

SECTION 011200: SUMMARY OF PROJECT**PART 1: GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including the General and Supplemental Conditions and Division 1 Specification Section, apply to this Section.
- B. Special Conditions- wherever similar requirements of this section are present in the Special Conditions the more stringent of the two shall apply as determined by the Architect.

1.2 SUMMARY

- A. Project Identification: Project consists of but is not limited to the renovation of the existing former Peekskill Firehouse Building located at 701 Washington Street in the City of Peekskill with all associated site work, architectural upgrades, ADA compliant work, mechanical upgrade work, and Fire Alarm work.
 - A. Project Names: **Peekskill Firehouse Kitchen Incubator**
 - B. Owner's Name: **Peekskill Facilities Development Corporation**
 - C. Architect's Name: **Joseph G Thompson Architect, PLLC**

1.3 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General Conditions and Division 0 & 1 Specification Sections, apply to this Section.

1.4 THE CONTRACT

- A. The Project will be constructed under a multiple prime contracting arrangement with the Owner awarding and holding the separate Contracts. Each contractor shall furnish all labor, material, tools, equipment, supervision, layout, delivery, trucking, shop drawings, submittals, etc. necessary to complete the work described in the Division of Work of their respective Contracts, and based upon a complete set of Contract Documents.
- B. Scope of work for each Prime Contractor is defined in Section 01010 and takes precedence over all drawing notes that may refer to scoping.
- C. Each Contractor has been given the opportunity prior to bid to inspect the entire Project site for interferences to their Contract work, and agrees to accept the site as it exists on the date of the bid opening.
 - 1. It is the Owner's intention to continue to occupy the existing buildings and site for normal School operations during the Construction process. The Contractors all agree to:
 - a. Cooperate with the Owner's personnel in maintaining and facilitating access to the School buildings and its facilities by the School staff, Students, Owner's agents, service consultants and the public, throughout the construction process.

- b. Keep driveways and entrances serving the occupied School buildings clear and available to the Owner, the Owner's employees, the public, and to emergency vehicles at all times. Do not obstruct access to, or use these areas for parking, staging of equipment or materials. All access through these existing areas must be coordinated in advance and in accordance with the Owner's usage and occupancy schedule.
 - c. Schedule construction operations so as to minimize any conflicts or interruptions to the daily school functions. Coordinate any necessary interruptions with the designated project representative.
 - d. All existing Owner occupied buildings (not turned over to the Project Contractors) need to remain operational at all times. The contractors are responsible to maintain all systems, such as but not limited to: fire alarm, clocks, electric, public address system, gas service, heat etc.
- D. Each Prime Contractor shall:
- 1. Verify and obtain any permits or approvals required prior to start of work. Refer to Section 011200a Required Municipal Permits and Approvals. Contractor shall report any additional permitting or approvals necessary for their respective work to Architect prior to start of work.
 - 2. Provide field-engineering services, in addition to those provided by the General Work Prime Contract, to install site utilities included in the applicable Prime Contract.
 - 3. Coordinate construction schedule information in order to formulate one master schedule for the entire Project.
 - 4. Provide reflective vests to be worn by all on-site personnel at all times.
 - 5. Provide erosion and Sediment Control, and dewatering as it relates to any excavation associated with its own Prime Contract.
 - 6. Provide potable drinking water for its own employees.
 - 7. Provide access to all concealed systems as required for system maintenance and repair for items installed in their Prime Contract.
 - 8. Provide and maintain material lifting equipment required for the completion of their Contract requirements, and complying with NYS Labor Laws, OSHA Regulations, and other Federal, State, and local laws.
 - 9. Provide and maintain additional temporary stairs, ladders, ramps, scaffolding, and platforms required specifically for completion of work of their own Contract, and as further detailed in this section. All work needs to comply with the NYS Labor Laws, OSHA regulation, and other Federal, State, and local laws.

