness of one foot for the duration of construction. Trenches are not an acceptable substitute for berms.

3.1.6 Plastic or Polyethylene Liner

A. All stockpiled soils shall be secured against contamination migration due to wind, rain, etc. through the use of polyethylene liners and covers. The Contractor shall inspect the integrity of the polyethylene and any existing stockpiles upon arrival at the Site. In the event that damage to the polyethylene lining or cover is identified, or the liner or cover is not present, the Contractor shall notify the Construction Manager immediately. If the Contractor's activities, prior to start of removal of soil, including operation of equipment on liners and/or covers, damages plastic or polyethylene liners or covers, the Contractor shall be responsible for replacement of liners and/or covers. Replacement materials shall consist of a 20-mil minimum plastic liner (Polyethylene) which shall be used to line the bottom of the soil storage areas and to cover the stockpiled soils. If more than one continuous piece of plastic is used for the liner or cover, it shall be sealed at the edges with an appropriate sealer. The liner and cover shall be sufficiently larger than the areas of stored soil to cover the stored soil plus two feet of excess on all sides.

3.1.7 Removal, Transport and Disposal of Soil Containment Structures

A. The Contractor shall be responsible for all work associated with removal, transport and disposal and/or final deposition of soil containment structures. The Contractor shall stockpile separately uncontaminated soils used for constructing berm containment structures at the Site.

3.2 EXCAVATION, REMOVAL, TREATMENT AND DISPOSAL OF MATERIALS:

A. The Contractor shall be responsible for transporting, treating, and disposing of any contaminated excavated soils, as required in accordance with the

technical specification described herein.

3.3 DEMOLITION AND CLEANUP:

After completion of the work, all tools, appliances, surplus materials, temporary drainage rubbish and other debris incidental to work shall be removed in accordance with this section.

A. Burning of Debris - Burning for disposal of refuse and debris shall not be permitted.

B. Debris Control During Transport - All materials shall be contained during transport in a manner so as to prevent spillage and materials from reaching streets or adjacent areas. All materials shall be transported in accordance with all Federal, State and Local regulations.

END OF SECTION

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SECTION 02089 HAZARDOUS AND UNIVERSAL WASTE REMOVAL

PART 1 - GENERAL

1.1 DESCRIPTION

A. Before any intrusive work is performed (abatement or demolition), or concurrently with ACM removal in ACM contaminated areas, the Contractor shall furnish all labor, materials, tools, equipment, utilities and other services necessary for the removal, characterization, transportation, and disposal/recycling of all contaminated materials, hazardous wastes, and universal waste from the Episcopal Church Home and any other specific locations indicated in the specifications or as directed by the Construction Manager. All hazardous and specialty regulated materials for removal and disposal will be included in this scope of work unless a specific item is otherwise identified for disposal/recycling elsewhere in this specification.

B. Due to extensive vandalism, the entire interiors of the Robinson Addition (Buildings 2 and 2A), Robinson Building (Building 4), and basement level of the Hutchinson Chapel (Building 5) have been contaminated with ACM. The Contractor shall be responsible for the removal of hazardous and universal waste within these buildings under full containment in accordance with Code Rule 56. Unless decontaminated under containment, all universal waste materials shall be handled and removed and disposed as ACM waste in accordance with New York State Department of Labor (NYSDOL), New York State Department of Environmental Conservation (NYSDEC), and United States Environmental Protection Agency (USEPA) requirements and regulations.

C. Removal of hazardous and universal wastes from the Canterbury Building (Building 1) does not require containment.

D. Removal of hazardous and universal wastes from the ground floor of the Hutchinson Chapel (Building 5) and ground floor of the Tunnel does not require containment. Removal of hazardous and universal wastes from the basement of Hutchinson Chapel (Building 5) and basement of the Tunnel, which have been contaminated with ACM, shall be done under full containment in accordance with Code Rule 56. All fixed and non-fixed contents in the Hutchinson Chapel (Building 5) , other than hazardous wastes, universal wastes, and ACM, are and shall remain the property of the Owner, have historic value to the community, and shall be preserved by the Contractor

E. An inventory of relevant hazardous materials identified at the site is summarized below. It should be noted, however, that hazardous materials/universal wastes additional to those in the below listed summary table are present at the site. These additional materials include items such as fire extinguishers, smoke detectors, security lights, exit signs, thermostats, thermometers, 5-gallon buckets and containers, elevator hydraulic oil, above-ground storage tanks (ASTs), oils, computer equipment and monitors, batteries, refrigerants (water fountains and air conditioning units), and are summarized in *Inspection Report of Asbestos Containing Materials and Hazardous Materials for Episcopal Church Home, 24 Rhode Island Ave. Buffalo, New York 14213* dated

December 27, 2013 (Hazardous Materials Report), which is attached as an Appendix (on Compact Disk) to these Contract Documents.

Summary of Hazardous and Non-Hazardous Materials per Building

Item	*Unit*	*Canterbury Building*	*Robinson Addition*	*Thornton Building*	*Russell Building*	*Robinson Building*	*Chapel*	*Total*
Lights	L.F.	1,280	6,350	4,880	9,600	9,150	107	31,367
Ballasts	Each	219	471	165	179	410	4	1,448
Fire Extinguishers	Each	1	4	1	3		1	10
Smoke Detectors	Each	3	69	97	58	120	15	362
Exit Signs	Each	12	34	26	10	28		110
Elevator Sign	Each					2		2
Computer Monitor	Each		2	10				12
Water Fountain	Each	4	4	4	4	4	1	21
U- Bulbs	Each	345		16		218	2	581
Security Lights	Each	13						13
Mercury Lights	Each	3				1		4
6 Volt Power Cell	Each	1				2		3
Thermostat	Each	1	31	1		10	1	44
Thermometer	Each		30					30
Computer Servers	Each		30					30
Computer CPU	Each		2					2
5 Gallon Paint Bucket	Each		5				1	6
5 Gallon Bucket - Unknown	Each		2			3		5
1 Gallon Container - Unknown	Each		1					1
100 Gallon AST	Each		1					1
500 Gallon AST	Each		1					1
1,000 Gallon Fuel Oil AST	Each			1				1
55 Gallon drum - Unknown	Each					1		1
Motor	Each			2		6		8
A/C Units	Each	7				2	7	16
Rooftop Air Conditioning Units	Each		2			2		4
Exterior Air Conditioning Units	Each		4		6			10
Incinerator Ash (Haz for Hg & Pb)	Ton			1				1
Elevator Hydraulic Oil	Gallons	500	360	500		800		2,160

C. The Contractor is responsible for choosing appropriate treatment/recycling/disposal facilities and identifying those facilities to the Construction Manager. Disposal of all waste streams must be at permitted TSDF's in compliance with all regulatory requirements. In addition, the Contractor is responsible for all sampling and analysis requirements specified by the receiving disposal or recycling facilities.

1.2 RELATED DOCUMENTS

A. The Contractor shall be held to have read all of the Bidding Requirements; all of the General Conditions and Supplementary General Conditions, and all Sections of the Technical Specifications before submitting a bid for the proposed work, and in the execution of the work, the Contractor shall be bound by all of the conditions and requirements therein.

B. The Hazardous Materials Report dated December 27, 2013 is included as an appendix to this specification shall form a part of and be included in this section. The Contractor shall be responsible for the removal and disposal of all materials as identified in the Hazardous Materials Report at a minimum. Additional components may be present and not identified in the Report because of limited access due to flooded basements during the Report-related inspections

1.3 GENERAL HAZARDOUS AND UNIVERSAL WASTE REMOVAL:

A. This section includes a listing of the types of wastes that the Contractor will be required to develop precautions and procedures to be followed to protect against the contamination of the building and site; allow for the safety of his workers and the public; and to identify proper means of treatment, storage and disposal. The inventory totals are identified In the Hazardous Materials Survey Report.

1. Mercury vapors contained within fluorescent light bulbs or tubes, metal halide, or high-intensity discharge (HID) lamps;

2. Mercury containing thermostats;

3. Lead acid and other batteries;

4. Computers, electrical panels, exit/emergency signs and smoke detectors;

5. Fire extinguishers;

6. Compressed refrigerant gasses (ozone depleting substances as defined by the Clean Air Act – CFC, HFC, HCFC or virgin refrigerants);

7. Fluorescent or HID light fixture ballasts containing polychlorinated bi-phenyls (PCBs) or di-2-ethylhexyl phthalate (DEHP) liquids. Given the age of the structure all ballasts are assumed to contain either PCBs or DEHP. PCBs were used in the manufacture of ballasts until 1979. **ALL** ballasts shall be handled and disposed of as PCB containing ballasts;

8. Miscellaneous paint products, oils, lubricants, fuels, cleaning supplies and other various unknown chemical products, etc., stored onsite in spray cans, quart or gallon containers, 5-gallon buckets and 30-gallon or 55-gallon drums;

9. Removal and disposal of lubricants and other hazardous liquids associated with various accessible mechanical equipment reservoirs including motors, pumps, boilers, and compressors;

10. Removal and disposal of the 10,000-gallon heating oil underground storage tank (UST), reported to be abandoned-in-place by filling with concrete. A Tank

Closure Report was not provided to the Owner. Therefore, it is possible that residual petroleum product may be present within the UST. Remediation work shall include the removal of the reported concrete-filled UST, the disposal of all encountered liquids and removal, transport and disposal of petroleum-contaminated soil. Additional specifications for this item are provided in Section 02086 – EXCAVATION OF CONTAMINATED SOIL and Section 02221 – BUILDING DEMOLITION);

11. PCB containing dialectic liquids present in electrical transformers and disposal of the drained transformer carcasses. Contractor shall develop bid pricing assuming PCB concentrations of the liquid are greater than (>) 500 parts per million (ppm). Liquid volume is estimated at 50 gallons. Contractor shall be required to test the PCB concentration of the fluids present in the transformer to confirm their proper disposal requirements. Contractor shall also be responsible for the disposal of the drained transformer.

B. The Contractor shall develop all applicable waste manifests, shipping papers, profile sheets, land ban forms and any other documentation and coordinate with Owner and the Construction Manager regarding proper signatures. The Owner has obtained a USEPA hazardous waste generator identification number for the Episcopal Church Home located at 24 Rhode Island Avenue Buffalo, New York, 14213, that is to be utilized by the Contractor in the performance of the work for the transport of all hazardous materials. The generator identification number will be provided after award of the Contract.

C. The work area includes all areas where the above referenced materials slated for removal and subsequent disposal are found. For general locations and quantities, refer to the Hazardous Materials Report and associated figures, drawings, and photographs.

D. The Contractor will be required to perform any demolition required to locate and remove any universal wastes, identified wastes, transformer and tank carcasses, and other items identified in this specification for removal.

E. The Contractor shall manage all surplus materials and waste generated in the performance of the Contract in accordance with applicable Federal, State, and local laws and regulations. No section herein is intended to prevent the Contractor from removing surplus material or waste to appropriate off-site locations for beneficial reuse, recovery or recycling purposes. The Contractor is encouraged to reuse, salvage or recycle materials to the maximum extent possible.

F. The Contractor shall have the following qualifications:

1. Performance of at least five projects in the previous five years that are similar to the work required for this project.

2. Performance of hazardous materials removal work on a project where significant asbestos abatement and general demolition work was also present.

3. It has developed and employed a Work Plan, Contingency Plan, and Site-Specific Health and Safety Plan similar to that required for this project.

4. It has established a Quality Control Program that includes hazard communications and chemical hygiene plans; employee background checks and medical testing; and, waste determination procedures and guidelines.

5. It has a project manager available for this project with at least five years of experience performing similar work; field experience in at least five similar projects; all required training certifications; fluent in the English language and capable of communicating with all the staff; and, is experienced in visual inspection, handling, cleaning, storage and field characterization of hazardous materials similar to those anticipated on this project.

6. For firm and persons specified above, submit documentation and resumes to demonstrate their capabilities and experience. Include a list of completed projects with project contact names, addresses, and phone numbers.

7. For all employees where required, completion of 40-hour OSHA HAZWOPER training, annual 8-hour OSHA HAZWOPER refresher training, and proof of annual medical physicals and respirator fit tests.

1.4 RELATED SECTIONS

Section 01135 – HEALTH & SAFETY
Section 02086 – EXCAVATION OF CONTAMINATED SOIL
Section 02221 – BUILDING DEMOLITION
Section 02240 – DEWATERING

1.5 SUBMITTALS

A. Name, address, and USEPA and NYSDEC permits or licenses (as appropriate), of all proposed recyclers. No substitution will be allowed without approval from the Construction Manager.

B. Name, address, and USEPA and NYSDEC permits or licenses (as appropriate), of all waste transporters/haulers. No substitution will be allowed without approval from the Construction Manager.

C. Name, address, and USEPA and NYSDEC permits or licenses (as appropriate), of recipient landfill and incinerators. No substitution will be allowed without approval from the Construction Manager.

D. Following final removal, and disposal/recycling or destruction, Owner and the Construction Manager shall be provided with waste transport and disposal/recycling documents (e.g., manifests), as well as certificates of destruction as appropriate.

E. The Contractor shall be required to submit a Work Plan explaining the personal protective equipment, methods and procedures utilized for fluorescent light bulb and ballast, and other environmental chemicals and materials handling and disposal/recycling. Submission shall be made at least 21 days prior to the anticipated start of work for review

by Owner and Construction Manager prior to the commencement of activities. The plan shall include:

1. List of the employees scheduled to perform this work.
2. Schedule of start and finish times and dates for this work.
3. Name and address of disposal, incineration and recycling facilities where these waste materials are to be sent. Include contact person, facility address and telephone number. Plan must include a copy of each disposal/treatment facilities current operation permit that indicates both the type of materials allowed and not allowed for disposal/treatment/recycling.
4. Name, address, phone number, responsible contact, and license/permit information (NYS and/or USEPA/USDOT Waste Transporter ID number) from all identified transporters.
5. Material Safety Data Sheets (MSDS) for any chemical materials to be used to facilitate this work.
6. The Work Plan must include a Spill Contingency Plan for handling waste spills and releases and the emergency procedures to be followed by Contractor personnel. Contractor shall maintain minor spill cleanup equipment and supplies including absorbent pads, wipes and mini-booms. All temporary waste storage must be within a containment area constructed by the Contractor that meets EPA Container Storage Regulation 40 CFR 264.175. Preparedness and prevention features and contingency planning and emergency procedures shall be developed per 6 NYCRR 373-3.3 and 373-3.4, respectively.
7. A description of appropriate security measures that shall be provided for the protection of hazardous waste while stored on-site.
8. Provide a description of the methods, procedures and materials to be used in performing the work and handling all hazardous wastes.
9. Provide a description of any samples to be taken and the parameters to be analyzed. Identify the laboratory providing the services.
10. The method of recycling or treatment/disposal that will be used for each waste stream.

F. The Contractor shall be required to submit a Site-Specific Health and Safety Plan in accordance with Section 01135 Health and Safety.

1.6 CODES AND REGULATIONS

A. The following is a list of many of the relevant Federal and State laws, regulations, codes and guidelines that the Contractor shall follow and be familiar with. This list is by no means exhaustive and the Contractor shall be required to meet and comply with all applicable, relevant, and appropriate Federal, State and Local laws and codes.

1. Toxic Substances Control Act (TSCA), US-EPA (1976).

2. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), US-EPA (1980).
3. USEPA 40 CFR 170, Preparation of Hazardous Materials for Transportation.
4. USEPA 40 CFR Parts 260-272, Resource Conservation and Recovery Act (RCRA).
5. 40 CFR Part 273, Universal Waste Rule.
6. USEPA 40 CFR 761 (PCBs).
7. USDOT 49 CFR Parts 100-180, Hazardous Materials Regulations.
8. 6 NYCRR Part 361, Solid Waste & Material Recovery Facilities.
9. 6 NYCRR Part 362, Solid Waste Combustion, Transfer and Processing Facilities.
10. 6 NYCRR Part 363, Solid Waste Landfills.
11. 6 NYCRR Part 364, Waste Transporters.
12. 6 NYCRR Part 365, Biohazard Waste Management Facilities.
13. 6 NYCRR Part 370, Hazardous Waste Management System.
14. 6 NYCRR Part 371, Identification and Listing of Hazardous Waste.
15. 6 NYCRR Part 372, Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities.
16. 6 NYCRR Parts 373-1 through 373-4, TSDF Facilities and Standards.
17. 6 NYCRR Subpart 374-3, Standards for Universal Wastes.
18. 6 NYCRR Part 376, Land Disposal and Treatment Standards.
19. OSHA 29CFR 1910, Occupational Safety and Health Standards.
20. OSHA 29CFR 1926, Safety and Health Regulations for Construction.
21. Universal Waste Rule as described in the Federal Register.

B. The Contractor is required to secure and maintain all required regulatory permits necessary to perform all aspects of the work. The Contractor shall containerize and store waste in accordance with all applicable regulations. The Contractor and Waste Haulers will be responsible for all required placards and labeling.

1.7 WASTE RECORD SYSTEM

A. The Contractor shall establish a record system that accounts for all waste. The Contractor must be able to document custody of all waste from the time it is removed from the work area until it is disposed of, recycled or incinerated at an approved facility. All containers are to be appropriately marked/labeled.

B. All the original manifests, bills-of-ladings and any receipts or certifications generated during the handling and disposal processes shall be provided to the Construction Manager.

C. Final manifests and documents must be provided to the Construction Manager within 30 days of the removal of contaminated materials from the site by the waste hauler or as required for the applicable regulations. No progress payments will be made if this is not accomplished.

1.8 DEFINITIONS

A. Hazardous Waste - shall be any material that possesses at least one of four characteristics (ignitability, reactivity, corrosivity, or toxicity) or is a F, P, K or U listed waste as regulated under both the Federal Resource Conservation and Recovery Act (RCRA) and with applicable State regulations or a material that appears on Federal or State lists.

B. Hazardous Waste Landfill – a landfill permitted under RCRA Subtitle C and engineered to contain hazardous wastes. Incoming wastes are manifested by the generating facility and may be subject to treatment standards.

C. Chemical Waste Landfill – a landfill permitted under the Toxic Substances Control Act (TSCA) that accepts hazardous substances.

D. TSDF – Permitted/licensed treatment, storage or disposal facility.

E. Waste Management – Shall mean the collection, packaging, transportation, transfer, processing, recovery, storage, reclamation, treatment, handling and disposal of waste whether performed directly by the Contractor or his Sub Contractor.

F. Ballast – a device, typically located in the lamp fixture (luminaire), used to operate fluorescent and HID lamps. Fluorescent and HID lamp ballasts contain a small capacitor that may contain high concentrations of PCBs. Some ballasts manufactured between 1979 and 1991 contain the PCB replacement DEHP. For this project all ballast shall be considered to contain PCBs and shall be disposed of as a PCB containing waste as outlined in Part 3 of this specification

G. High Intensity Discharge (HID) Lamps – a generic term that refers to mercury vapor, metal halide and high and low-pressure sodium light sources. HID lamps contain mercury.

H. PCB Transformer – a transformer that contains PCBs at concentrations greater than 500 parts per million (ppm).

I. PCB-Contaminated Electrical Equipment – means any electrical equipment including transformers that contains PCBs at concentrations of greater than 50 ppm and less than 500 ppm in the contaminating fluid.

PART 2 – PRODUCTS

2.1 GENERAL

A. Contractor shall be responsible for identifying the appropriate shipping containers. Some examples include 35 or 55 gallon metal or fiber drums, with lids that can be secured and sealed for ballasts; RC-4, RC U-Bent and RC-HID lamp recycling cartons; lab packs or overpacks for containerized liquids (paints, thinners, cleaning fluids, etc). Drums or containers must meet the required OSHA, EPA (40 CFR Parts 264-264 and 300), and DOT Regulations (49 CFR Parts 171-178).

B. Contractor shall provide the appropriate waste labels identifying contents as regulated TSCA, Universal Waste, and RCRA hazardous wastes as defined by USEPA, NYSDEC and all other applicable Federal and State regulations.

C. Contractor shall provide refrigerant recovery tanks and cylinders to hold and temporarily store compressed refrigerant gasses (ozone depleting substances as defined by the Clean Air Act – CFC, HFC, HCFC or virgin refrigerants).

PART 3 - EXECUTION

3.1 GENERAL

A. Procedures and methods contained herein are to provide guidance to protect from the contamination of the environment and exposure to workers, while handling contaminated materials, hazardous wastes, and universal waste, and their respective components during disassembly for disposal/recycling/destruction.

B. Removal and disposal/recycling of all mercury fluorescent and HID lights, mercury gauges, and batteries will follow all Universal Waste Rule requirements.

C. On-site recovery and recycling of refrigerants, if required, must be conducted in compliance with the Clean Air Act (CAA) and by authorized and certified personnel as defined in Section 608 of the CAA.

D. Removal and recycling/disposal of lubricants, petroleum based products, and other chemicals from mechanical equipment will be conducted in a manner to prevent releases to the environment.

3.2 PERSONAL PROTECTIVE EQUIPMENT

A. Personal protective equipment (PPE) shall consist of (at a minimum) safety goggles or other protective eye-ware, work shoes with non-slip soles and steel toes, chemical resistant gloves that cover the hand (e.g., neoprene or nitrile gloves), an apron that covers the front of the worker’s body from shoulder to calves or disposable tyvek coverall, and respiratory protection.

B. Personal protective equipment contaminated by handling operations shall be disposed of as contaminated waste.

C. Hammering or sudden impact methods for removing ballast's from the light fixture shall not be employed as such methods may cause leakage in an otherwise non-leaking ballast.

D. Care must be exercised when collecting other items – light bulbs, mercury thermostats and gauges, batteries, refrigerants, fuels, lubricants, and paints, so not to release or spill these products into the environment.

E. Throwing and tossing of ballast's into disposal drums shall not be conducted, as such activities may cause leakage in otherwise non-leaking ballast.

F. All removal and disposal activities shall be monitored by the Construction Manager or the Owner's Representative for compliance.

3.3 WORK PROCEDURES

A. Contractor shall use the hazardous waste generator number provided after award of the Contract. Non-hazardous materials shall be transported using non-hazardous waste manifests or appropriate bills of lading.

B. During the light bulb removal, the following procedures (or equivalent alternate but protective measures) are to be followed:

1. Carefully remove tubes from fixtures and repackage them in appropriate cartons for transportation for recycling and/or disposal.

2. Designate an area where the bulbs can be placed for storage.

3. In the event a bulb breaks, utilize a mercury capture vacuum to remove all debris generated.

C. Carefully remove light ballasts, and segregate for disposal in the following manner:

1. Given the age of the structure all ballasts are assumed to contain either poly chlorinated biphenyls (PCBs) or di-2-ethylhexyl phthalate (DEHP). PCBs were used in the manufacture of ballasts until 1979. All ballasts shall be assumed to contain PCBs.

2. Non-leaking ballasts shall be segregated and drummed for disposal as a hazardous and TSCA waste. Disposal of PCB ballasts may be by:

a. Landfilled at a properly permitted TSCA landfill facility; and,

b. Whole ballast destruction via by high temperature incineration at an approved TSCA incinerator

D. Leaking ballasts shall be segregated and drummed. Punctures or damage to these ballasts exposes an oily or tar-like substance. These ballasts, and all materials it contacts, including PPE **MUST** be incinerated under the TSCA regulations as they cannot be

landfilled or recycled.

E. During removing/recycling of stored chemical products, cleaners, paints, etc., enclosed in their original container, the Contractor shall place chemicals into properly OSHA labeled, airtight 55-gallon drums or into lab packs. In turn these drums/lab packs shall be transported, under proper manifesting procedures, to a recycling/disposal facility. The facility shall forward a certificate of recycling or disposal/destruction to the Contractor, who shall incorporate this information into the close out package to be provided to the Contraction Manager.

F. Dielectric fluid present in the transformer shall be sampled and tested for the presence of PCBs. Upon characterization, the fluid shall be drained, containerized, labeled and shipped off-site for proper treatment and disposal. Disposal of the transformer shall be according to Toxic Substances Control Act (TSCA) regulations. Disposal of the transformer will be dictated by the concentration of PCBs in the liquid present within the transformer. PCB transformers must be disposed of in an incinerator that complies with Code of Federal Regulations (CFR) Part 761.70 or in a chemical waste landfill approved under section 761.75.

G. Petroleum product found within the underground storage tank and any used oils and fuels associated with mechanical equipment in the building shall be recovered whenever possible. Upon recovery, these materials shall be characterized for subsequent disposal.

H. Drums can be stored for up to ninety (90) days from the initial date of waste generation, prior to disposal or destruction. All other removed materials shall be stored in the appropriate containers. A secure storage site shall be designated, labeled in accordance with the applicable rules and regulations, and be maintained by the Contractor. The waste storage area shall be inspected daily by the Contractor and the inspection shall be noted on a Waste Inspection Form developed by the Contractor.

I. The Contractor shall coordinate all shipments and arrivals at the TSDF to meet project schedule requirements. The Contractor shall complete any required shipping papers, manifests, placarding, and weighing or load measurements and provide copies of all documentation to the Construction Manager.

END OF SECTION 02089

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SECTION 02221 - BUILDING DEMOLITION

PART 1 - GENERAL

1.1 SCOPE

A. No building demolitions will be performed under the base bid. The Contractor shall demolish structures under Alternate No. 1 to include the Canterbury Building (Building 1) and Maintenance Garage (Building 6). The Contractor shall demolish structures under Alternate No.2 to include the Robinson Addition (Buildings 2 & 2A), the Thornton Building (Building 3A), the Russell Building (Building 3B), the Robinson Building (Building 4) and the Tunnel between Thornton Building (Building 3A) and Hutchinson Chapel (Building 5). The concrete filled Underground Storage Tank adjacent to Building 4 shall be demolished under Alternate No. 2.

B. The Contractor shall be responsible for making water tight all structures to remain. These structures shall be protected from damage during demolition. Structures to remain under the under the base bid include the Canterbury Building (Building 1), the Robinson Addition (Buildings 2 & 2A), the Thornton Building (Building 3A), the Russell Building (Building 3B), the Robinson Building (Building 4), the Tunnel between Thornton Building (Building 3A) and Hutchinson Chapel (Building 5), Hutchinson Chapel (Building 5), and the Maintenance Garage (Building 6). The structures to remain under Alternate No. 1 include the Robinson Addition (Buildings 2 & 2A), the Thornton Building (Building 3A), the Russell Building (Building 3B), the Robinson Building (Building 4), the Tunnel between Thornton Building (Building 3A) and Hutchinson Chapel (Building 5), and Hutchinson Chapel (Building 5). The structure to remain under Alternate No. 2 is the Hutchinson Chapel (Building 5). The stabilization of remaining structures is specified in the Contract Drawings.

C. The Contractor shall demolish all building walls, foundations, and any other structural components to a depth of 4 feet below finished condition grade. All basement floor slabs and sump bottoms shall be fractured at a minimum spacing of 2-feet on center.

D. The Contractor shall note that perlite is commonly present between interior CMU block and exterior structural brick. It is also present within CMU block void spaces. Contractor shall take measures and precautions to remove the perlite prior to building demolition to eliminate airborne migration of dust into the community.

E. The Contractor shall properly dispose of all demolition materials off-site.

F. The Contractor shall carefully remove and store items to be "salvaged and preserved".

G. Contractor is responsible for furnishing and installing temporary fencing that is required throughout the life of the project as specified by the Contract Documents. The Contractor is also required to maintain the fencing system in its original condition at no additional costs to the Owner. Contractor is responsible for relocating fencing as needed

throughout the duration of the project and to provide permanent fencing at the completion of the work.

E. Contractor is responsible for any and all traffic controls required throughout the duration of the demolition work. Contractor is required to obtain any and all permits from local agencies. Contractor to provide all detour or road closing signage as may be required by the governing agency.

1.2 RELATED DOCUMENTS

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

1.3 SUMMARY

A. This Section includes the following:

1. Demolition and removal of buildings and site improvements.
2. Abandoning in place and/or removing below-grade structures.
3. Disconnecting, capping or sealing, site utilities.
4. Salvaging items for reuse by Owner.

B. Related Sections include the following:

1. Division 1 Section "Summary" for use of the premises and phasing requirements.
2. Division 1 Section "Photographic Documentation" for preconstruction photographs taken before building demolition.
3. Division 1 Section "Temporary Facilities and Controls" for temporary construction, protection facilities, and environmental-protection measures for building demolition operations.
4. Division 1 Section "Construction Waste Management" for recycling and disposal of demolition wastes.

1.4 DEFINITIONS

A. Demolition: Completely remove and properly characterize, transport in permitted vehicles and dispose of off-site at a permitted facility. Remove has the same meaning.

B. Recycle: Recovery of demolition waste for subsequent processing in preparation for reuse.

C. Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner. Include fasteners or brackets needed for reattachment elsewhere.

1.5 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.6 SUBMITTALS

A. Demolition and Removal Work Plan which shall detail all critical sequencing, procedures, demolition methods, temporary protection and control methods and schedule. Include drawings, which indicate the measures proposed for protecting individuals and property, for environmental protection, for dust control and, for noise control. Indicate proposed locations and construction of barriers. Detail special measures proposed to protect adjacent buildings and existing site features to remain. Provide particular details for the demolition including measures to retain falling debris on-site. Overall Plan shall also include a specific protection plan for the Thornton Building (Building 3A) and Hutchinson Chapel (Building 5) and Tunnel under the base bid and for Hutchinson Chapel (Building 5) under Alternate No. 1.

B. Schedule of Building Demolition Activities: Indicate the following:

1. Detailed sequence of demolition work, with starting and ending dates for each activity.
2. Temporary interruption of utility services.
3. Shutoff and capping of utility services.

C. Building Demolition Plans: Drawings indicating the following:

1. Locations of temporary protection and means of egress.

D. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start of demolition.

E. Pre-demolition Photographs and Video: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by building demolition operations. Comply with Division 1 Section "Photographic Documentation." Submit before the Work begins.

F. Landfill and Disposal Records: Indicate receipt and acceptance of all material disposed of offsite. Indicate receipt and acceptance of all hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.7 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with all federal, state and local laws, rules, regulations, standards, guidance and notification requirements for the duration of the Contract.

B. Comply with New York State Department of Labor (NYSDOL) Code Rule 23 and specifically subpart 23.3 "Demolition Safety".

C. Standards: Comply with ANSI AlO.6, NFPA 241, Fire Code of New York State, Building Code of New York State

D. Pre-demolition Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to building demolition including, but not limited to, the following:

1. Inspect and discuss condition of construction to be demolished.
2. Review and finalize building demolition schedule and verify availability of demolition personnel, equipment, and facilities needed to make progress and avoid delays.
3. Review and finalize protection requirements.
4. Review procedures for noise control and dust control.
5. Review procedures for protection of adjacent buildings.
6. Review items to be salvaged and returned to Owner.

1.8 PROJECT CONDITIONS

A. Buildings to be demolished will be vacant and their use discontinued before start of the Work.

B. Owner assumes no responsibility for buildings and structures to be demolished.

1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical subject to modifications resulting from an on-going abatement and remediation project.

C. Hazardous Materials: Contractor shall be aware that a Hazardous Materials Report has been prepared in conjunction with previous surveys of the structure. Electronic files have been provided on Compact Disc (CD) for the Contractor's use and reference.

1. The demolition Contractor will be responsible for retaining an approved abatement contractor for abatement of indicated materials and any materials discovered during demolition at no additional expense to the Owner.
2. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Construction Manager and Owner. Do not disturb

hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.

3. The Contractor shall not collect or analyze any samples without the prior approval of the Owner or Construction Manager.

D. On-site storage or sale of removed items or materials is not permitted.

1.9 COORDINATION

A. Arrange demolition schedule so as not to interfere with operations of adjacent occupied buildings.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. Satisfactory Soils: Comply with requirements in Division 2 Section "Earthwork."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Review Project Record Documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

B. Inventory and record the condition of items to be removed and salvaged. Provide photographs and video of conditions that might be misconstrued as damage caused by salvage operations. Comply with Division 1 Section "Photographic Documentation."

C. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during building demolition operations. Survey is to be performed by a licensed Engineer registered in the state of New York.

D. Verify that hazardous materials have been remediated, or are sufficiently isolated, before proceeding with building demolition operations.

3.2 PREPARATION

A. Existing Utilities: Locate, identify, disconnect, and seal or cap off indicated utilities serving buildings and structures to be demolished.

1. Arrange to shut off indicated utilities with utility companies.
2. If removal, relocation, or abandonment of utility services will affect adjacent occupied buildings, then provide temporary utilities that bypass buildings and structures to be demolished and that maintain continuity of service to other buildings and structures.
3. Cut off pipe or conduit a minimum of 24 inches below grade. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing according to requirements of authorities having jurisdiction.
4. Do not start demolition work until utility disconnecting and sealing have been completed and verified in writing.

B. Temporary Shoring: Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of demolition.

C. Salvaged Items: Comply with the following:

1. Clean salvaged items of dirt and demolition debris.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to storage area designated by Owner.
5. Protect items from damage during transport and storage.

3.3 PROTECTION

A. Existing Facilities: Protect adjacent walkways, trees requiring protection, and buildings slated to remain during demolition operations. Maintain exits from existing buildings.

B. Existing Utilities: Maintain utility services to remain and protect from damage during demolition operations.

1. Do not interrupt existing utilities serving adjacent occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction.
2. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and authorities having jurisdiction.

a. Provide at least 72 hours' notice to occupants of affected buildings if shutdown of service is required during changeover.

C. Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction and as indicated. Comply with requirements in Division 1 Section "Temporary Facilities and Controls."

1. Protect adjacent buildings and facilities from damage due to demolition activities.
2. Protect existing site improvements, appurtenances, and landscaping to remain.
3. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
4. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.

D. Remove temporary barriers and protections where hazards no longer exist. Where open excavations or other hazardous conditions remain, leave temporary barriers and protections in place.

E. Vibration Control:

1. Vibration monitoring by a qualified specialist, acceptable to the Engineer, shall be retained to observe vibrations. A seismograph shall be employed to measure ground vibrations near selected typical private and/or public buildings within the range of influence of the work. The recorded information shall be adequate to allow determination of the peak ground particle velocity and energy ratio at the seismograph location. The recorded data is to be analyzed by the specialist on a weekly basis or more frequently as directed by the Owner. Contractor's foreman and Owner's Representative are to be trained by the specialist and/or manufacturer's representative to observe and interpret incidents of significant vibration. Should they occur, the Contractor will be directed to stop work and revise operating procedures to eliminate or reduce to acceptable levels of vibrations-causing the impacts.
2. Contractor shall provide capabilities to simultaneously monitor vibrations using at grade monitors at six (6) locations to be specified by the Owner. Initial baseline monitoring will be conducted one (1) week in advance of project work. Thereafter, vibration monitoring will be conducted continuously during project work unless otherwise indicated by the Owner or the Owner's representative.
3. Demolition procedures shall be adjusted so that the ground vibrations in the vicinity of existing structures or structures erected under this Contract are below the levels generally recognized as damage producing. In no event shall impact intensity be so high as to produce peak particle velocities greater than two inches per second or energy ratios greater than 1.0 in the vicinity of existing structures.

   a. Energy Ratio shall be calculated by the following formula:

   $$E.G. = (3.29FA)^2$$

   Where: F = Frequency in cycles per second
   A = Amplitude in inches

   Total E.G. is equal to the arithmetical sum of the Energy Ratios in three mutually perpendicular planes of motion in the vertical and horizontal directions at anyone instant of time.

b. Particle Velocity shall be calculated by the following formula:

Particle Velocity (v) = A/t

Where: A = Amplitude in inches
t = Time in seconds

Total peak particle velocity is equal to the vector sum of the particle velocities in three mutually perpendicular planes of motion in the vertical and horizontal directions at anyone instant of time.

3.4 DEMOLITION, GENERAL

A. General: Demolish existing buildings and site improvements completely as indicated in the project documents. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Do not use cutting torches until work area is cleared of flammable materials. Maintain portable fire-suppression devices during flame-cutting operations.
2. Maintain fire watch during and for at least 2 hours after flame cutting operations.
3. Maintain adequate ventilation when using cutting torches.
4. Locate building demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

B. Engineering Surveys: During demolition, perform surveys to detect hazards that may result from building demolition activities.

C. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.

D. Explosives: Use of explosives is **not** permitted.

3.5 DEMOLITION BY MECHANICAL MEANS

A. Proceed with demolition systematically. Complete building demolition operations above each floor or tier before disturbing supporting members on the next lower level.

B. Remove debris from the building by chute, hoist, or other device that will convey debris to waste handling area in a controlled manner.

1. Remove structural framing members and lower to ground by method suitable to minimize ground impact and dust generation.

C. Salvage: Items to be salvaged are indicated on Drawings.

D. Below-Grade Construction: Demolish foundation walls and other below-grade construction.

1. Remove below-grade construction, including basements, foundation walls, and footings, to depths indicated.
2. Provide temporary shoring as may be required to support surrounding conditions while backfilling.

E. Existing Utilities: Abandon and/or demolish existing utilities and below-grade utility structures as per the Contract Documents and in accordance with the requirements of the entity having jurisdiction.

3.6 DEMOLITION BY EXPLOSIVES

A. **Not** allowed.

3.7 SITE RESTORATION

A. Below-Grade Areas: Rough grade below-grade areas ready for further excavation or new construction.

B. Below-Grade Areas: Completely fill below-grade areas and voids resulting from building demolition operations with satisfactory soil materials according to backfill requirements in Division 2 Section "Earthwork" and the Contract plans.

C. Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades.

3.8 REPAIRS

A. Promptly repair damage to adjacent buildings caused by demolition operations.

3.9 DISPOSAL OF DEMOLISHED MATERIALS

A. The Contractor is solely responsible for costs and to comply with all current federal, state and local laws, rules, regulations, standards and guidance concerning waste characterization, waste handling, transportation and proper disposal of all waste generated from this project. Contractor is responsible to comply with Section 01524 "Construction Waste Management" Copies of all information and reports shall be provided to the Construction Manager.

B. Remove demolition waste materials from Project site. See Division 1 Section 01524 "Construction Waste Management" for recycling and disposal of construction and demolition waste.

C. See Division 2 Section 02080 Asbestos Remediation for Handling and Disposal of ACM and Asbestos-Contaminated Waste.

D. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

E. Do not burn demolished materials.

F. All storage tanks containing petroleum liquids shall be removed in accordance with the requirements of the New York State Department of Environmental Conservation (NYSDEC) in general and 6 NYCRR part 613 in particular.

3.10 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began.