10. Provide Fire Prevention materials and equipment for fire protection related to the work of their own Prime Contract. Provide fire extinguishers, fire blankets, and fire watch during all cutting and welding operations.
11. Provide any supplemental lighting required to install the work of its own Contract, beyond the minimum OSHA levels provided under the Electrical Work Prime Contract.
12. Provide any supplemental heat required to install the work of its own Contract, beyond the levels owed by the General Work Contractor.
13. Provide traffic control for deliveries, and equipment needed to perform the work of their own Prime Contract.
14. Provide protection of its own finished Work, after installation, until accepted by the Owner.
15. Provide fire caulking for any penetration related to the work for its own Prime Contract.
16. Provide final cleaning per specifications.
17. Provide any office and storage trailers required to complete the work of their own Prime Contract.
18. Provide for a thorough final cleaning of the site, building, and equipment provided under their Prime Contract immediately before the final inspection. Each Prime Contractor is responsible for cleaning and dust and debris generated from the work of their own Contract.
 - a. Maintain areas in a cleaned condition until the Owner occupies the space.
 - b. Personnel: Experienced workman or professional cleaners approved by the Architects

1.5 SUMMARY OF WORK

The work will be constructed under multiple prime contracts. One set of contract documents is issued covering the multiple contracts.

1.6 WORK UNDER SEPARATE CONTRACTS

- A. The project will be constructed under a multiple-prime contracting arrangement
- B. One set of documents is issued covering all multiple prime contracts. Each prime contractor is to review ALL drawings and specifications for complete understanding and knowledge of the work.
- C. The following Contract Documents are specifically included and defined as integral to each Prime Contract.

1. Bidding Requirements
 2. Performance and Payment Bonds
 3. Conditions of the Contract, including
 - a. General Conditions & Supplementary Conditions
 - b. Insurance Requirements
 - c. NYS Prevailing Wage Rates.
 - d. Project Labor Agreement
- D. Extent of Contract: Unless the Contract Documents contain a more specific description of the Work, names and terminology on Drawings and in Specification Sections determine which contract includes a specific element of Project.
1. Unless otherwise indicated, the Work described in this Section for each contract shall be complete systems and assemblies, including products, components, accessories, and installation required by the Contract Documents.
 2. The General Work Contract shall provide shoring, bracing, excavation and backfill for all other contractors from five (5) feet outside building foundation. Trenches, excavation, fill and compaction for the Work of all contracts (5) feet outside the building shall be provided by the General Work Contract. General work contractor is to refer to Mechanical, Electrical and Plumbing drawings for locations of utilities requiring shoring, bracing, excavation and backfilling.
 3. Concrete for the Work of each contract shall be provided by each contract for its own Work, unless specifically assigned to another Contract.
 4. Provide all cutting & patching associated with the Work of its Prime Contract. All patching is to be performed by mechanics qualified and experienced with the materials and finishes being patched, and hired by the responsible Prime Contractor.
 5. Firestopping for the Work of each contract shall be provided by each contract for its own Work. Firestopping shall comply with Division 7 Section "Firestopping"
 6. Access doors not shown on Architectural drawings and required for access to junction boxes, valves and similar equipment for the Work of each contract shall be furnished and installed by each contract for its own Work.
 7. Lead Based Paint precautions for the Work of each contract shall be provided by each contract for its own Work. Each Prime Contractor shall provide procedures for OSHA Lead precautions.
 8. Each Prime Contractor shall designate a full time superintendent to supervise the work of the Prime Contractor, who shall always be present on the job site when work is being performed; this person shall be familiar with Project and authorized to conclude matters relating to progress. This person shall also represent their company at weekly contractor meetings. Fine for missing regularly scheduled weekly meetings will be \$200 per meeting.

9. Termination and removal of its temporary facilities shall be provided by each contract for its own Work.
- E. Temporary Facilities and Controls: In addition to specific responsibilities for temporary facilities and controls indicated in this Section and in Division 1 Section 01500 "Temporary Facilities and Controls," each Contract is responsible for the following:
 1. Installation, operation, maintenance, and removal of each temporary facility usually considered as its own normal construction activity, and costs and use charges associated with each facility
 2. Plug-in electric power cords and extension cords, supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.
 3. Its own field office complete with necessary furniture, utilities, and telephone service.
 4. Its own storage and fabrication sheds.
 5. Temporary heat for construction at isolated work areas.
 6. Temporary enclosures for its own construction activities.
 7. Hoisting requirements for own construction activities.
 8. Each Prime Contractor is to stockpile his debris on a daily basis, and place it in the dumpster. Dumpsters will be provided by the General Work Contract for use by the prime contractors, recycling of materials will be instituted daily. Waste disposal facilities, including collection and legal disposal of its own hazardous, dangerous, unsanitary, or other harmful waste materials will be by the Hazardous Material Abatement Contractor.
 9. Secure lockup of its own tools, materials, and equipment.
 10. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.
 11. Safety procedures as dictated by the district, OSHA, and the NYS Department of Labor.
 12. Labor for daily clean-up.