END OF SECTION 02221

SECTION 02230 - SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Removing above- and below-grade site improvements.
2. Disconnecting, capping or sealing, removing site utilities and abandoning site utilities in place.
3. Temporary erosion- and sedimentation-control measures.

B. Related Sections:

1. Division 1 Section(s) "Construction Waste Management".
2. Division 1 Section "Temporary Facilities and Controls" for temporary utility services, construction and support facilities, security and protection facilities.
3. Division 2 Section "Building Demolition" for demolition of buildings, structures, and site improvements.

C. Contractor shall take care during clearing to protect any trees identified by the Contract Drawings as to be protected.

1.3 DEFINITIONS

A. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

B. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.

C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in place surface soil and is the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of subsoil and weeds, roots, toxic materials, or other non-soil materials.

D. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation as shown on Contract Drawings to be protected during construction.

E. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction.

F. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 MATERIAL OWNERSHIP

A. Except for stripped topsoil and other materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.5 SUBMITTALS

A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.

1. Use sufficiently detailed photographs or videotape.
2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.

B. Record Drawings: Identifying and accurately showing locations of capped utilities and other subsurface structural, electrical, and mechanical conditions.

1.6 QUALITY ASSURANCE

A. Pre-demolition Conference: Conduct conference at Project site.

1.7 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.

B. Salvable Improvements: Carefully remove items indicated to be salvaged.

C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.

D. Do not commence site clearing operations until temporary erosion- and sedimentation-control measures are in place.

E. The following practices are prohibited within protection zones:

1. Storage of construction materials, debris, or excavated material.
2. Parking vehicles or equipment.
3. Foot traffic.
4. Erection of sheds or structures.
5. Impoundment of water.
6. Excavation or other digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

F. Do not direct vehicle or equipment exhaust towards protection zones.

G. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.

H. Soil Stripping, Handling, and Stockpiling: Perform only when the topsoil is dry or slightly moist.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Division 2 Section "Earthwork."

1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Locate and clearly identify trees, shrubs, and other vegetation to remain or to be relocated. Flag each tree trunk at 54 inches above the ground.

C. Protect existing site improvements to remain from damage during construction.

1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.

B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.

D. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 EXISTING UTILITIES

A. Locate, identify, disconnect, and seal or cap utilities indicated to be removed or abandoned in place.

1. Arrange with utility companies to shut off indicated utilities.
2. Contractor will be responsible for coordination and shutoff of all utilities,

B. Locate, identify, and disconnect utilities indicated to be abandoned in place.

C. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Construction Manager not less than 7 days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Construction Manager's written permission.

D. Excavate for and remove underground utilities indicated to be removed.

3.4 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, and other vegetation to perform demolition.

1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.

2. Use only hand methods for grubbing within protection zones.

B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.

C. Where clearing is required, remove stumps and roots to a depth of 2 feet below ground surface.

3.5 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate demolition or new construction.

B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.

1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Sawcut faces vertically.

3.6 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 02230

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SECTION 02240 - DEWATERING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes construction and demolition dewatering.

B. Related Sections:

1. Division 1 Section "Construction Progress Documentation" for recording preexisting conditions and dewatering system progress.
2. Division 2 Section "Excavation Support and Protection" for shoring, bracing, and sheet piling of excavations.
3. Division 2 Section "Earthwork" for excavating, backfilling, site grading, and for site utilities.

1.3 PERFORMANCE REQUIREMENTS

A. The Contractor shall de-water basements as necessary to perform abatement in accordance with NYSDOL Code Rule 56 shall de-water as necessary to perform demolition and/or to backfill.

B. Collected water shall be disposed of in accordance with applicable Federal, State and local codes, rules and regulations. The Contractor shall provide the Buffalo Sewer Authority with the required sample results necessary and obtain a discharge permit from the Authority prior to discharge to the sewer system. All costs and payments associated with this permit are the responsibility of the Contractor.

C. Dewatering Performance: Design, furnish, install, test, operate, monitor, and maintain dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to lower, control, remove, and dispose of ground water and permit excavation and construction to proceed on dry, stable subgrades and to enable backfilling to achieve desired compaction.

1. Continuously monitor and maintain dewatering operations to ensure erosion control, stability of excavations and constructed slopes, that excavation or building does not flood, and that damage to subgrades and permanent structures is prevented.

2. Prevent surface water from entering excavations by grading, dikes, or other means.
3. Accomplish dewatering without damaging existing buildings, structures, and site improvements adjacent to excavation.
4. Remove dewatering system when no longer required for construction.

1.4 SUBMITTALS

A. Provide information required for temporary discharge permit to the Buffalo Sewer Authority.

B. Shop Drawings: For dewatering system. Show arrangement, locations, and details of means of discharge, control of sediment, and disposal of water.

1. Include a written summary for dewatering operations including control procedures to be adopted if dewatering problems arise.

C. Other Informational Submittals:

1. Photographs: Show existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by dewatering operations.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer that has specialized in dewatering work.
B. Regulatory Requirements: Comply with governing Buffalo Sewer Authority (BSA) notification regulations before beginning dewatering. Comply with hauling and disposal regulations of authorities having jurisdiction.
C. Predemolition Conference: Conduct conference at Project site.

1. Review methods and procedures related to dewatering.

1.6 PROJECT CONDITIONS

A. Interruption of Existing Utilities: Do not interrupt any utility serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility according to requirements indicated:

1. Notify Construction Manager no fewer than 7 days in advance of proposed interruption of utility.
2. Do not proceed with interruption of utility without Construction Manager's written permission.

B. Site Changes: Promptly notify Construction Manager if changes in elevations occur or if cracks, sags, or other damage is evident in adjacent construction.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by dewatering operations.

1. Prevent surface water and subsurface or ground water from entering excavations, from ponding on prepared subgrades, and from flooding site and surrounding area.
2. Protect subgrades and foundation soils from softening and damage by rain or water accumulation.

B. Install dewatering system to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

C. Provide temporary grading to facilitate dewatering and control of surface water.

D. Monitor dewatering systems continuously.

E. Promptly repair damages to adjacent facilities caused by dewatering.

F. Protect and maintain temporary erosion and sedimentation controls during dewatering operations.

3.2 INSTALLATION

A. Install dewatering system complete with pump equipment, standby power and pumps, filter material gradation, valves, appurtenances, water disposal, and surface-water controls.

1. Use filters or other means to prevent pumping of fine sands or silts.

B. Before excavating below ground-water level, place system into operation to lower water to below level of excavation. Operate system continuously until drains, sewers, and

structures have been constructed or demolished and fill materials have been placed or until dewatering is no longer required.

C. Provide an adequate system to lower and control ground water to permit excavation, demolition, construction of structures, and placement of fill materials on dry subgrades. Install sufficient dewatering equipment to drain water-bearing strata above and below bottom of foundations, drains, sewers, and other excavations.

D. Reduce hydrostatic head in water-bearing strata below subgrade elevations of foundations, drains, sewers, and other excavations.

E. Dispose of water removed by dewatering in a manner that avoids endangering public health, property, and portions of work under demolition, construction or completed. Dispose of water and sediment in a manner that avoids inconvenience to others. Provide sumps, sedimentation tanks, and other flow-control devices as required by authorities having jurisdiction.

F. Provide standby equipment on site, installed and available for immediate operation, to maintain dewatering on continuous basis if any part of system becomes inadequate or fails. If dewatering requirements are not satisfied due to inadequacy or failure of dewatering system, restore damaged structures and foundation soils at no additional expense to Owner.

1. Remove dewatering system from Project site on completion of dewatering.

G. Damages: Promptly repair damages to adjacent facilities caused by dewatering operations.

3.3 FIELD QUALITY CONTROL

A. Provide continual observation to ensure proper function of the dewatering operation.

END OF SECTION 02240

SECTION 02260 - EXCAVATION SUPPORT AND PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes temporary excavation support and protection systems.

B. Related Sections:

1. Division 1 Section "Construction Progress Documentation" for recording preexisting conditions and excavation support and protection system progress.
2. Division 1 Section "Temporary Facilities and Controls" for temporary utilities and support facilities.
3. Division 2 Section "Dewatering" for dewatering system for excavations.

1.3 PERFORMANCE REQUIREMENTS

A. Furnish, install, monitor, and maintain excavation support and protection system capable of supporting excavation sidewalls and of resisting soil and hydrostatic pressure and superimposed and construction loads.

1. Design excavation support and protection system, including comprehensive engineering analysis by a qualified professional engineer.
2. Prevent surface water from entering excavations by grading, dikes, or other means.
3. Install excavation support and protection systems without damaging existing buildings, structures, and site improvements adjacent to excavation.
4. Monitor vibrations, settlements, and movements.

1.4 SUBMITTALS

A. Shop Drawings: For excavation support and protection system including comprehensive engineering analysis by a qualified professional engineer.

B. Other Informational Submittals:

1. Show existing conditions of adjacent construction and site improvements that might be misconstrued as damage caused by the absence of, the installation of, or the performance of excavation support and protection systems. Submit before Work begins.

2. Record Drawings: Identifying and locating capped utilities and other subsurface structural, electrical, or mechanical conditions.

1.5 QUALITY ASSURANCE

A. Pre-installation Conference: Conduct conference at Project site.

1. Review methods and procedures related to excavation support and protection system including, but not limited to, the following:
   a. Existing utilities and subsurface conditions.
   b. Proposed excavations.
   c. Proposed equipment.
   d. Monitoring of excavation support and protection system.
   e. Working area location and stability.
   f. Abandonment or removal of excavation support and protection system.

1.6 PROJECT CONDITIONS

A. Monitoring: Promptly notify Construction Manager if changes in elevations or positions occur or if cracks, sags, or other damage is evident in adjacent construction.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Contractor is solely responsible to determine means, methods and materials to be used. Provide materials that are either new or in serviceable condition. Satisfy minimum requirements for specific materials indicated below if they are to be used.

B. Structural Steel: ASTM A 36/A 36M, ASTM A 690/A 690M, or ASTM A 992/A 992M.

C. Steel Sheet Piling: ASTM A 328/A 328M, ASTM A 572/A 572M, or ASTM A 690/A 690M; with continuous interlocks.

D. Wood Lagging: Lumber, mixed hardwood, nominal rough thickness of size and strength required for application.

E. Cast-in-Place Concrete: ACI 301, of compressive strength required for application.

F. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.

G. Tiebacks: Steel bars, ASTM A 722/A 722M.

H. Tiebacks: Steel strand, ASTM A 416/A 416M.

PART 3 - EXECUTION

3.1 GENERAL

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards that could develop during excavation support and protection system operations.

1. Shore, support, and protect utilities encountered.

B. Install excavation support and protection systems to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

C. Locate excavation support and protection systems clear of permanent construction so that forming and finishing of concrete surfaces are not impeded.

D. Monitor excavation support and protection systems daily during excavation progress and for as long as excavation remains open. Promptly correct bulges, breakage, or other evidence of movement to ensure that excavation support and protection systems remain stable.

E. Promptly repair damages to adjacent facilities caused by installing excavation support and protection systems.

3.2 REMOVAL AND REPAIRS

A. Remove excavation support and protection systems when construction has progressed sufficiently to support excavation and bear soil and hydrostatic pressures. Remove in stages to avoid disturbing underlying soils or damaging structures, pavements, facilities, and utilities.

1. Fill voids immediately with approved backfill compacted to density specified in Division 2 Section "Earthwork."
2. Repair or replace, as approved by Construction Manager, adjacent work damaged or displaced by removing excavation support and protection systems.

END OF SECTION 02260

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SECTION 02270 EROSION CONTROL

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

A. Work covered in this section includes the control of erosion, siltation, and sedimentation.

B. This work shall consist of temporary control measures as shown on the Contract Drawings or as ordered by the Construction Manager, and / or the Engineer during the life of the contract to control soil erosion, siltation, sedimentation and prevent water pollution through use of erosion control devices or methods.

C. Plans show the suggested minimum measures required. Areas of erosion and sedimentation control measures defined on the plans are not all-inclusive. The Contractor is responsible for utilizing erosion and sedimentation control techniques in all areas of construction where disturbance to existing conditions is required.

D. All appropriate erosion and sediment control measures shall be in place and functional a minimum of five (5) business days before commencement of construction of any segment of the project that requires such measures.

1.2 RELATED WORK SPECIFIED ELSEWHERE

Earthwork: Section 02300

1.3 QUALITY ASSURANCE

A. Measures and controls shall be in accordance with Buffalo Sewer Authority regulations.

B. The Contractor shall provide at least one person who shall be present at all times during erosion control operations and who shall be thoroughly familiar with the types of materials being installed and the best methods for their installation and who shall direct all work performed under this section. Contractor shall provide a qualified individual who has received minimum 4-hours training in Erosion and Sediment Control.

C. Material manufacturers and vendors shall be reputable, qualified firms regularly engaged in producing the required types of materials.

D. Utilize construction methods/techniques, which will limit exposed earthen areas and minimize the effect of earth disturbance activities on soil erosion.

E. Direct all sediment-laden water to an appropriate sediment control device prior to off-site discharge.

F. The Contractor shall maintain all erosion and sediment control measures in good working condition and in accordance with the Contract Documents. The Contractor shall inspect the erosion and sediment control measures, weekly and after each runoff event, to maintain their effectiveness.

1.4 AUTHORITY OF WORK

A. The Construction Manager may limit the area of excavation, borrow, and embankment operations in progress, commensurate with the Contractor's capability and progress in keeping the finish grading, and other such permanent control measures current in accordance with the accepted schedule.

B. The Construction Manager has the authority to limit the surface area of erodible earth material exposed by fill operations and to direct the Contractor to provide immediate permanent or temporary pollution control measures to minimize damage to adjacent property and to minimize contamination of storm water collection systems.

1.5 SUBMITTALS

A. Submit actual erosion control measures and excavation dewatering discharge plan based on Contractor intended sequencing for review and approval by the Construction Manager prior to start of construction.

1.6 PROJECT REQUIREMENTS

A. Take every reasonable precaution and do whatever is necessary to avoid any erosion and to prevent silting of the storm, sanitary and combined sewer systems, impoundments, drainage ditches, and swales.

B. Protect and maintain all areas disturbed by the work, such that erosion is adequately controlled and silt and sediments are not allowed to flow into or onto: any adjacent properties; roadways or pavements; or, storm or sanitary sewers.

C. Work shall be scheduled to sequence work in such a manner so that the exposed, unprotected surface area of any earth material that is subject to erosion by wind or water will be kept at a minimum.

D. The exposure of uncompleted cut slopes, embankments, trench excavations, and site graded areas shall be kept as short as possible. Initiate seeding and other erosion control measures on each segment as soon as reasonably possible.

E. Should it become necessary to suspend construction for any length of time, shape all excavated and graded areas in such a manner that runoff will be intercepted and diverted to points where minimal erosion will occur. Provide and maintain temporary erosion and sediment control measures, such as berms, dikes, slope drains, silt stops, and sedimentation basins, until permanent drainage facilities and erosion control features have been completed and are operative.

F. Fine material placed or exposed during the work shall be so handled and treated as to minimize the possibility of its reaching any surface waters. Use diversion channels, dikes, sediment traps, or any other effective control measures.

G. Provide silt stops wherever erosion control measures may not be totally capable of controlling erosion, such as in drainage channels and where slopes may exist.

H. Before water is allowed to flow in any ditch, swale, or channel, install the permanent erosion control measures in the waterway so that the waterway will be safe against erosion.

I. Contractor shall devote particular attention to all (existing and new) drainage facilities, keeping them fully operational at all times. Contractor shall at a minimum inspect and repair siltation controls. Provide inlet protection at existing and new drainage structures.

J. Take special precautions in the use of construction equipment to minimize erosion. Do not leave wheel tracks where erosion might begin. Prevent direct discharge from dewatering pumps and surface runoff from the construction sites to storm sewers, culverts, streams or ditches. Intercept and conduct surface runoff and discharge from dewatering pumps to siltation ponds before discharging to natural drainage channels.

K. Siltation deposits in storm, sanitary, and combined sewers resulting from the discharge of water from the project site shall be removed to restore profiles and conditions to that existing prior to the commencement of the work.

L. The Contractor shall keep access routes and parking areas used for the work clean of debris and other obstructions resulting from the work.

M. The Contractor shall keep traveled ways free of foreign objects such as spilled earth, rock, and other items that may fall from transporting vehicles. Materials spilled by or dropped from the undercarriage of any carrying vehicle used in the Contractor's hauling operations along or across any public traveled way shall be removed immediately.

N. Disturbance of lands outside the limits of construction is prohibited, except as may be found necessary and approved by the Construction Manager.

O. The requirements of this section also apply to project-related construction activities away from the project site, such as at borrow pits, off-site storage areas, and haul and work roads.

P. Should any protective measures employed indicate any deficiencies or erosion taking place, immediately provide additional materials or employ different techniques to correct the situation and to prevent subsequent erosion.

Q. Continue erosion control measures until the permanent measures have been sufficiently established and are capable of controlling erosion on their own.

R. Comply with all federal, state, and local laws, ordinances, rules, and regulations.

PART 2 - PRODUCTS AND MATERIALS

2.1 GENERAL

A. Materials shall conform to the design plans or specifications outlined in the New York State Standards and Specifications for Erosion and Sediment Control and Buffalo Sewer

Authority regulations.

B. Trench plug materials shall consist of native soil installed within "sandbags."

2.2 SILT FENCES

A. Filter cloth shall be as manufactured by Mirafi 100X, Stabilenka T104N, Indian Valley 3611 Construction Grade or approved equal and shall meet the following requirements:

1. Silt Fence Fabric:

Fabric Properties	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lbs)	90	ASTM D1682
Elongation at Failure (%)	50	ASTM D1682
Mullen Burst Strength (lbs)	190	ASTM D3786
Puncture Strength (lbs)	40	ASTM D3786
Slurry Flow Rate (gal/min/sf)	0.3	
Equivalent Opening Size	40-80	US Std. Sieve SW-02215
Ultraviolet Radiation Stability (%)	90	ASTM G-26

B. Other materials shall be as defined on the silt fence detail shown on the Contract Documents.

C. Pre-assembled silt fence, which is complete with U.V., stabilized filter fabric (minimum 36-inch) high-strength polypropylene netting and pre-attached hardwood stakes may also be used. The preassembled reinforced silt fence shall be Silt-LOK 36-100RX as manufactured by JDR Enterprises, Inc., Mirafi Envirofence, Belton Industries or approved equal.

2.3 CHECK DAMS

A. Light Stone Fill - Material shall be graded stone filling (light) as designated by NYSDOT Item No. 620.03.

B. The gradation of materials furnished will be accepted or rejected based upon a visual examination of the material by the Design/Engineer.

C. Filter cloth shall be as manufactured by Mirafi 100X, Stabilenka T104N or approved equal and shall meet the same requirements as for silt fence described in this section.

D. The purpose of the check dams shall be to reduce erosion by restricting the velocity of flow in the swale/channel.

2.4 TEMPORARY SEDIMENT TRAP

A. Clear, grub and strip the area to be excavated of all vegetation and root mat. Required storage shall be 3,600 cubic feet per acre of drainage area. The complete drainage area

shall not exceed 5 acres.