1.7 CONTRACT 1: GENERAL CONSTRUCTION CONTRACT

- A. The Work of the General Construction Work Contract includes but is not limited to, the following descriptions:
 1. Includes Site, Architectural, Structural, Masonry, Roofing, Flooring, Casework, plus other construction operations traditionally recognized as General Work Construction as well as Plumbing, Electrical, Fire Alarm, HVAC and Mechanical Work. This includes, but is not limited to, *all work shown* on the following:

- a. Drawings: All Drawings
- 2. Coordination:
 - a. Coordination with the work of all of the other contractors.
- 3. Demolition: All demolition work specified on project drawings and as needed to facilitate completion of specified scope of work including, but not limited to:
 - a. Asbestos containing material removal as shown in the contract documents and disposal per Code Rule 56.
 - b. Construction of hard barriers separating abatement areas from all other areas.
 - c. Removal of curbing, roadways, bituminous paving, concrete walks.
 - d. Removal and relocation of trees, shrubs and ground cover as necessary to perform work
 - e. Removal of all underground utilities and/or equipment as shown or described.
 - f. Removal of existing light pole bases to be replaced.
 - g. Removal and disposal of miscellaneous equipment including equipment not shown if impacting work to be demolished.
 - h. Removal of masonry walls, doors, windows, and interior partitions.
 - i. Removal of finishes noted on plans.
 - j. Removal and disposal of miscellaneous equipment including all existing wall mounted specialty items and/or equipment not shown if impacting work to be demolished.
 - k. Removal and disposal of attached furniture, appliances, lockers, benches, and architectural woodwork.
 - l. All toilet room demolition is the responsibility of the General Contractor including plumbing fixtures.
 - m. All roof penetrations at the existing building as required for work of the mechanical contractor. Existing roof warrantee to be reviewed and adhered to.
 - n. All cutting and patching necessary for work of this contract, including layout, sleeves, coring, debris removal, sawcuts, providing lintels, drywall work, plaster work, grouting, painting, ceiling removal and replacement, etc.
- 4. Temporary Facilities
 - a. Provide yard dumpsters as necessary to be used by all trades as part of his base bid.
 - b. Provide temporary silt fencing areas being renovated.
 - c. Provide dust protection and temporary fencing.
 - d. Provide temporary roads/ access and continuous exits in and out of all construction areas.
 - e. Provide all necessary erosion control measures specific to renovation of the parking / circulation.
 - f. Provide wash out area for construction vehicles.
 - g. Each Prime Contractor is to stockpile his debris on a daily basis, and place it in the dumpster.
 - h. Provide construction site ingress/egress, and contractor parking.

- i. Provide all temporary partitions, egress doors, and temporary fencing as shown on staging plan. Restore all areas to original condition upon completion.
- j. Provide Temporary Facilities indicated as Work of this Contract in Division 1 Section 01500, "Temporary Facilities and Controls"