B. Side slopes shall be 3 horizontal to 1 vertical or flatter on fill slopes.

C. Stone check dam or other pipe outlet with seepage collar shall be provided.

D. Geotextile fabric shall be Mirafi 140N as manufactured by Mirafi or approved equal.

2.5 INLET PROTECTION

A. Provide masonry or concrete block and clean granular materials as shown on the Contract Darwings.

PART 3 - EXECUTION

3.1 GENERAL

A. In the event of conflict between these specification requirements and pollution control laws, rules or regulations of other Federal, State, or local agencies, the more restrictive laws, rules or regulations shall apply.

B. All appropriate erosion and sedimentation control measures including silt fences and temporary sediment traps shall be in place prior to the excavation of ground vegetation of any segment of the project that requires such measures. All measures shall be maintained throughout the period of construction to the satisfaction of the Owner's Designated Representative, Construction Manager, and / or the Design Engineer.

C. Maintenance of said measures shall include periodic removal and disposal of sediment, inspection and repair of damaged facilities, and replacement of any materials required to facilitate revegetation of disturbed areas.

D. Any areas of temporary storage for materials shall be protected by silt fences as directed by the Owner's Designated Representative, Construction Manager, and / or the Design Engineer.

E. Temporary measures such as silt fences and sediment traps shall be removed at the end of construction when vegetation is established to the satisfaction of the Owner. Removal of any erosion and sedimentation control measures shall not begin without approval of the Owner's Designated Representative and/or the Design/Engineer.

3.2 CHECK DAMS

A. Stone filling shall be placed in a manner that will produce a reasonable well-graded mass of stone with smaller fragments filling the space between the larger ones, so as to result in the minimum practicable percentage of voids.

B. Inspect the check dams after each runoff event. Correct all damage immediately. Replace stones as needed to maintain cross sections of the structure.

C. Remove sediment accumulated behind the dam as needed to allow swale/channel to drain through the stone check dam and prevent large flows from carrying sediment over the dams.

D. Removed sediment shall be properly disposed of and in a manner not to erode.

3.3 TEMPORARY SEDIMENT TRAP

A. Sediment traps shall be maintained throughout the duration of the contract or until the drainage area has been properly stabilized as approved by the Owner's Designated Representative, Construction Manager, and / or the Design Engineer.

B. Sediment shall be removed and trap restored to its original dimensions when sediment has accumulated to 1/2 the design depth of the trap.

C. Removed sediment shall be properly disposed of and in a manner not to erode.

D. Inspect the sediment trap after each runoff event. Correct all damage immediately.

E. The Owner's Designated Representative, Construction Manager, and / or the Design Engineer may limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress, commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent control measures current in accordance with the accepted schedule.

3.4 SCHEDULE OF WORK

A. Included with the proposed construction schedule, the Contractor shall submit to the Construction Manager and Engineer for acceptance, his schedules for accomplishment of temporary and permanent erosion control work, as are applicable for demolition, excavation, backfilling fine grading**,** and restoration. In addition, he shall also submit for acceptance at the same time, his proposed plan for disposal of surplus excavated materials. No work shall be started until the erosion control schedules and methods of operations have been accepted by the Construction Manager and / or the Engineer. If climactic changes occur during construction, the Contractor may be required to submit a revised schedule for acceptance as directed by the Construction Manager and / or the Engineer.

B. Where conditions warrant, clearing and grubbing operations should be so scheduled and performed that grading operations and permanent erosion control features can follow immediately thereafter as the project conditions permit; otherwise temporary erosion control measures may be required between successive construction stages.

3.5 MAINTENANCE

A. If any staples become loosened or raised, or if any matting becomes loose, torn, or undermined, or if any temporary erosion and sediment control measures are disturbed, repair them immediately.

B. Maintain fence, silt stops, and other temporary control measures until the permanent control measures are established and no further erosion is likely.

C. All sediment spilled, dropped, or washed onto the roadways, parking areas, walkways or public right-of-way shall be removed immediately.

D. Maintain ditches and swales at all times so that they effectively drain. Refill, reshape, and re-compact where ruts or erosion occurs.

E. Maintain filter fabric placed at inlet grates. Clean and replace as necessary to protect the storm sewers from siltation and sediments.

F. Maintain areas temporarily seeded including repair of all damages, re-seeding, and refertilizing.

G. Flush and clean all storm sewers, structures and sumps. Capture and remove sediments prior to release into other downstream systems.

END OF SECTION 02270

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SECTION 02300 - EARTHWORK

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Properly crushed demolition debris (i.e. masonry, concrete, etc.) may be used at the discretion of the Contractor as backfill material. Crushing must be accomplished off site. Utilization of an onsite crusher will not be permitted. If the crushing process yields more backfill material than needed to complete the project, the excess material shall be disposed of, at no additional expense to the Owner. If the crushing process does not yield sufficient material, the contractor shall import suitable material to complete the backfilling and final grading at no additional expense to the owner.

B. Shoring and protection of surrounding structures, streets, curb, street lighting, signals, vaults, utilities, sidewalks and any exposed soil slopes or cuts that result from demolition of the building or buried utilities shall be included in the Contractor's lump sum bid price.

C. Backfilling all excavations that remain from building, utility, and pavement demolition, and completing the final grading necessary to match the lines, dimensions, contours and proposed grade elevations shown on the plans.

D. Demolition Contractor shall provide as-built topographic survey of the site post demolition and prior to backfilling that documents horizontal and vertical location of all remaining basement walls, subbasement walls, shafts, floor elevations, footing and other structural components of former buildings. Survey to be completed by a licensed New York State Land Surveyor and submitted to the Construction Manager in AutoCAD.dwg format.

1.2 RELATED DOCUMENTS

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

1.3 SUMMARY

A. Section Includes:

1. Filling of subgrade
2. Earthen embankments
3. Excavating and backfilling trenches for utilities and pits for buried utilities and structures.
4. Excavating and backfilling tree pits/well.
5. Preparing subgrades, including excavation and backfill for pavements.
6. Soils and backfill materials consolidation and compaction.
7. Furnishing and placing earth and granular materials

8. Subbase course for walks and pavements.
9. Removing from site excess and/or unsuitable fill
10. Excavating and backfilling for buildings and structures including backfilling of demolition voids to establish desired post-demolition grades.
11. Subsurface drainage backfill for walls and trenches.
12. All other associated earthwork as necessary to perform the work under this contract in conformance with the alignments, grades and detailed sections provided.

B. Related Sections:

1. Division 1 Section "Construction Progress Documentation", and Photographic Documentation" for recording pre-project conditions.
2. Division 1 Section "Temporary Facilities and Controls" for temporary controls, utilities, and support facilities; also for temporary site fencing if not in another Section.
3. Division 2 Section "Site Clearing"
4. Division 2 Section "Dewatering"
5. Division 2 Section "Excavation Support and Protection"

1.4 DEFINITIONS

A. Backfill: Soil material or controlled low-strength material used to fill an excavation.

B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.

C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

E. Drainage Course: Aggregate layer that also minimizes upward capillary flow of pore water.

F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Construction Manager. Authorized additional excavation and replacement material will be paid for according to Contract, provisions for changes in the Work.
2. Bulk Excavation: Excavation more than 10 feet in width and more than 30 feet in length.
3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated Line and dimensions without direction by Construction Manager. Unauthorized excavation, as well as remedial work directed by Construction Manager, shall be without additional compensation.

G. Fill: Soil materials used to raise existing grades.

H. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material that exceed 1 cu. yd. for bulk excavation or 1 cu. yd. for footing, trench, and pit excavation that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering, or ripping.

I. Structures: Buildings, footings, foundations, retaining walls, slabs, vaults, manholes, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

J. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete, pavement or a cement concrete or hot-mix asphalt walk.

K. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.

L. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.5 SUBMITTALS

A. Qualification Data: For qualified testing agency retained by Contractor for pre-approval of all borrow sources and fill and or backfill materials.

B. Material Test Reports: For each borrow soil material proposed for fill and backfill as follows:

1. Classification according to ASTM D 2487.
2. Laboratory compaction curve.

C. Submit product literature that documents that proposed crusher will be capable of consistently crushing and pulverizing acceptable construction debris into a mixture that meets the gradation requirements for this project. Submittal shall include at least 5 project references for similar projects, along with names and phone numbers of person or persons in responsible charge of those projects.

D. Submit sample of crushed demolition material to Construction Manager for review and acceptance at least one week prior to beginning backfill operations. Sample(s) shall be of sufficient size(s) to allow completion of grain size analysis tests (ASTM D 422) and laboratory compaction tests (ASTM D 1557).

E. Submit the name of each material supplier and specific type and source of each material that will be used for backfill in the event there is not sufficient material available from the demolition and crusher operation. Submittal shall include grain size analysis and laboratory compaction test results completed in the last year by the supplier’s in-house quality control personnel (or subcontracted geotechnical testing laboratory). Any change in source throughout the job requires approval of the Owner/Construction Manager.

F. Submit samples of each type of off-site fill materials that is proposed for use at the site at least ten days in advance of importing the material to the site. A minimum 10 pound sample in an airtight container shall be submitted to the Construction Manager. The sample size submitted to the Testing Laboratory should be of suitable size for the Testing Laboratory to complete the required grain size analysis tests and the modified proctor tests.

G. Product Data: For each type of the following manufactured products required:

1. Geotextiles.
2. Controlled low-strength material, including design mixture.
3. Warning tapes.

H. Samples for Verification: For the following products, in sizes indicated below:

1. Geotextile: 12 by 12 inches.
2. Warning Tape: 12 inches long; of each color.

I. Pre-demolition Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by earth moving operations. Submit before earth moving begins.

1.6 QUALITY CONTROL

A. All finished grades shall be as shown on the Drawings or as specified by the Engineer. Contractor shall verify that survey benchmark and intended elevations for the work are as indicated. Contractor shall verify existing site conditions.

B. Contractor's independent testing agency shall be approved by the Engineer.

C. Contractor shall provide on-site at least one person who shall supervise the soil compaction operations, and who shall be thoroughly familiar with the various types of compaction equipment, proper compacting techniques and methods, and soils behavior, and who shall direct the compaction operations.

D. When placing fill and backfill, all compaction and soil moisture requirements as delineated in Part 3 shall be followed. Lift thickness, and the compactive capabilities of the equipment used, shall be continually monitored by the Contractor to obtain the compaction efforts required.

E. It is the responsibility of the Contractor to select, furnish and properly maintain equipment, which will compact the fill uniformly to the required density.

F. The Owner reserves the right to request testing of all Contractor imported materials to verify conformance with approved materials. All soils and granular materials not meeting the proper gradation requirements nor previously approved laboratory maximum density tests as submitted by the Contractor, shall be removed. Costs for testing of materials shall be the responsibility of the Contractor.

G. The taking of samples and the performing of field compaction density tests and laboratory maximum density tests shall be done for the Contractor by an approved independent testing laboratory.

H. All operations under this section of the specifications will be subject to inspection by the Construction Manager. The Construction Manager will be the sole judge of the conformance of materials, workmanship, and compaction with the requirements of the contract documents.

I. Work referencing NYSDOT (New York State Department of Transportation) shall be in compliance with the New York State Department of Transportation Standard Specifications (NYSS) dated May 1, 2008 (and any subsequent revisions).

J. The Independent Testing Laboratory that is selected must be an accredited AASHTO facility for applicable tests shall be retained by the Construction Manager to perform construction testing on site based on the following:

1. All backfilling shall be observed and documented on a full time basis by a qualified soil technician supplied by the Testing Laboratory. The soil technician shall supplement his visual observations by running field density tests. The test frequency shall be sufficient so that a Professional Engineer that specializes in geotechnical engineering, and representing the Testing Laboratory will be able to provide a final report indicating that all fill has been placed in accordance with the project specifications and construction drawings. As a minimum, the testing shall include: at least one field density test in each loose lift, for every 2,500 square feet or portion thereof when placing fill in larger areas; and at least one field density test in each lift for every 50 lineal feet of trench or portion thereof in trenches or other confined areas.

K. If compaction requirements are not complied with at any time during construction process, remove and re-compact deficient areas until specified compaction is obtained at no additional expense to Owner.

1. Cost of retesting areas of non-compliance shall be borne by the Contractor at no additional expense to Owner.

L. The following tests shall be performed on each type of on-site or imported material to be used as compacted fill as part of construction testing requirements by the Contractor.

1. Moisture and Density Relationship: ASTM D1557

2. Grain Size Analysis: ASTM D422

M. Field density tests for in-place materials shall be performed according to one of the following standards as part of construction testing requirements.

1. Sand-Cone Method: ASTM D 1556

2. Nuclear Method: ASTM D 2922 and ASTM D 3017 (Method B-Direct Transmission)

N. Coordinate work with Testing Agency.

O. Pre-demolition Conference: Conduct conference at Project site.

1.7 PROJECT CONDITIONS

A. When work is in public right-of-way, the Contractor shall make necessary arrangement for permits, as required, at no extra cost to the Owner.

B. The Contractor shall be required to ascertain the complete extent of all permits required governing dewatering operations, and shall be bound by their conditions and provisions.

C. Moisten or dry backfill materials to the proper moisture content as determined in accordance with ASTM D1557, Method C in order to obtain proper compaction.

D. Utilities shown on the contract drawings are for the convenience of the Contractor, exact locations are not guaranteed. The Contractor shall verify existing utilities with the proper authorities.

E. Notify Dig Safely New York (UFPO) prior to commencing any excavation. Locate and identify existing underground and overhead services and utilities within contract limit work areas. Provide adequate means of protection of utilities and services, which are not designated to be removed. Repair utilities damaged during site work operations at Contractor's expense.

F. Minimize interference with adjoining roads, streets, walks, parking areas and other adjacent occupied or used facilities during earth moving operations.

G. Locate, protect, and maintain benchmarks, monuments, control points, and project engineering reference points. Reestablish disturbed or destroyed items at Contractor's expense.

H. The control of dust, noise, erosion, and sediment originating from construction operations is considered a critical responsibility of the Contractor. The Construction Manager will be the final judge of the adequacy of the Contractor's dust, noise, erosion, and sedimentation control. Work may be suspended by the Construction Manager until adequate dust, noise, erosion, and sedimentation control is attained.

I. Protect structures, utilities, sidewalks, curbs, lights and bases, pavements, buildings, and other services or facilities on site and adjacent to the site from damage caused by earth moving operations or other work in support of Contractor operations. Cost of repair and restoration of damaged items shall be at Contractor's expense.

J. The Contractor shall take precautions to protect from harm the work of other contractors on site, existing facilities, as well as adjacent property. The Contractor shall be responsible for all damage or injury done to pipes, structures, utilities, curb, lighting, pavement, buildings, property or person as a result of work performed to complete this contract. The Contractor at his own expense shall repair or replace such property or item to the satisfaction of the property owner, utility owner, public agency having jurisdiction, Engineer and Construction Manager.

K. When it is necessary to haul materials over the streets or pavements, the Contractor shall provide suitable tight vehicles so as to prevent deposits on the streets or pavements. In all cases, where any materials are dropped from the vehicles, the Contractor shall clean up the same as often as directed and keep the crosswalks, streets, pavements and drainage ways clean and free from dirt, mud, stone, and other hauled materials.

L. Responsibility for cleaning private and public; roads, parking areas or walkways, of any material carried onto these roads or pavements by trucks or other equipment completing work in support of this project shall be the Contractor's and cost shall be included in price bid.

M. The existing ground elevations as shown on the Drawings are believed to be reasonably correct. The Contractor shall satisfy himself, however, by actual examination of the sites of the work, as to the existing elevations and the amount of work required under this section. No claim shall be made by the Contractor for additional compensation for conditions other than that shown.

N. The Contractor shall remove any waste material or other debris that has accumulated as a result of the work of this section and dispose in conformance with applicable legal requirements and in a manner acceptable to the Construction Manager.

O. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.

2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.

P. Do not commence earth moving operations until temporary erosion and sedimentation control measures are in place.

Q. The Contractor is advised that non-hazardous contaminated soils consistent with typical urban fill material are anticipated to be encountered during all excavation work. No analytical data is available; however urban fill materials are typically contaminated with ash, metals, PAHs, and may contain other contaminants. Contaminated soil are assumed to be encountered during all subsurface activities including, but not limited to, floor slab removal, pile and pile cap locating, utility excavations, general earth excavation, foundation demolition work and other work requiring removal or disturbance of existing soils. In order to ensure that contaminated soils are disposed of properly, all excavated soils or soils generated from site activities within the limits of excavation shall be assumed to be contaminated and shall be stockpiled on site for sampling and characterization analysis by the Contractor prior to removal from site. The Contractor shall include all excavation, stockpiling and loading/hauling and any disposal costs of soils within the project limits in his lump sum bid price.

1.8 PROTECTION

A. Protect surrounding properties, portions of this property that will remain undisturbed, and utilities as outlined in these specifications.

B. Protect and shore open excavations and basement walls that remain from demolition to provide a safe working environment as required by OSHA and as outlined in these specifications.

C. Contractor's Responsibility: Expense and correction of any damage.

D. Contractor's Responsibility: Contact the New York Dig Safely One Call System at 1-800-962-7962 between 3 and 7 days prior to excavation of any type.

PART 2 - PRODUCTS AND MATERIALS

2.1 SOIL MATERIALS

A. Soil and/or stone materials proposed for use as fill material must meet the following criteria:

1. Off-site soil materials obtained from a recognized commercial supplier of virgin soil/rock material will be considered "clean" for purposes of use on site. At least one sample from each virgin material source shall be collected and analyzed, and the results provided to the Construction Manager . A certification indicating that the soil/rock is virgin material and originated from locations having no evidence of disposal or release of hazardous, toxic or radioactive substances, wastes or petroleum products shall be obtained from the supplier and submitted to the Construction Manager .
2. Off-site soil materials intended for use as site backfill cannot be otherwise defined as a solid waste in accordance with 6 NYCRR Part 360-l.2(a).
3. Recycled Asphalt Pavement (RAP), and Slag, or any blend containing RAP, or Slag will not be allowed for use as backfill.
4. Non-virgin soil/rock materials Obtained from any source other than as identified in item 1 shall be tested via collection of one composite sample per 500 cubic yards of material from each source area. If more than 1,000 cubic yards of material are borrowed from a given off-site non-virgin source area and both samples of the first 1,000 cubic yards meet the target levels presented below, the sample frequency will be reduced to one composite for every 2,500 cubic yards of additional material from the same source, up to 5,000 cubic yards. For borrow sources greater than 5,000 cubic yards, sampling frequency may be reduced to one sample per 5,000 cubic yards, provided all earlier samples meet the target levels.

   The samples are to be analyzed by a New York State Department of Health (NYSDOH) approved laboratory for Target Compound List (TCL) volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs) and the Target Analyte List (TAL) list of metals (i.e. arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver) and cyanide. The analytical results are to be compared with the target levels. Materials that show no exceedances of the target levels will be considered "clean" for purposes of use on site.
5. For purposes of use on site the target levels will be as follows:
   a. The target levels for metals, VOC's, SVOC's, pesticides and PCB's will be those presented in NYSDEC 6 NYCRR Part 375 for Restricted Residential Reuse..

B. Material Quality Testing: It shall be the Contractor's responsibility to schedule testing on proposed materials in accordance with the Engineer's review period. A period of ten (10) calendar days upon the Engineer's receipt of submittals shall be required for review of testing submittals. The Contractor shall make no claim for additional costs incurred or delays in construction schedule if the Engineer requires re-submittals concerning proposed materials.

C. **Subbase Material**: Naturally or artificially graded mixture of natural or crushed gravel or crushed stone, ASTM D 2940; NYSDOT Item No. 304-2 Type 2 gradation Unless specified as Type 1 on Construction Details.

D. **Base Course:** Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; NYSDOT Item No. 304- 2 Type 2 gradation.

E. **Bedding Course** (also known as **Stone Bedding** and **Pipe Envelope**): Naturally or artificially graded mixture of natural or crushed gravel, crushed stone meeting the requirements of the NYSDOT Standard Specification for "Crushed Stone", primary size 1 or a 50 /50 mixture of primary size 1 and 2, washed, from Table 703-4..

F. **Drainage Course**: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1- ½ -inch sieve and 0 to 5 percent passing a No.8 sieve.

G. **Filter Material**: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 1 inch sieve and 0 to 5 percent passing a No.4 ,sieve.

H. **Select Fill – Select Borrow:** Modified maximum size limits from NYSDOT 203-2.02-B
Sand, gravel, and similar material which shall be free from silt, clay, loam, organic material, roots, debris, waste, frozen material, or other deleterious materials, and shall only contain small amounts (less than 10 percent) of stone, pebbles, or lumps over four inch in greatest dimension, but none over 8 inches in greatest dimension. Of the portion passing the 4"square sieve, the material shall have the following gradation and properties:

i. 0 to70 % by weight passing the No. 40 Sieve
ii. 0 to 15% by weight passing the No. 200 Sieve
iii. Sound durable materials with Magnesium Sulfate Soundness Loss less than 35%
iv. Slag and RAP shall not be used

I. **Select Granular Fill – Select Structural Fill**: NYSDOT 203-2.02-C
Material furnished under this item shall be suitable, well graded, and conform to the following requirements:

v. 100% by weight passing the 4" Sieve
vi. 0 to70 % by weight passing the No. 40 Sieve
vii. 0 to 15% by weight passing the No. 200 Sieve
viii. Sound durable materials with Magnesium Sulfate Soundness Loss less than 30%
ix. Slag and RAP shall not be used
x. pH between 5 and 10

J. **Run-of-Bank Gravel:** Material consisting of hard, durable particles and shall meet the requirements of NYSDOT Standard Specification Section 304-2.02, Type 4. Maximum particle size 2-inches, 30 to 65% by weight passing the ¼" sieve, less than 40% by weight passing the No. 40 sieve and less than 10% by weight passing the No. 200 Sieve

Backfill material shall consist of crusher-run demolition debris that meets the gradation requirements for NYSDOT No.2 material. Acceptable demolition debris constituents include concrete, bricks, masonry units, mortar, and non ACM clay tile. Organic matter

such as wood will not be acceptable. Other materials encountered during the demolition process may be accepted at the discretion of the Construction Manager. Remove demolition material that, in the opinion of the Owner or the Construction Manager, is not suitable for incorporation into the No. 2 Engineered Fill mixture. Dispose of in a lawful manner. If the crushing operation yields more Engineered Fill Material than needed to attain the final grades shown on plan, the excess crushed No, 2 material shall be removed from the site at no additional cost to the owner.

In the event sufficient crusher-run demolition debris is not available, crushed limestone aggregate meeting NYSDOT's No. 2 gradation may be substituted at no additional cost to the owner.

2.2 SEPARATION GEOTEXTILE

A. Woven geotextile fabric, manufactured for separation applications, made from polyolefins or polyesters; with elongation less than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:

1. Survivability: Class 2; AASHTO M 288.
2. Grab Tensile Strength: 200 lbf; ASTM D 4632.
3. Tear Strength: 751bf; ASTM D 4533.
4. Puncture Strength: 90 Ibf; ASTM D 4833.
5. Apparent Opening Size: No. 50 sieve, maximum; ASTM D 4751.
6. Permittivity: 0.05 per second, minimum; ASTM D 4491.
7. UV Stability: 70 percent after 500 hours' exposure; ASTM D 4355.

B. Mirafi 500X or approved equal.

2.3 WARNING TAPE

A. Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:

1. Red: Electric.
2. Yellow: Gas, oil, steam, and dangerous materials.
3. Orange: Telephone and other communications.
4. Blue: Water systems.
5. Green: Sewer systems.

B. Utilize the proper compaction methods and equipment to suit the soils and conditions encountered. Mechanical, vibratory, pneumatic tampers or other method as approved by the Engineer shall be required. Complete compaction work in accordance with Part 3 of this specification.

C. Water in sufficient quantity may be required to assure compaction.

D. Laboratory test reports for imported soil, fill, backfill and granular products:

1. As a minimum, the laboratory maximum density testing reports shall contain the following:
   a. Laboratory's name.
   b. Date, time, and specific location from which sample was taken and name of person who collected the sample.
   c. Moisture - Density Curve plotted on graph paper to as large a scale as is practical with all points used to derive the curve being clearly visible.
   d. Designation of the test method used.
   e. The optimum density and moisture content.
   f. A description of the sample.
   g. The date the test was performed and the person who performed the test.
   h. The project name, identification, and contractor's name.
   i. The signature of a responsible officer of the testing laboratory certifying to the information contained in the report.

E. Provide all equipment and materials necessary to perform dewatering and dust control operations in a safe and satisfactory manner. Conform to the Contract Drawings for proper operations.

F. Standing water and/or saturated, unstable soil conditions will not be tolerated in areas to receive finish grading or asphalt pavements.

PART 3 - EXECUTION

3.1 PREPARATION

A. PRIOR to this operation, ensure that work as may be required for surface runoff, groundwater control in open excavations, and erosion and sedimentation control specified by the Contract Drawings has been completed.

B. Protect benchmarks, property corners and all other survey monuments from damage or displacement. If a marker needs to be removed it shall be referenced by a licensed land surveyor and replaced, as necessary, by the same. Re-establish benchmarks, property corners and other monuments if destroyed or disturbed at no cost to the Owner.

C. Shore, brace, and drain excavations, or basement areas, as necessary to maintain safe, secure, and free of water at all times. Shoring and Bracing is to be designed by a registered Engineer, licensed in the State of New York.

D. Prior to placing any backfill, the demolition subgrade, shall be observed by the Construction Manager. The Construction Manager shall verify that the exposed subgrade is capable of providing required or specified support to allow the Select Fill Material to be compacted as outlined in these specifications. The Construction Manager may require that the exposed subgrade be proof-rolled with a fully loaded tandem axle dump truck or

approved equivalent in order to complete the evaluation. Any soft or pumping areas that cannot provide a solid base upon which to compact shall be removed and replaced with additional Select Fill Material. Any soft zones of less than 3 feet in thickness that must be removed and replaced will be considered incidental to the work.

E. Once the subgrade is accepted by the Construction Manager, place the approved Select Fill Material in lifts that do not exceed 12 inches of loose thickness. Each lift of material shall be compacted to at least 95 percent of the maximum density as determined by ASTM D 1557 prior to placing additional lifts. The moisture content shall be maintained within 2 percentage points of the optimum moisture as determined by ASTM D 1557. Field density test results shall not be the sole indicator of a layer's suitability. Regardless of the degree of compaction obtained, and the moisture content, each lift shall not be approved by the Construction Manager if the layer is observed to be pumping or yielding to construction traffic or equipment. Any pumping or yielding soils shall be removed and replaced at no additional cost to the Owner.

F. Frozen material shall not be incorporated into the fill. If any previously accepted lift freezes prior to the next lift being placed, the frozen material shall be removed at no expense to the owner as these costs are considered incidental to the work.

3.2 EARTH MOVING, GENERAL

A. The work shall be performed by methods acceptable to the Engineer, Construction Manager, and Owner..

B. Excavation shall include the satisfactory removal and disposal of all materials encountered, regardless of the nature of the materials, or the manner in which they were excavated, except materials classified as rock excavation.

C. All pipe lines or existing structures encountered during the excavation operation and designated to remain shall be properly supported/protected to prevent damage.

D. Provide and maintain adequate temporary crossovers for pedestrian and vehicular traffic, including temporary gravel drives, steel plates, guardrails, lamps, flags; remove same when necessity for such protection ceases. All traffic maintenance shall be done in a manner satisfactory to the Engineer, Owner, and Construction Manager.

E. The Contractor shall have available a supply of steel plates with minimum dimensions of 4 feet x 8 feet x 1 inch, or thicker, as required by jurisdictional authorities and to maintain emergency access and egress to the site. The plates shall be used to bridge open trenches crossing roadways, or driveways as directed by the Construction Manager. When used, they shall be secured against the possibility of shifting or dropping into the excavation. During winter months, these plates shall not be left in the roadway or driveway overnight unless specifically required by the Construction Manager.

F. When excavating in or adjacent to the traveled portion of highways, driveways, or parking areas take whatever measures are necessary to protect the road/drive/parking surfaces from becoming undermined.

G. All traffic maintenance shall be done in a manner satisfactory to the Engineer, Owner, and Construction Manager.

3.3 DEWATERING

A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

1. 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.

B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.

1. 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.

2. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations.

3. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.

C. 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.

D. The Contractor shall make his own determination as to required dewatering operations necessary to complete the work. Contractor shall have available at all times sufficient equipment, machinery, piping, and appurtenances for pumping water to keep excavations free from water during construction.

E. Where the presence of fine grained subsurface materials and high groundwater table may cause the upward flow of water into the excavation with a resulting quick or unstable condition, the Contractor shall install and operate a well point system to prevent the upward flow of water during construction.

F. All water removed from the trenches or excavations by pumping, bailing, siphoning, well-points, or other means shall be disposed of in such a manner so as to avoid damage to the work, work of other Contractors, surface and ground water, persons or property. Unless otherwise permitted by the Engineer, groundwater encountered within the limits of excavation shall be depressed to an elevation not less than 12 inches below the bottom thereof before pipe laying, concreting or masonry is started, and shall be so maintained until concrete and joint material have attained adequate strength.

G. The Contractor shall not discharge water from dewatering operations directly into any line or intermittent stream, channel, wetlands or surface water. The Contractor shall not discharge water from dewatering operations directly into the storm or sanitary sewer system without prior approval of the Engineer. If the quality of the trench water is not better than or equal to that of the receiving stream, the Contractor shall perform all work

necessary to improve the quality of the removed water in accordance with all requirements of the agencies having jurisdiction. This work shall include, but not be limited to, filtration, settling, and screenings meeting the requirements of the Contract Drawings to reduce the amount of sediment contained in the water to allowable levels, as acceptable to the Engineer, prior to disposal.

H. All costs to ensure proper drainage, dewatering and discharge from dewatering operations shall be at the Contractor's expense.

I. The Contractor shall be responsible for repairing, at his own expense, any ruts, gullies, sloughage, slides, and cleaning or repairing any catch basins or storm drainage lines which display signs of silt build-up during the course of construction until the contract is complete.

J. Provide adequate protection from the effects of possible uplift due to storm or groundwater where buoyancy might lift installed work or cause joint or structure failure during construction.

K. Protect the interior of installed work from the entering and accumulation of liquids, ice, and snow. Immediately remove and dispose any accumulation, which may occur.

L. Adjust, repair, replace, or clean all work, surfaces, and property, which may have been damaged as a result of any dewatering operation.

3.4 SOIL STABILIZATION

A. Sloped sides of excavations shall comply with local codes, ordinances, and requirements of agencies having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated. Maintain sides and slopes of excavations in safe condition until completion of backfilling and/or filling.

B. Shoring and Bracing: Provide materials for shoring and bracing, such as sheet piling, uprights, stringers, and cross braces, etc. in good serviceable condition. Maintain shoring and bracing in earthwork areas regardless of time period excavations will be open. Extend shoring and bracing as earthwork operations progresses.

C. Daily inspections of excavations shall be made by an authorized competent representative of the contractor performing the earthwork operations.

3.5 EXPLOSIVES

A. Explosives: Do not use explosives.

3.6 EXCAVATION, GENERAL

A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.

1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

2. Remove rock to lines and grades indicated to permit installation of permanent construction without exceeding the following dimensions:

a. 6 inches beneath bottom of concrete slabs-on-grade.

b. 6 inches beneath pipe in trenches and 24 inches wider than pipe.

B. Classified Excavation: Excavate to subgrade elevations as applicable.

1. Earth excavation includes excavating pavements and obstructions visible on surface; underground structures, utilities, and other items indicated to be removed; together with soil, boulders, and other materials not classified as rock or unauthorized excavation.

a. Intermittent drilling: ram hammering; or ripping of material not classified as rock excavation is earth excavation.

2. Rock excavation includes removal and disposal of rock. Remove rock to lines and subgrade elevations indicated to permit installation of permanent construction without exceeding the following dimensions:

a. 6 inches beneath bottom of concrete slabs-on-grade.

b. 6 inches beneath pipe in trenches and 24 inches wider than pipe or wide.

3.7 REMOVAL OF CONTAMINATED EXCAVATED MATERIAL

A. The Contractor shall ensure that soil is accepted for disposal at a permitted facility in accordance with applicable New York State and Federal regulations. The Contractor shall dispose of all soils at a facility which is permitted by the New York State Department of Environmental Conservation or governing body, to accept such materials. In the event that the soils are sent to an out-of-state disposal facility the Contractor shall sample and characterize the soils to ensure compliance with the proposed disposal facilities permit requirements. The Contractor shall secure all permits required in connection thereof and provide the Construction Manager with all documentation regarding the disposal of such soil.

B. The Contractor shall remove and transport contaminated soil as necessary.

C. The Contractor shall ensure that all materials are secured during transport.

D. The Contractor shall obtain and submit two (2) copies of all transport manifests, bills of lading, and certified weight tickets for recycling and/or disposal of all materials to the Construction Manager within 3 calendar days of transport of any material. Soils shall be transported to a permitted facility for treatment and/or disposal. Receipts shall indicate at a minimum the following information: date, time, driver, remediation or recycling facility, quantity and type of material delivered, facility permit number, as appropriate, and roundtrip travel mileage from the work site to the facility.

E. The Contractor shall be solely responsible to verify that contaminated soils have been be treated and disposed of in an environmentally safe and responsible manner in accordance with all applicable Federal, State or Local requirements. At a minimum, if soil testing indicates the excavation' material is not hazardous, based on the known contaminants present these wastes must be disposed of at a sanitary or industrial landfil1 permitted to receive such wastes. If the soil to be treated is a State or Local hazardous or dangerous

waste, the Contractor shall coordinate with the Construction Manager for any special disposal and transportation requirements. The Contractor shall use either a permitted disposal facility or other permitted treatment facility to dispose of contaminated soils. Contaminated soil shall not be disposed of on-site. Final soil deposition at a permitted facility must be documented by disposal manifests. All chain of custody information, including soil quantity delivered, facility location and phone number, and the method of disposal must be included.

F. For stockpiling of soils, the Contractor shall ensure during all stages of field work that the contaminated soil is properly isolated from the surrounding environment to prevent contamination migration. The Contractor shall at no time leave stockpiled materials uncovered and unattended. The Contractor shall replace, secure and maintain soil containment structures (berming, poly sheeting, hold down tires, etc.) whenever the site is left unattended, until such time as the entire quantity of stockpiled material is safely removed and the site has met final restoration requirements. The Contractor shall maintain stockpiles until removal. Stockpiles shall be removed prior to final completion.

G. Berms shall be constructed around stockpiled materials to contain contaminated soils and to prevent contamination from migrating. The Contractor shall inspect the berms for integrity at the start of each day. In the event that damage to the berms is identified, the Contractor wil1 notify the Construction Manager immediately. The Contractor shall maintain the existing berms at a minimum height and thickness of one foot for the duration of construction. Trenches are not an acceptable substitute for berms.

H. All stockpiled soils shall be secured against contamination migration due to wind. rain. etc. through the use of polyethylene liners and covers. The Contractor shall inspect the integrity of the polyethylene and any existing stockpiles upon arrival at the site. In the event that damage to the polyethylene lining or cover is identified. or the liner or cover is not present. the Contractor shall notify the Construction Manager immediately. If the Contractor's activities. prior to start of removal of soil. including operation of equipment on liners and/or covers, damages plastic or polyethylene liners or covers. the Contractor shall be responsible for replacement of liners and/or covers. Stockpiled material shall be placed on the top of 20-mil polyethylene sheeting and covered with 6-mil polyethylene sheeting. Sheeting shall be weighted or secured by the Contractor using appropriate means as approved by the Construction Manager. If more than one continuous piece of plastic is used for the liner or cover, it will be sealed at the edges with an appropriate sealer (duct tape. etc.). The liner and cover will be sufficiently larger than the areas of stored soil to cover the stored soil plus two feet of excess on all sides.

I. The Contractor shall be responsible for all work associated with removal, transport and disposal and/or final deposition of soil containment structures. The Contractor shall stockpile separately uncontaminated soils used for constructing berm containment structures.

3.8 EXCAVATION FOR STRUCTURES

A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing

and removing concrete formwork, for installing services and other construction, and for inspections.

1. Excavation for Underground Tanks, Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1-inch. Do not disturb bottom of excavations intended as bearing surfaces.

3.9 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to indicated gradients, lines, depths, and elevations.

1. Excavate trenches to allow installation of top of pipe below frost line.

2. Excavate trenches to uniform widths to provide the required clearances on each side of pipe or conduit.

3.10 SUBGRADE INSPECTION

A. Notify Construction Manager and Construction Manager when excavations have reached required subgrade.

B. If Construction Manager determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material only as directed by the Construction Manager.

C. As directed by the Construction Manager, proof-roll subgrade below the demolished building slabs and pavements with a pneumatic-tired roller to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

1. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Construction Manager, and replace with compacted backfill or fill as directed.

D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.

E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by the Construction Manager, without additional compensation.

3.11 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

1. Stockpile soil materials away from edge of excavations.

3.12 BACKFILL

A. All excavations shall be backfilled to the lines and grades as shown on the Contract Drawings or as otherwise specified, or directed. Backfilling shall be done with suitable materials as shown on the Contract Drawings or approved by the Design Engineer, and satisfactorily compacted.

B. Place backfill on subgrades free of mud, frost, snow, or ice.

C. Place and compact backfill in excavations promptly, as work permits but not before completing the following:

1. Acceptance of construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
2. Inspection, testing, approval, and recording of locations and inverts for underground utilities has been performed and documented.
3. Removal of concrete formwork.
4. Removal of temporary shoring and bracing, and sheeting and backfilling of voids with satisfactory materials.
5. Removal of trash and debris from excavation.
6. Permanent or temporary horizontal bracing is in place on horizontally supported walls

D. Excavated material considered by the Construction Manager to be unsuitable for backfilling shall not be used, and shall be disposed in accordance with Part 3 of this specification.

3.13 UTILITY TRENCH BACKFILL

A. Place backfill on subgrades free of mud, frost, snow, or ice.

B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

C. Backfill voids with satisfactory soil while removing shoring and bracing.

D. Place and compact initial backfill of designated material, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

E. Place and compact final backfill of satisfactory soil to final subgrade elevation.

F. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.14 SOIL FILL

A. Place and compact fill material in layers to required elevations,

B. Place soil fill on subgrades free of mud, frost, snow, or ice.

3.15 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 12 inches in loose depth for material compacted by heavy compaction equipment, and not more than 8 inches in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557.

1. Each layer of demolition backfill at 95 percent.

2. For utility trenches, compact each layer of initial and final backfill soil material at 95 percent.

3.16 SUBBASE COURSES UNDER PAVEMENTS AND WALKS

A. The Contractor shall notify the Engineer at least three days before any subbase material is scheduled to be placed.

B. Place subbase course on subgrades free of mud, frost, snow, or ice.

C. Subbase shall be placed to the thickness and limits as shown on the Contract Drawings.

D. On prepared subgrade, place subbase course under pavements and walks as follows:

1. Install separation or stabilization geotextile (where required) on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends.

2. Shape subbase course to required crown elevations and cross-slope grades.

3. Place subbase course 6 inches or less in compacted thickness in a single layer.

4. Place subbase course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.

5. Each course shall be compacted with a vibratory compactor capable of producing a minimum dynamic vibration force of 27,000 pounds.

6. Compact subbase course at optimum moisture content to required grades, lines, cross sections, and thickness.

E. Compaction for driveways or roadways shall proceed in the longitudinal direction to traffic flow and be performed in accordance with NYSS Section 304. Compaction for parking areas shall commence on one side of an area and gradually proceed to the opposite side. When rolling has been completed in one direction, the rolling shall commence in a direction 90 degrees from the first rolling.

F. After completion of rolling, no traffic shall be permitted over the compacted course and no hauling other than necessary for bringing material for next course will be allowed. Each compacted course shall be tested with a straight edge 16 feet in length and any depressions greater than 1/4 inch in depth shall be re-graded until the depressions are corrected. The finished surface shall be smooth compact and dry.

G. All voids in the top subbase course shall be removed by re-grading and compacting to the satisfaction of the Engineer.

H. Thickness tests and compaction tests shall be conducted on the subbase courses. The Contractor shall hand dig holes, not less than 3" in diameter through the subbase, at locations designated by the Engineer. The Engineer shall measure the thickness and if any

deficiencies are found, they shall be corrected. These tests may be conducted on an average of one test every 200 feet.

3.17 FINISH GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

1. Provide a smooth transition between adjacent existing grades and new grades.

2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Continue to backfill and subsequently grade all areas to the finished grade elevations to match existing grades and contours as indicated on Drawings. Graded areas shall be uniform and smooth, free from rock, debris, or irregular surface changes. Protect the completed subgrade from excessive wheel loading during construction, including concrete trucks, dump trucks and other heavy equipment. Any disturbed areas shall be removed and replaced with compacted Engineered Fill Material at no additional cost to owner.

3.18 FIELD QUALITY CONTROL

A. Contractor shall provide free access to Work and shall provide assistance and cooperation with appointed testing firm during testing. Coordinate operations to allow ample time for the required sampling and testing.

B. Soil density and optimum moisture content tests for each source of imported material shall be conducted by the Contractor's independent, Engineer approved laboratory and shall be re-tested upon each significant change of material. Costs shall be included in the lump sum bid price.

C. Samples from each source of material shall be made available to the Engineer for approval and testing purposes one week prior to its use.

D. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.

E. The following tests will be performed:

1. Perform a laboratory maximum density test for each type of on-site soil proposed for use or encountered in the work. Determine optimum moisture content in accordance with ASTM D1557, Method C.

F. Construction Manager will designate the time, date, and exact location of all field compaction density tests. Field density tests may be ordered by the Engineer at his discretion and at a minimum in accordance with the following average frequencies:

1. General: One test for each type of fill and at each change in material or supplier.

2. Backfill for Retaining Walls and Utility Trenches: At least one test for each layer of compacted fill and base material at intervals of approximately 50 feet along structure walls (foundation or retaining) and utility trench backfill on alternating

lifts.

3. Embankment: At least one test on each 2,500 sq. ft. or less of mass fill placed.

I. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; re-compact and retest until specified compaction is obtained.

J. Compacted soils not meeting compaction densities shall be re-excavated, re-compacted, and re-tested until all requirements are met. All costs of re-testing shall be borne by the Contractor.

K. Materials not meeting gradation requirements shall be removed from the project site and replaced with appropriate materials. All costs of re-testing shall be borne by the Contractor.

L. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:

1. Determine prior to placement of fill that site has been prepared in compliance with requirements.

2. Determine that fill material and maximum lift thickness comply with requirements.

3. Determine, at the required frequency, that in-place density of compacted fill complies with requirements.

3.19 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

1. Scarify or remove and replace soil material to depth as directed by Construction Manager reshape and recompact.

C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

D. Any backfill material that settle and/or erode during a period of the general project warranty period shall be repaired by the Contractor upon receipt of written notice from the Construction Manager, at no expense to the Owner.

E. Replace or repair any pipe, structure, or other work, which has been displaced, damaged, or injured during construction and general project warranty period at no expense to Owner.

F. Repair to proper grade any settlement of slab, pavement, utility structure, lawn, etc. adversely affected by settlement within general project warranty period at no expense to Owner.

3.20 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 02300

SECTION 02486 - FINISH GRADING

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Preparation of subgrade.

B. Provide additional finish grade material as required for general gravel covered finished areas.

C. Final grading to the finished grades indicated in the Contract Documents.

D. Soil material specifications for grass covered and landscaped areas are provided in Section 329200 “Turf and Grasses”.

1.2 RELATED WORK

A. Section 01410 - Testing Laboratory Services

B. Section 02300 - Earthwork

1.3 DEFINITIONS

A. Finish Grade: Surface elevation.

B. Subgrade: Surface or elevation of subsoil remaining immediately beneath top of any pavement.

1.4 QUALITY ASSURANCE

A. Soil-Testing Laboratory Qualifications: An independent laboratory, furnished by the Owner’s Representative, with the experience and capability to conduct the testing to be performed.

1.5 JOB CONDITIONS

A. Existing Conditions:

1. Perform finish grading ONLY after preceding work affecting ground surface is completed.

B. Protection:

1. Restrict foot and vehicular traffic from finished areas after final grading is completed.

PART 2 - PRODUCTS

2.1 FINISHED GRADE

A. The finish grading shall consist of:

Select Granular Fill – Select Structural Fill: NYSDOT 203-2.02-C
Material furnished under this item shall be suitable, well graded, and conform to the following requirements:

i. 100% by weight passing the 4" Sieve
ii. 0 to70 % by weight passing the No. 40 Sieve
iii. 0 to 15% by weight passing the No. 200 Sieve
iv. Sound durable materials with Magnesium Sulfate Soundness Loss less than 30%
v. Slag and RAP shall not be used
vi. pH between 5 and 10

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine areas to receive finish grading and preparation to assure work of other trades has been completed.

B. Check that preceding work affecting subgrade surface has been completed.

C. Ensure that soil is not frozen and within allowable range of moisture content.

3.2 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs and plantings from damages caused by grading operations.

B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 MATERIAL SELECTION

A. Select materials that conform to these Project Specifications.

B. Provide adequate quantities to meet job conditions.

3.4 INSPECTION REQUIREMENTS

A. The following list of minimal compliance standards are to be inspected and brought into

compliance by the Contractor during construction. Discovery and correction of non-complying work is the responsibility of the Contractor. The Contractor shall identify and correct all non-complying items prior to requesting the processing of the Certificate of Substantial Completion.

B. Complying grading work shall be capable of withstanding dead and live loads under normal use.

3.5 CLEAN-UP

A. Remove all trash, debris and excess materials from project site.

B. Maintain all paved areas in a clean condition.

C. Remove all temporary barriers and signs from site at the termination of the maintenance period (site security fencing to remain).

3.6 INSPECTION AND ACCEPTANCE

A. The Owner and Construction Manager shall inspect the Finish Grading work upon written request by the Contractor.

B. Upon acceptance of the Finish Grading work, the Contractor shall be relieved of further responsibility for care and maintenance of the accepted area.

END OF SECTION 02486

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SECTION 02821 – CHAIN LINK FENCES AND GATES

PART 1 – GENERAL

1.1 RELATED DOCUMEMTS

A. Drawings and general provisions of the Contract, including General and supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 Summary

A. Section Includes:

1. Chain link fences and gates. Permanent fencing shall be installed following final grading in accordance with Contract Drawings, the details provided on Drawing S-300, and as specified in this Section. Temporary perimeter construction fencing shall be installed in accordance with the Contract Drawings and the details provided on Drawing S-300.

B. Related Sections:

1. None

1.3 SUBMITTALS

A. Product Data: For each type of product indicated, construction details, material descriptions, and dimensions of individual components and profiles for chain-link fences
   1. Fence and gate posts, rails and fittings
   2. Chain-link fabric, reinforcements, and attachments.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work. Show Accessories, hardware, gate operation, and operational clearances.

C. Product Certificates: For each type of chain-link fence from manufacturer.

D. Product Test Reports: For framing strength according to ASTM F 1043

E. Field quality-control reports

1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications: For testing fence grounding. Member company of NETA or an NRTL,
   1. Testing Agency's Field Supervisor: Currently Certified by NETA to supervise on-site testing
B. Preinstallation Conference: Conduct conference at Project Site,

1. Inspect and discuss electrical roughing-in, equipment bases, and other preparatory work specified elsewhere.
2. Review sequence of operation for each type of gate operator
3. Review coordination of interlocked equipment specified in this section and elsewhere.
4. Review required testing, inspecting, and certifying procedures

1.5 PROJECT CONDITIONS

A. Field measurements: Verify layout information for chain-link fences shown on drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

1.6 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of chain-link fences and gates that fail in materials or workmanship within specified warranty period.

1.7 PRESERVATION AND MAINTENANCE OF EXISTING FENCE

A. Contractor shall maintain and preserve the existing 8 foot high fence and gate system installed along the perimeter of the site. Contractor is responsible for repairing any damage, irrespective of the cause, to the existing fence system throughout the course of the project at no additional cost to the Owner.

PART 2 – PRODUCTS

2.1 CHAIN LINK FENCE FABRIC

A. General: Provide fabric in one piece heights measured between top and bottom of outer edge of selvage knuckle or twist. Comply with CLFMI Product Manual and with requirements indicated below:

1. Fabric Height: As indicated on Drawings.

2. Steel Wire Fabric: Wire with a diameter of 0.148 inch
   a. Mesh size: 2 inches
   b. Coat selvage ends of fabric that is metallic coated before the weaving process with manufacturers standard clear protective coating

3. Selvage: Knuckled at both selvages

2.2 FENCE FRAMING

A. Posts and rails: Comply with ASTM F 1043 for framing, including rails, braces, and line; terminal; and corner posts. Provide members with minimum dimensions and wall thickness according to ASTM F 1043 based on the following:

1. Fence Height: 72 inches
2. Light Industrial Strength: Material Group IC-L, round steel pipe, electric resistance-welded pipe.
   a. Line Post: 1.9 inches in diameter
   b. End, Corner and Pull Post: 2.375 inches

3. Horizontal Framework Members: Intermediate top and bottom rails complying with ASTM F 1043
   a. Top Raol: 1.66 inches in diameter

4. Brace Rails: Comply with ASTM F 1043
5. Metallic Coating for Steel Framing:
   a. Type A, consisting of not less than minimum 2.0-oz/sq. ft. average zinc coating per ASTM A 123/A 123M or 4.0-oz/sq. ft. zinc coating per ASTM A 653/A 653M
   b. Type B zinc with organic overcoat, consisting of a minimum of 0.9 oz./sq. ft. zinc after welding, a chromate conversion coating, and a clear, verifiable polymer film.
   c. External, Type B, zinc with organic overcoat consisting of a minimum of 0.9 oz./sq. ft. zinc after welding, a chromate conversion coating, and a clear, verifiable polymer film. Internal, Type D, consisting of 81 percent, not less than 0.3 mil-thick, zinc pigmented coating.
   d. Type C, ZN-5-ALMM alloy, consisting of not less than 1.8 oz/sq ft coating
   e. Coatings: any coating above.

2.2 FITTINGS

A. General: Comply with ASTM F 626
B. Post Caps: Provide for each post
   1. Provide line post caps with lop to receive tension wire or top rail
C. Rail and Brace Ends: For each gate, corner, pull and end post
D. Rail Fittings: Provide the following
   1. Top rail sleeves: Pressed steel or round steel tubing not less than 6 inches long
   2. Rail Clamps: Line and corner boulevard clamps for connecting
E. Tension and Brace Bands: Pressed Steel
F. Tie Wires, Clips, and Fasteners: According to ASTM F 626
   1. Standard round wire ties: For attaching chain link fabric to posts, rails, and frames, complying with the following:
      a. Hot-dip Galvanized Steel: 0.148 inch diameter wire; galvanized coating thickness matching coating thickness of chain link fence fabric.
G. Finish:
   1. Metallic Coating for Pressed Steel or Cast Iron: Not less than 1.2 oz/sq ft zinc
      a. Polymer coating over metallic coating

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, pavement work, and other conditions affecting performance of the work.

1. Due not begin installation before final grading is completed unless otherwise permitted by Construction Manager.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Layout locations of fence lines, gates, and terminal posts.

3.3 INSTALLATION GENERAL

A. Install chain-link fencing to comply with ASTM F 567 and more stringent requirements indicated.
1. Install fencing on established layout lines

3.4 CHAIN-LINKFENCE INSTALLATION

A. Post Stanchions: Utilize surface stanchions adequately weighted to prevent fence movement

B. Terminal Posts: Locate terminal end, corner and gate posts per ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment of 15 degrees or more.

C. Line Post: Space line posts uniformly at 10 feet o.c.

D. Post Bracing and Intermediate Rails: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Diagonally brace terminal posts to adjacent line posts with truss rods and turnbuckles. Install braces at end and gate posts and at both sides of corner and pull posts:

1. Locate horizontal braces at mid height of fabric 72 inches or higher, on fences with top rail and at two-third fabric height on fences without top rail. Install so posts are plumb when diagonal rod is under proper tension.

E. Top Rail: Install according to ASTM F 567, maintain plumb position and alignment of fencing. Run rail continuously through line post caps, bending to radius for curved runs and

terminating into rail end attached to posts or post caps fabricated to receive rail at terminal posts. Provide expansion couplings as recommended in writing by fencing manufacturer.

F. Intermediate and Bottom Rails: Install and secure to posts with fittings

G. Chain-Link Fabric: Apply fabric to outside of enclosing framework. Leave 2 inches between finish grade or surface and bottom selvage unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force us released.

H. Tie Wires: Use wire of proper length to firmly secure fabric to line posts and rails. Attach wire at one end to chain link fabric, wrap wire around post a minimum of 180 degrees, and attach other end to chain-link fabric per ASTMF 626. Both ends of wire to minimize hazard to individuals and clothing.

1. Maximum Spacing: Tie fabric to line posts at 12 inches o.c. and to braces at 24 inches o.c.

I. Fasteners: Install nuts for tensions bands and carriage bolts on the side of the fence opposite the fabric side.

END OF SECTION 02821

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SECTION 03300 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:

1. Foundation walls.
2. Floor slab reconstruction.
3. Infilled openings.

B. Specification Sections that directly relate to the work of this Section include, but are not limited to, the following:

1. Division 02, Section "Earthwork"

2. Division 03, Section “Concrete Repair”

C. Notify all other trades responsible for installing inserts, sleeves, etc., when ready for such installation and for final checking immediately before concrete is placed. Cooperate with such trades to obtain proper installation. Leave openings in walls for pipe, ducts, etc., for mechanical and electrical work as shown on Contract Drawings or required by layout of systems.

1.3 REFERENCES

A. ACI 301 – Specifications for Structural Concrete

B. ACI 302 - Guide for Concrete Floor and Slab Construction

C. ACI 304 - Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete

D. ACI 305R - Hot Weather Concreting

E. ACI 306R - Cold Weather Concreting

F. ACI 308 - Standard Practice for Curing Concrete

G. ACI 318 - Building Code Requirements for Structural Concrete

H. ACI 117 - Tolerances for Concrete Construction

I. ANSI/ASTM D994 - Preformed Expansion Joint Filler for Concrete (Bituminous Type or closed cell polyethylene type).

J. ASTM C33 - Concrete Aggregates.

K. ASTM C94 - Ready-Mixed Concrete.

L. ASTM C150 - Portland Cement.

M. ASTM C260 - Air Entraining Admixtures for Concrete.

N. ASTM C494 - Chemicals Admixtures for Concrete.

1.4 SUBMITTALS

A. General

1. All submissions shall be in accordance with the submission schedule, which shall be developed and agreed between the Engineer, Owner and Construction Manager at the commencement of the project.

B. Review of submittals is of a general nature only, and the responsibility for conformance with intent of drawings shall remain with the Contractor. Review does not imply or state that the fabricator has correctly interpreted the construction documents.

C. Product Data: For each type of product indicated.

D. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1. Indicate amounts of mixing water to be withheld for later addition at Project site.
2. Water shall not be added at the Project site except as approved by the Engineer.

E. Shop drawings for reinforcement detailing, fabricating, bending, and placing concrete reinforcement. Comply with ACI 315 – Details and Detailing of Concrete Reinforcement showing bar schedules, stirrup spacing, bent bar diagrams, and arrangement of concrete reinforcement. Include special reinforcing required for openings through concrete structures.

F. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer detailing fabrication, assembly, and support of formwork.

1. Shoring and Reshoring: Indicate proposed schedule and sequence of stripping formwork, shoring removal, and installing and removing reshoring.

G. Material Test Reports and certificates.

H. Submit for review and approval all materials and methods for concrete curing.

I. Submit for review and approval cold weather placement procedures.

J. Submit for review and approval wet weather protection procedures.

K. Submit for review and approval hot weather placement procedures.

L. Field quality-control test and inspection reports.

M. Minutes of pre-installation conference.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

B. Testing Agency Qualifications: An independent agency, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548.

1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-01 or an equivalent certification program.
2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.

C. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

1. Reference documents as indicated in Section 1.3

D. Concrete Testing Service: The Owner shall engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.

E. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:

a. Contractor's superintendent.
b. Independent testing agency responsible for concrete design mixtures.
c. Ready-mix concrete manufacturer.

d. Concrete subcontractor.
e. Engineer

1.6 DELIVERY, STORAGE, AND HANDLING

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

B. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

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

2.2 FORM-FACING MATERIALS

A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

B. 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. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

1. Formulate form-release agent with rust inhibitor for steel form-facing materials.

E. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.

1. Furnish units that will leave no corrodible metal closer than 1 inch to the plane of exposed concrete surface.
2. Furnish ties that, when removed, will leave holes no larger than 1 inch in diameter in concrete surface.
3. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

2.3 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.

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."

1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.
2. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated wire bar supports.
3. For zinc-coated reinforcement, use galvanized wire or dielectric-polymer-coated wire bar supports.

2.5 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:

1. Portland Cement: ASTM C150, Type I or II.
2. Fly Ash: ASTM C618, Class F.
3. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.

B. Silica Fume: ASTM C 1240, amorphous silica.

C. Normal-Weight Aggregates: ASTM C 33, Class coarse aggregate or better, graded.

1. Maximum Coarse-Aggregate Size: 1 inch nominal, unless otherwise noted.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

D. Lightweight Aggregate: ASTM C 330, 1 inch nominal, unless otherwise noted.

E. Water: ASTM C 94/C 94M and potable.

2.6 ADMIXTURES

A. Air-Entraining Admixture: ASTM C 260.

B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
2. Retarding Admixture: ASTM C 494/C 494M, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.7 WATERSTOPS

A. Self-Expanding Rubber Strip Waterstops: Adeka Ultra Seal MC-2110MN, as manufactured by Adeka Ultra Seal/OCM Inc. or an Engineer-approved equivalent.

B. Approved equivalent.

2.8 VAPOR BARRIER

A. Vapor Barrier

1. Vapor barrier must have the following qualities

a. WVTR less than or equal to 0.006 gr/ft2/hr as tested by ASTM E 96
b. ASTM E 1745 Class A (Plastics)
c. Tensile Strength: 76.6 lbf/in per ASTM D 882
d. Puncture Resistance: 2445 gramsper ASTM D 1709
e. Chemical Resistance Unaffected per ASTM E 154
f. Life Expectancy: Indefinite per ASTM E 154

2. Vapor Barrier Products

a. Stego Wrap (15-mil) Vapor Barrier by STEGO INDUSTRIES LLC, San Juan Capistrano, CA (877) 464-7834 www.stegoindustries.com

B. Vapor Retarding Seam Tape

1. Tape must have the following qualities:

a. Water Vapor Transmission Rate ASTM E 96 0.3 perms or lower

C. Vapor Proofing Mastic

1. Mastic must have the following qualities:

a. Water Vapor Transmission Rate ASTM E 960.3 perms or lower

D. Pipe Boots

1. Construct pipe boots from vapor barrier material, pressure sensitive tape and/or mastic per manufacturer's instructions.

2.9 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

1. Products:

a. Lambert Corporation; Lambco Skin.
b. L&M Construction Chemicals, Inc.; E-Con.
c. Meadows, W. R., Inc.; Sealtight Evapre.
d. Sika Corporation, Inc.; SikaFilm.
e. Approved equivalent

B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.

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

D. Water: Potable.

E. Curing Compounds are not acceptable.

2.10 RELATED MATERIALS

A. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

B. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:

1. Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.

2.11 REPAIR MATERIALS

A. Latex additive: Acryl 60 by Standard Dry Wall Products, Inc., or approved equivalent.

B. Patching Material: Thoropatch by Standard Dry Wall Products, Inc., or approved equivalent.

2.12 EPOXY ADHESIVE

A. A two part epoxy adhesive:

1. HIT RE 500 by Hilti Inc.

2.13 CONCRETE PATCHING (SENECA BUILDING WEST FOUNDATION WALL)

A. Non-shrink, non-stain, non-metallic grout in strict accordance with Manufacturer's recommendations.

1. Product shall meet the requirements of ASTM C 1107.
2. Color of cured grout used shall match color of surrounding concrete.
3. Acceptable materials are;
   a. Five Star Grout by Five Star.
   b. SikaGrout 212 by Sika Corp.
   c. or Approved Equivalent.

2.14 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, according to ACI 301.

B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:

1. Fly Ash: 25 percent.
2. Combined Fly Ash and Pozzolan: 25 percent.
3. Ground Granulated Blast-Furnace Slag: 50 percent.
4. Combined Fly Ash or Pozzolan and Ground Granulated Blast-Furnace Slag: 50 percent portland cement minimum, with fly ash or pozzolan not exceeding 25 percent.
5. Silica Fume: 10 percent.
6. Combined Fly Ash, Pozzolans, and Silica Fume: 35 percent with fly ash or pozzolans not exceeding 25 percent and silica fume not exceeding 10 percent.
7. Combined Fly Ash or Pozzolans, Ground Granulated Blast-Furnace Slag, and Silica Fume: 50 percent with fly ash or pozzolans not exceeding 25 percent and silica fume not exceeding 10 percent.

C. Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use 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 corrosion-inhibiting admixture in concrete mixtures where indicated.

2.15 CONCRETE MIXTURES FOR BUILDING ELEMENTS

A. Floor and Foundation Elements: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: 5000 psi at 28 days.
2. Maximum Water-Cementitious Materials Ratio: 0.40.
3. Slump Limit: 5 in., plus or minus 1 in.
4. Air Content: 6.5 percent, plus or minus 1.5 percent at point of delivery for 1-in. nominal maximum aggregate size.

B. Exterior Site Concrete: City of Rochester Class K.

2.16 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.17 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 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 347R 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. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

F. Chamfer exterior corners and edges of permanently exposed concrete.

G. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.

H. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

I. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

J. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 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.

1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."
2. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
3. Install dovetail slots for masonry applications as required.

3.3 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, if concrete is hard enough to not be damaged by form-removal operations and curing and protection operations are maintained.

1. Leave formwork for beam soffits, joists, slabs, and other structural elements that supports weight of concrete in place until concrete has achieved at least 75 percent of its 28-day design compressive strength.
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 will not be 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 Engineer.

3.4 SHORES AND RESHORES

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 reshore to avoid damage to concrete. Locate and provide adequate reshoring to support construction without excessive stress or deflection.

3.5 VAPOR BARRIERS

A. Plastic Vapor Barriers: Place, protect, and repair vapor barriers according to ASTM E 1643 and manufacturer's written instructions. Vapor barrier shall form continuous vapor control system. Penetrations shall be sealed and damaged areas shall be repaired.

1. Lap joints 6 inches and seal with manufacturer's recommended tape.
2. Vapor barrier to extend 4” up any vertical surface and sealed.

B. Large openings through the concrete floor slab or other foundation components in contact with the soil (e.g., spaces around storm sewer piping, etc.) shall be filled or closed with materials that provide a permanent airtight seal such as non-shrink mortar, grout, expanding foam, or similar materials designed for such application.

C. Smaller gaps around pipe, wire, or other objects that penetrate the concrete floor slab or other floor assemblies shall be made air-tight with an epoxy joint sealant and applied in accordance with the manufacturer's recommendations.

D. Control joints, isolation joints, construction joints, and other joints in the concrete floor slab or between the floor slab and the building walls shall be sealed. A continuous formed gap (for example, a "tooled edge") which allows the application of a sealant that will provide a continuous, airtight seal shall be created along joints. When the slab has cured, the gap shall be cleared of loose material and filled with an epoxy joint sealant.

E. Joints, cracks, or other openings around penetrations of both exterior and interior surfaces of masonry block or poured concrete foundation components below the ground surface shall be sealed with an elastomeric sealant that provides an air-tight seal. Penetrations of poured concrete walls should also be sealed on the exterior surface. This includes sealing of wall tie penetrations, if applicable.

3.6 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

1. Do not cut or puncture vapor barrier. 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 would 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. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

E. Zinc-Coated Reinforcement: Repair cut and damaged zinc coatings with zinc repair material according to ASTM A 780. Use galvanized steel wire ties to fasten zinc-coated steel reinforcement.

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 Engineer.

1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints, unless otherwise indicated.
2. Thoroughly wet surfaces, for a minimum of 12 hours, and remove standing water prior to placing concrete against hardened, or partially hardened concrete surfaces. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces only when approved by Engineer.

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 joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

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. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface or as required by joint filler manufacturer's written instructions.
2. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
3. Install semi-rigid joint filler per manufacturer’s written instructions.

E. 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 WATERSTOPS

A. Flexible Waterstops: Install in construction joints and at other joints indicated to form a continuous diaphragm. Install in longest lengths practicable. Support and protect exposed waterstops during progress of the Work. Field-fabricate joints in waterstops according to manufacturer's written instructions.

B. Self-Expanding Strip Waterstops: Install in construction joints and at other locations indicated, according to manufacturer's written instructions, adhesive bonding, mechanically fastening, and firmly pressing into place. Install in longest lengths practicable.

3.9 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Engineer.

1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
2. 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. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
2. Maintain reinforcement in position on chairs during concrete placement.
3. Screed slab surfaces with a straightedge and strike off to correct elevations.
4. Slope surfaces uniformly to drains where required.

E. Cold-Weather Placement: Comply with ACI 306.1.

F. Hot-Weather Placement: Comply with ACI 301.

3.10 CONCRETE REPAIRS AND FILL

A. Provide concrete fill with Acrylic additive. Finish: Smooth-Formed Finish, unless otherwise indicated.

3.11 WATERPROOFING APPLICATION

A. Apply waterproofing according to ASTM C 898 and manufacturer's written instructions.

1. Surfaces should be free of dirt, oil, grease, moisture, dust, curing compounds, or other incompatible materials that limit adhesion.

2. Apply one or more coats of waterproofing to obtain a seamless membrane free of entrapped gases, with an average dry film thickness of 60 mils and a minimum dry film thickness of 50 mils at point.

3. Allow waterproofing to fully cure before starting subsequent construction operations.

3.12 FINISHING FORMED SURFACES

A. 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.

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces exposed to public view.

C. Rubbed Finish: Apply the following to smooth-formed finished as-cast concrete where indicated:

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.
2. Grout-Cleaned Finish: Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix one part portland cement to one and one-half parts fine sand with a 1:1 mixture of bonding admixture and water. Add white portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36 hours.
3. Cork-Floated Finish: Wet concrete surfaces and apply a stiff grout. Mix one part portland cement and one part fine sand with a 1:1 mixture of bonding agent and water. Add white portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Compress grout into voids by grinding surface. In a swirling motion, finish surface with a cork float.

D. 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.

3.13 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.

B. Scratch Finish: 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 1 direction.

1. Apply scratch finish to surfaces as indicated or as required by floor finish manufacturer's written instructions.

C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.

1. Apply float finish to surfaces as indicated or to receive trowel finish and to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.

D. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind surface defects smooth that would telegraph through applied coatings or floor coverings.

1. Apply a trowel finish to surfaces as indicated, exposed to view, 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. Finish surfaces to the following tolerances, according to ASTM E 1155, for a randomly trafficked floor surface:

   a. Specified overall values of flatness, F(F) 45; and of levelness, F(L) 35; with minimum local values of flatness, F(F) 30; and of levelness, F(L) 24.

E. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces as indicated or where ceramic or quarry tile is to be installed by either thickset or thin-set method. While concrete is still plastic, slightly scarify surface with a fine broom.

1. Comply with flatness and levelness tolerances for trowel finished floor surfaces.

F. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.

1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Engineer before application.

G. Slip-Resistive Finishes (Slip-Resistive Emery Aggregate Finish or Slip-Resistive Aluminum Granule Finish): Before final floating, apply slip-resistive finish where indicated and to concrete stair treads, platforms, and ramps. Apply according to manufacturer's written instructions and as follows:

1. After curing, lightly work surface with a steel wire brush or an abrasive stone and water to expose slip-resistive aggregate.

3.14 MISCELLANEOUS CONCRETE ITEMS

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

B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.

C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations as required by manufacturer unless shown on Drawings. Set anchor bolts for machines and equipment at correct elevations, complying with diagrams or templates from manufacturer furnishing machines and equipment.

3.15 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. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h 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.

C. 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 the remainder of the curing period.

D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.

E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:

   a. Water.
   b. Continuous water-fog spray.
   c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair holes or tears during curing period using cover material and waterproof tape.

   a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
   b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.

c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project.

3. Curing Compounds are not acceptable.

4. Slabs-On-Grade: Moist cure for a minimum of ten days with requirements noted above.

3.16 JOINT FILLING

A. Prepare, clean, and install joint filler according to manufacturer's written instructions.

1. Defer joint filling until concrete has aged at least one month, or as recommended by manufacturer. Do not fill joints until construction traffic has permanently ceased.

B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.

C. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

3.17 CONCRETE SURFACE REPAIRS

A. Defective Concrete: At Contractor's expense, repair and patch defective areas when approved by Engineer. Remove and replace concrete that cannot be repaired and patched to Engineer's approval.

B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: 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 dimension in solid concrete, but not less than 1 inch in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match 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.

3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Engineer.

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 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. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
6. 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. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. 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.
7. 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. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

E. Perform structural repairs of concrete, subject to Engineer’s approval, using epoxy adhesive and patching mortar.

F. Repair materials and installation not specified above may be used, subject to Engineer's approval.

3.18 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner or Construction Manager will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.

B. Inspections as indicated in “statement of special inspections”, inspection summary table located on General Notes drawing, and as follows:

1. Steel reinforcement placement.
2. Steel reinforcement welding.
3. Headed bolts and studs.
4. Verification of use of required design mixture.
5. Concrete placement, including conveying and depositing.
6. Curing procedures and maintenance of curing temperature.
7. Verification of concrete strength before removal of shores and forms from beams and slabs.

C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.
2. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. or fraction thereof of each concrete mixture placed each day.

    a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.

3. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
4. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
5. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
6. Unit Weight: ASTM C 567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
7. Compression Test Specimens: ASTM C 31/C 31M.

    a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
    b. Cast and field cure two sets of two standard cylinder specimens for each composite sample.

8. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.

    a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.

b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.

9. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
10. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
11. Test results shall be reported in writing to Engineer, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
12. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Engineer but will not be used as sole basis for approval or rejection of concrete.
13. Additional Tests: At Contractor's expense, testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Engineer. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Engineer.
14. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
15. At Contractor's expense, correct deficiencies in the Work that test reports and inspections indicate dos not comply with the Contract Documents.

END OF SECTION 03300

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SECTION 03732 - CONCRETE REPAIR

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

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

1.02 SCOPE OF WORK

A. Work includes but is not limited to providing all labor, materials, equipment, and supervision to accomplish the following concrete repair work in accordance with the Drawings and Specifications.

1. Repair any damaged, delaminated, or spalled concrete on concrete surfaces at the Hutchinson Chapel (Building 5) exposed during the demolition of the adjoining Tunnel.

1.03 RELATED WORK (NOT USED)

1.04 REFERENCES

A. ICRI Guideline No. 03730 – Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion.

B. ACI 301 – Specifications for Structural Concrete

C. ACI 308 - Standard Practice for Curing Concrete

D. ACI 117 - Tolerances for Concrete Construction

1.05 SUBMITTALS

A. Subcontractors' qualifications.

B. Samples of, and manufacturer's data sheets for, all materials to be used, each properly labeled.

C. Manufacturer's MSDS sheets for all materials to be used.

D. Certifications (in time to prevent delay in the work) by the producers of the materials that all materials supplied comply with all the requirements of the appropriate ASTM and ACI Standards.

E. Concrete mix proportions and mixing procedures, and application and curing procedures.

1.06 COORDINATION

A. Coordinate scheduling of concrete repair work with provision of structural stabilization and weather tight protection work at Thornton Hall to ensure that the project schedule is not affected.

1.07 QUALITY CONTROL AND QUALITY ASSURANCE

A. The Contractor shall conduct a quality control program that includes, but is not limited to, the following:

1. Inspection of all materials to ensure conformity to contract requirements and that all materials are new and undamaged.

2. Establishment of procedures for executing the work.

3. Inspecting all surface preparation prior to repair material application.

4. Inspection of work in progress to ensure that work is being done in accordance with established procedures, manufacturer's instructions, specific Construction Manager instructions, if given, or recommended practices as given in the this Section.

5. Inspection of all work completed including visually examining all repairs for cracking and sounding all repairs to check for debonding, and correction of all defective work.

B. Qualifications

1. The Contractor and its site superintendent shall have at least five years experience supervising the installation of similar concrete repairs at existing parking structures.

C. The Owner's Testing Agency might conduct the following quality assurance tests:

1. Sampling and testing of specialty repair mortar/concrete.

2. Examining repairs for cracking and sounding repairs to check for debonding.

1.08 TECHNICAL SUPPORT

A. The Contractor shall arrange with the materials manufacturer or distributor to have the services of a competent field representative at the work site prior to any mixing of components to instruct the work crews in the proper mixing and application procedures. The field representative shall remain at the job site after work commences and continue to instruct until the representative, the Contractor, and the Construction Manager and Engineer are satisfied that the crew has mastered the technique of installing the systems successfully.

1. The manufacturer's field representative must be fully qualified to perform the work and shall be subject to the approval of the Construction Manager and Engineer.

2. The Contractor shall be completely responsible for the expense of the services of the required manufacturer's field representative and the contract price shall include full compensation for all costs in connection therewith.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Specialty Concrete

1. Sika Corporation: SikaTop 123 Plus

2.02 MIX PROPORTIONS

A. Specialty Concrete

1. Proportion and mix specialty concrete in accordance with the manufacturer's written instructions.

2.03 EQUIPMENT

A. Concrete Mixing Equipment

1. Mix specialty concrete in accordance with the manufacturer’s written instructions.

B. Demolition Equipment

1. Use concrete saws, chipping hammers, and other demolition equipment and cutting tools appropriate for the work and approved by the Construction Manager.

2. Do not use chipping hammers heavier than nominal 15 lb class. Refer to Section 3.02 for additional limitations.

PART 3 – EXECUTION

3.01 LOCATION OF REPAIR AREAS

A. The Contractor is responsible for visually inspecting and sounding all concrete surfaces at the north wall of the parking garage, as required to locate for repair all damaged and unsound concrete as directed by the Construction Manager and in accordance with the requirements of the Drawings and Specifications. Additionally, all concrete areas designated to receive a waterproofing membrane that exhibit unsound concrete shall also be repaired as directed by the Construction Manager.

3.02 DEMOLITION AND SURFACE PREPARATION FOR CONCRETE REPAIRS

A. Provide 3/4 in. deep saw cut edges around the perimeter of the repair area, normal to the face of the surrounding concrete. The saw cuts shall form polygons, which have 90° corners and

enclose the deteriorated area. Make saw cuts after sufficient concrete is removed to locate and determine actual concrete cover over reinforcement. Do not cut into reinforcement. Reduce depth of saw cut over reinforcement as required.

B. Remove all loose and unsound concrete in the area to be repaired. Remove concrete to such additional breadth and depth as required to expose a surface of sound concrete. Where concrete removal exposes more than one-half the perimeter of reinforcing bars, remove concrete to a minimum depth of 3/4 in. beyond the reinforcement. Roughen concrete surface to minimum amplitude of 1/8 in. Conduct concrete removal in a manner to prevent cutting, nicking, bending, or otherwise damaging the reinforcement. Repair or replace accidentally damaged reinforcement at no cost to the Owner.

C. Remove all loose particles and deleterious materials from the exposed sound concrete, exposed reinforcing bars, and accessories by sandblasting. Clean reinforcing bars to SSPC-6, commercial blast finish, or better.

3.03 CONCRETE PLACEMENT

A. Condition concrete surfaces in accordance with the manufacturer's written instructions.

B. Follow manufacturer's written directions for batching and mixing specialty concrete.

3.04 CURING CONCRETE REPAIRS

A. Cure specialty concrete in accordance with the material manufacturer's written instruction for wet curing.

B. Curing compounds are prohibited.

C. Appearance of plastic shrinkage cracks due to inadequate finishing and curing shall be cause for rejecting the work so affected. Surface concrete in the rejected area shall be removed and replaced at no additional cost to the Owner or his representatives.

D. During the curing period, the concrete shall be protected from damage due to mechanical disturbances such as shock and vibration due to adjacent construction activity. All finished concrete surfaces shall be protected from damage.

E. Follow manufacturer’s cure time prior to application of elastomeric waterproofing.

3.05 REMOVAL OF SURFACE DEPOSITS

A. Stains, efflorescence, fins, and other surface deposits resulting from the work of this Section that are objectionable by the Construction Manager shall be removed by methods acceptable to the Construction Manager.

END OF SECTION 03732

SECTION 329200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Seeding.
2. Grasses.
3. Erosion-control material(s).

B. Related Sections:
1. Division 2 Section "Earthwork" for excavation, filling and backfilling, and rough grading.
2. Division 32 Section "Plants" for border edgings.

1.3 DEFINITIONS

A. Finish Grade: Elevation of finished surface of planting soil.

B. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.

C. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.

D. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.

E. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or top surface of a fill or backfill before planting soil is placed.

F. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

G. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil, but in disturbed areas such as urban environments, the surface soil can be subsoil.

1.4 SUBMITTALS

A. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.

B. Qualification Data: For qualified landscape Installer.

C. Product Data: Conform to 2.4 B.

D. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of turf during a calendar year. Submit at project closeout.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful turf establishment.
   1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws, as applicable.

1.7 PROJECT CONDITIONS

A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with initial maintenance periods to provide required maintenance from date of Substantial Completion.

   1. Spring Planting: April 1 to June 1
   2. Fall Planting: September 1 to October 15

B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

1.8 MAINTENANCE SERVICE

A. Initial Turf Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue until acceptable turf is established but for not less than the following periods:

1. Seeded Turf: 90 days from date of Substantial Completion.

a. When initial maintenance period has not elapsed before end of planting season, or if turf is not fully established, continue maintenance during next planting season.

PART 2 - PRODUCTS

2.1 SEED

A. Seed Species: State-certified seed of grass species as listed under Grasses below:

2.2 GRASSES

A. Furnish fresh, clean, new-crop seed mixed in the proportions specified for species and variety, and conforming to Federal and State Standards.

B. Acceptable material in a seed mixture other than pure live seed consists of nonviable seed, chaff, hulls, live seed of crop plants and inert matter. The percentage of weed seed shall not exceed 0.1 percent by weight.

C. All seed will be rejected if the label indicates any noxious weed seeds.

D. Provide seed mixture equal to Scotts Pure Premium Sun and Shade North Grass Seed Mixture, comprised of the following:

SEED MIXTURE			
AMOUNT BY WEIGHT IN MIXTURE	**SPECIES OR VARIETY ***	**PERCENTAGE**	
		PURITY	**GERMINATION**
30 PERCENT	FENWAY RED FESCUE	97 PERCENT	80 PERCENT
30 PERCENT	ABBEY KENTUCKY BLUEGRASS BLEND	95 PERCENT	80 PERCENT
20 PERCENT	DEVINE PERENNIAL RYE	98 PERCENT	85 PERCENT
20 PERCENT	ENCHANTED PERENNIAL RYE	98 PERCENT	85 PERCENT
100 PERCENT			

*Variety may be altered depending on availability of seed from manufacturer.

2.3 FERTILZERS

A. Fertilizer: Mixed commercial fertilizers shall contain total nitrogen, available phosphoric acid and soluble potash in the ratio of 10-6-4 (50% N/UF). 50% of total nitrogen shall be derived from ureaform furnishing a minimum of 3.5% water insoluble nitrogen (3.5% WIN). The balance of the nitrogen shall be present as methylene urea, water-soluble urea, nitrate and ammoniacal compounds.

B. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

2.4 PLANTING SOILS

A. Planting Soil : Imported topsoil or manufactured topsoil from off-site sources. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches deep; obtain from reputable source with no weed seeds or contamination.

B. Provide topsoil conforming to the following:

1. Original loam topsoil, well drained homogeneous texture and of uniform grade, without the admixture of subsoil material and entirely free of dense material, hardpan, sod, or any other objectionable foreign material.

2. Containing not less than 4 percent nor more than 20 percent organic matter in that portion of a sample passing a 1/4 inch sieve when determined by the wet combustion method on a sample dried at 105 degrees C.

3. Containing a pH value within the range of 4.5 to 7 on that portion of the sample that passes a 1/4 inch sieve.

4. Containing the following gradations:

SIEVE DESIGNATION	**PERCENT PASSING**
1 inch	100
1/4 inch	97 - 100
No. 200	20 - 65 (of the 1/4 inch sieve)

2.5 MULCHES

A. Compost Mulch: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble

salt content of 2 to 5 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

1. Organic Matter Content: **50 to 60** percent of dry weight.

2.6 PESTICIDES

A. No pesticides are recommended for use on this project.

2.7 EROSION-CONTROL MATERIALS

A. Erosion-Control Blankets: Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a photodegradable plastic mesh. Include manufacturer's recommended steel wire staples, 6 inches long.

1. Products: Subject to compliance with requirements, provide the following:
   a. BioNet Extended-Term Biodegradable Erosion Control Blankets as manufactured by North American Green, Product SC150BN. Utilized on 1:1 or greater side-slopes for landscaped berm area.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to be planted for compliance with requirements and other conditions affecting performance.

1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
2. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
3. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
4. Uniformly moisten excessively dry soil that is not workable and which is too dusty.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Engineer and replace with new planting soil.

3.2 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.

1. Protect adjacent and adjoining areas from hydroseeding and hydromulching overspray.
2. Protect grade stakes set by others until directed to remove them.

B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 TURF AREA PREPARATION

A. Limit turf subgrade preparation to areas to be planted.

B. Spread planting soil to a depth of 4 inches but not less than required to meet finish grades after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.

C. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be planted in the immediate future.

D. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

E. Before planting, obtain Engineer's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.4 PREPARATION FOR EROSION-CONTROL MATERIALS

A. Prepare area as specified in "Turf Area Preparation" Article.

B. For erosion-control blanket or mesh, install from top of slope, working downward, and as recommended by material manufacturer for site conditions. Fasten as recommended by material manufacturer.

C. Moisten prepared area before planting if surface is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

3.5 HYDROSEEDING

A. Hydroseeding: Mix specified seed, fertilizer, and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.

1. Mix slurry with fiber-mulch manufacturer's recommended tackifier.
2. Apply slurry uniformly to all areas to be seeded in a one-step process. Apply slurry at a rate so that mulch component is deposited at not less than 1500-lb/acre dry weight, and seed component is deposited at not less than the specified seed-sowing rate.

3.6 TURF MAINTENANCE

A. Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.

1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.

B. Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of 4 inches.

1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
2. Water turf with fine spray at a minimum rate of 1 inch per week unless rainfall precipitation is adequate.

3.7 SATISFACTORY TURF

A. Turf installations shall meet the following criteria as determined by Engineer:

1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 95 percent over any 10 sq. ft. and bare spots not exceeding 12 by 12 inches.

B. Use specified materials to reestablish turf that does not comply with requirements and continue maintenance until turf is satisfactory.

3.8 CLEANUP AND PROTECTION

A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

B. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.

C. Remove nondegradable erosion-control measures after grass establishment period.

END OF SECTION 329200

SECTION 329300 - PLANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Plants.
2. Planting soils.
3. Tree stabilization.

B. Related Sections:
1. Division 2 Section "Site Clearing" for protection of existing trees and plantings, topsoil stripping and stockpiling, and site clearing.
2. Division 2 Section "Earthwork" for excavation, filling, and rough grading and for subsurface aggregate drainage and drainage backfill materials.
3. Division 32 Section "Turf and Grasses" for turf (lawn) and meadow planting, hydroseeding, and erosion-control materials.

1.3 DEFINITIONS

A. Backfill: The earth used to replace or the act of replacing earth in an excavation.

B. Balled and Burlapped Stock: Plants dug with firm, natural balls of earth in which they were grown, with ball size not less than the diameter and depth recommended by ANSI Z60.1 for type and size of plant required; wrapped with burlap, tied, rigidly supported, and drum laced with twine with the root flare visible at the surface of the ball as recommended by ANSI Z60.1.

C. Balled and Potted Stock: Plants dug with firm, natural balls of earth in which they are grown and placed, unbroken, in a container. Ball size is not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required.

D. Bare-Root Stock: Plants with a well-branched, fibrous-root system developed by transplanting or root pruning, with soil or growing medium removed, and with not less than minimum root spread according to ANSI Z60.1 for type and size of plant required. Bare-root stock shall not be used for this project.

E. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of plant required.

F. Finish Grade: Elevation of finished surface of planting soil.

G. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.

H. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.

I. Pests: Living organisms that occur where they are not desired, or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.

J. Planting Area: Areas to be planted.

K. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.

L. Plant; Plants; Plant Material: These terms refer to vegetation in general, including trees, shrubs, vines, ground covers, ornamental grasses, bulbs, corms, tubers, or herbaceous vegetation.

M. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.

N. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the soil surface.

O. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

P. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

Q. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated, including soils.

1. Plant Materials: Include quantities, sizes, quality, and sources for plant materials.

B. Samples for Verification: For each of the following:

1. Trees and Shrubs: Three samples of each variety and size delivered to the site for review, or at a place convenient to the local landscape architect for review off-site. Maintain approved samples on-site as a standard for comparison.
2. Organic Compost Mulch: 1-quart (1-liter) volume of each organic mulch required; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of color, texture, and organic makeup.

C. Qualification Data: For qualified landscape Installer. Include list of similar projects completed by Installer demonstrating Installer's capabilities and experience. Include project names, addresses, and year completed, and include names and addresses of owners' contact persons.

D. Product Certificates: For each type of manufactured product, from manufacturer, and complying with the following:

1. Manufacturer's certified analysis of standard products.
2. Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.

E. Material Test Reports: For standardized ASTM D 5268 topsoil and imported or manufactured topsoil.

F. Warranty: Sample of special warranty.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful establishment of plants.

1. Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
2. Experience: Five years' experience in landscape installation in addition to requirements in Division 01 Section "Quality Requirements."
3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
4. Personnel Certifications: Installer's field supervisor shall have certification in one of the following categories from the Professional Landcare Network:

a. Certified Landscape Technician - Exterior, with installation specialty area(s), designated CLT-Exterior.
b. Certified Landscape Technician - Interior, designated CLT-Interior.
c. Certified Ornamental Landscape Professional, designated COLP.

B. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.

C. Measurements: Measure according to ANSI Z60.1. Do not prune to obtain required sizes.

1. Trees and Shrubs: Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container grown stock. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip to tip. Take caliper measurements 6 inches (150 mm) above the root flare for trees up to 4-inch (100-mm) caliper size, and 12 inches (300 mm) above the root flare for larger sizes.

D. Plant Material Observation: The Engineer's Landscape Architect may observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Engineer retains right to observe trees and shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.

1. Notify Engineer of sources of planting materials at least seven days in advance of delivery to site.

E. Preinstallation Conference: Conduct conference at Project site.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws if applicable.

B. Bulk Materials:

1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
3. Accompany each delivery of bulk fertilizers and soil amendments with appropriate certificates.

C. Bare-root stock plants shall not be used for this project..

D. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.

E. Handle planting stock by root ball.

F. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.

1. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
2. Do not remove container-grown stock from containers before time of planting.
3. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly-wet condition.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual grade elevations, service and utility locations, irrigation system components, and dimensions of plantings and construction contiguous with new plantings by field measurements before proceeding with planting work.

B. Interruption of Existing Services or Utilities: Do not interrupt services or utilities to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary services or utilities according to requirements indicated:

C. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.

1. Spring Planting: April 1 to June 1.
2. Fall Planting: September 1 to October 30.

D. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions and warranty requirements.

E. Coordination with Turf Areas (Lawns): Plant trees and shrubs after finish grades are established and before planting turf areas unless otherwise indicated.

1. When planting trees and shrubs after planting turf areas, protect turf areas, and promptly repair damage caused by planting operations.

1.8 WARRANTY

A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.

1. Failures include, but are not limited to, the following:

    a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner, or incidents that are beyond Contractor's control.
    b. Structural failures including plantings falling or blowing over.
    c. Faulty performance of tree stabilization.
    d. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Periods from Date of Substantial Completion.

    a. Trees and Shrubs: 24 months.

3. Include the following remedial actions as a minimum:

    a. Immediately remove dead plants and replace unless required to plant in the succeeding planting season.
    b. Replace plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
    c. A limit of one replacement of each plant will be required except for losses or replacements due to failure to comply with requirements.

1.9 MAINTENANCE SERVICE

A. Initial Maintenance Service for Trees and Shrubs: Provide maintenance by skilled employees of landscape Installer. Maintain as required in Part 3.

PART 2 - PRODUCTS

2.1 PLANT MATERIAL

A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant Schedule or Plant Legend shown on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

1. Trees with damaged, crooked, or multiple leaders; tight vertical branches where bark is squeezed between two branches or between branch and trunk ("included bark"); crossing trunks; cut-off limbs more than 3/4 inch (19 mm) in diameter; or with stem girdling roots will be rejected.
2. Collected Stock: Do not use plants harvested from the wild, from native stands, from an established landscape planting, or not grown in a nursery unless otherwise indicated.

B. Provide plants of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of plants required. Plants of a larger size may be used if acceptable to Engineer, with a proportionate increase in size of roots or balls.

C. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which shall begin at root flare according to ANSI Z60.1. Root flare shall be visible before planting.

D. Labeling: Label at least one plant of each variety, size, and caliper with a securely attached, waterproof tag bearing legible designation of common name and full scientific name, including genus and species. Include nomenclature for hybrid, variety, or cultivar, if applicable for the plant as shown on Drawings.

E. If formal arrangements or consecutive order of plants is shown on Drawings, such as street tree plantings, select stock for uniform height and spread, and number the labels to assure symmetry in planting.

2.2 ORGANIC SOIL AMENDMENTS

A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch (25-mm) sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

1. Organic Matter Content: 50 to 60 percent of dry weight.

2.3 FERTILIZERS

A. Bonemeal: Commercial, steamed finely ground material containing not less than 1.0 percent nitrogen and 11 percent phosphoric acid.

B. Commercial Fertilizer (10-6-4): Containing not less than 10 percent nitrogen, 6 percent available phosphoric acid and 4 percent water soluble potash.

2.4 PLANTING SOILS

A. Planting Soil - Imported topsoil or manufactured topsoil from off-site sources. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches deep.

1. Additional Properties of Imported Topsoil or Manufactured Topsoil: Screened and free of stones 1 inch or larger in any dimension; free of roots, plants, sod, clods, clay lumps, pockets of coarse sand, paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials harmful to plant growth; free of obnoxious weeds and invasive plants including quackgrass, Johnsongrass, poison ivy,

nutsedge, nimblewill, Canada thistle, bindweed, bentgrass, wild garlic, ground ivy, perennial sorrel, and bromegrass; not infested with nematodes; grubs; or other pests, pest eggs, or other undesirable organisms and disease-causing plant pathogens; friable and with sufficient structure to give good tilth and aeration. Continuous, air-filled pore space content on a volume/volume basis shall be at least 15 percent when moisture is present at field capacity. Soil shall have a field capacity of at least 15 percent on a dry weight basis.

2. Mix imported topsoil or manufactured topsoil with the following soil amendments and fertilizers in the following quantities for every 4 cubic yard of topsoil to produce planting soil:

   a. Peat Moss: 7-1/2 cu ft bale or 15 bushels (loose measure).
   b. Fertilizer: 5 lb.
   c. Bonemeal: 80 lb.

2.5 MULCHES

A. Compost Mulch: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble salt content of 2 to 5 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

   1. Organic Matter Content: 50 to 60 percent of dry weight.

2.6 TREE STABILIZATION MATERIALS

A. Stakes and Guys:

   1. Upright and Guy Stakes: Rough-sawn, sound, new hardwood, free of knots, holes, cross grain, and other defects, 2-by-2-inch nominal by length indicated, pointed at one end.
   2. Flexible Ties: Wide rubber or elastic bands or straps of length required to reach stakes or turnbuckles.
   3. Guys and Tie Wires: ASTM A 641/A 641M, Class 1, galvanized-steel wire, two-strand, twisted, 0.106 inch in diameter.

2.7 MISCELLANEOUS PRODUCTS

A. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's written instructions.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to receive plants for compliance with requirements and conditions affecting installation and performance.

1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
2. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
3. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
4. Uniformly moisten excessively dry soil that is not workable and which is too dusty.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.

3.2 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas and existing plants from damage caused by planting operations.

B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

C. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain Architect's acceptance of layout before excavating or planting. Make minor adjustments as required.

D. Lay out plants at locations directed by Engineer. Stake locations of individual trees and shrubs and outline areas for multiple plantings.

E. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during digging, handling, and transportation.

F. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.

3.3 EXCAVATION FOR TREES AND SHRUBS

A. Planting Pits and Trenches: Excavate circular planting pits with sides sloping inward at a 45-degree angle. Excavations with vertical sides are not acceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.

1. Excavate approximately three times as wide as ball diameter for balled and burlapped or container-grown stock.
2. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
3. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling.
4. Do not excavate subgrades of adjacent paving, structures, hardscapes, or other new or existing improvements.
5. Maintain supervision of excavations during working hours.
6. Keep excavations covered or otherwise protected after working hours.

B. Subsoil and topsoil removed from excavations may not be used as planting soil.

C. Obstructions: Notify Construction Manager if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.

D. Fill excavations with water and allow to percolate away before positioning trees and shrubs.

3.4 TREE AND SHRUB PLANTING

A. Before planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.

B. Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.

C. Set balled and burlapped stock plumb and in center of planting pit or trench with root flare 2 inches above adjacent finish grades.

1. Use planting soil for backfill.
2. After placing some backfill around root ball to stabilize plant, carefully cut and remove burlap, rope, and wire baskets from tops of root balls and from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
4. Continue backfilling process. Water again after placing and tamping final layer of soil.

D. When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.

3.5 MECHANIZED TREE SPADE PLANTING

A. Trees may be planted with an approved mechanized tree spade at particular locations if pre-approved by the Construction Manager.. Do not use tree spade to move trees larger than the maximum size allowed for a similar field-grown, balled-and-burlapped root-ball diameter according to ANSI Z60.1, or larger than the manufacturer's maximum size recommendation for the tree spade being used, whichever is smaller.

B. When extracting the tree, center the trunk within the tree spade and move tree with a solid ball of earth.

C. Cut exposed roots cleanly during transplanting operations.

D. Use the same tree spade to excavate the planting hole as was used to extract and transport the tree.

E. Plant trees as shown on Drawings, following procedures in "Tree and Shrub Planting" Article.

F. Where possible, orient the tree in the same direction as in its original location.

3.6 TREE AND SHRUB PRUNING

A. Prune, thin, and shape tree and shrubs according to standard professional horticultural and arboricultural practices. Unless otherwise indicated by Engineer, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.

3.7 TREE STABILIZATION

A. The staking of trees is required during the establishment period. Install trunk stabilization as follows unless otherwise indicated:

1. Upright Staking and Tying: Stake trees of 2- through 5-inch caliper. Stake trees of less than 2-inch (50-mm) caliper only as required to prevent wind tip out. Use a minimum of two stakes of length required to penetrate at least 18 inches below bottom of backfilled excavation. Set vertical stakes and space to avoid penetrating root balls or root masses.
2. Use two stakes for trees up to 12 feet high and 2-1/2 inches or less in caliper; three stakes for trees less than 14 feet high and up to 4 inches in caliper. Space stakes equally around trees.
3. Support trees with bands of flexible ties at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree.

3.8 GROUND COVER AND PLANT PLANTING

A. Set out and space ground cover and plants other than trees and shrubs as indicated with triangular spacing.

B. Use planting soil for backfill..

C. Dig holes large enough to allow spreading of roots.

D. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.

E. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.

F. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

3.9 PLANTING AREA MULCHING

A. Mulch backfilled surfaces of planting areas and other areas indicated.

3.10 PLANT MAINTENANCE

A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease.

B. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.

C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated past management practices whenever possible to minimize the use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.

3.11 CLEANUP AND PROTECTION

A. During planting, keep adjacent paving and construction clean and work area in an orderly condition.

B. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.

C. After installation and before Substantial Completion, remove nursery tags, nursery stakes, tie tape, labels, wire, burlap, and other debris from plant material, planting areas, and Project site.

3.12 DISPOSAL

A. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.

END OF SECTION 329300

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