5. New Construction:

- a. Provide services of a licensed surveyor for building layout, elevation and as-built foundation location as required for site work.
- b. Provide concrete sidewalks, asphalt paving, final landscaping, site appurtenances and curbing. Provide driveway and parking lot paving and drainage as shown.
- c. Provide suitable fill to replace unsuitable fill.
- d. Provide underground storm systems.
- e. Provide thermal and moisture protection.
- f. Provide:
 - 1) All site signage, see temporary facilities section
 - 2) Erosion controls, all necessary documentation and regular inspections of erosion control.
 - 3) Contractor shall obtain and pay for any permits, inspections, or certifications from governing authorities having jurisdiction over the work to be performed, or over the finished product to be installed by this Contractor. Project Building Permit is by others.
- g. Provide access doors that are shown on Architectural drawings.
- h. Provide repairs to masonry and concrete structures and openings as shown.
- i. Install miscellaneous metal fabrications furnished by other contractors but scheduled to be installed under the General Construction Contract as shown and/or specified in the contract documents. Reinforced roof penetrations and shear wall penetrations are by General Construction Contract. In existing construction, each Prime Contractor is to provide their own rough opening in walls and floors. All lintels and / or framing are to be sized in accordance with the lintel schedules and standard details within the contract documents. Installation is to be performed by a mechanic qualified and experienced with the materials and finishes being altered or installed. Submit to the Architect the name and qualification of the subcontractor performing the installation prior to starting the work.
- j. Provide structural framing for new roof openings. Coordinate with mechanical trades. Removal and replacement of ceilings as required performing this work.
- k. Provide rough and finish carpentry.
- l. Provide architectural woodwork.
- m. Provide thermal and moisture protection.
- n. Provide doors, frames, builders' hardware, and windows, skylights, glazing system, glazing and finishing for same. Provide miscellaneous steel required at new openings, coordinate with all prime contracts. Power for electrical hardware to be provided by the Electrical Contractor.
- o. Provide gypsum wallboard and finishing for same.
- p. Provide finishes including tile, sheet vinyl and ceramic tile. Provide suspended drywall grid system. Flooring, resilient vinyl tile, carpet, painting, and suspended acoustical ceilings.

- q. Provide toilet partitions, exterior louvers, all signage, fire-protection specialties, visual display boards, and toilet and bath equipment accessories (as indicated).
 - r. Contractor shall anticipate that all existing areas to receive new flooring shall require both light grinding and self leveling underlayment. Provide additional flash-patching where old walls were removed. Provide self leveling underlayment where required to allow for acceptable flooring installation. Pay particular attention to floor areas to be abated and renovation of floor areas that currently have ceramic tile.
 - s. Provide building paper protection over finished product. Include maintenance of protection and removal of paper.
 - t. All roofing work for new additions. Roof blocking and plywood, including:
 - 1) For cutting holes through existing deck, the following shall apply:
 - a) General Construction contractor shall cut and remove material.
 - b) All contractors requiring holes shall provide the necessary layout.
 - c) Temporary and final roofing and weather-tight protection for roof shall be by the General Construction Contractor.
 - u. Contractor shall include paint, stone, brick, ceiling tile, gypsum, plaster, and floor tile patch to match existing at the following conditions (patching shall commence one tile distant from the affected areas):
 - 1) At all removed existing walls.
 - 2) At all removed existing millwork and casework items.
 - 3) At all removed existing console unit ventilators. Louvers to be removed by General Contractor. Brick infill by General Contractor.
 - 4) At all relief grills removed in corridors.
 - 5) At all new door openings cut through existing walls.
 - 6) At all new walls in existing construction.
 - v. Include (furnish, and install, unless noted otherwise):
 - 1) Provide interior equipment and housekeeping pads and all exterior pads and any concrete tied to the Food Service addition.
 - w. Contractor shall coordinate and perform all mechanical, electrical power supply, gas power supply and exhaust requirements and installations to accommodate equipment to be supplied and installed by the Kitchen Equipment and Cooling Equipment Contractors. Coordination meetings shall be held with the Architect and other prime contractors as necessary to ensure proper installation.
- 6. General Requirements, including but not limited to, additional items specifically indicated as the Work of this Contract.
 - 7. Provide multiple shift work as needed to complete work as shown on milestone schedule. Schedule shows a significant amount of work to be performed second shift. Shift work will be required.
 - 8. Provide for a thorough cleaning of the site and building (interior and exterior) immediately before final inspection.
 - a. Maintain areas in a cleaned condition until the Owner occupies the space.
 - b. Personnel: Experienced workman or professional cleaners approved by the Architect.
- B. The Work of the General Construction Contract includes but is not limited to the Work that is specified in the Project Manual(s) and as shown on the drawings that form the contract plans.

The Contractor is directed to examine all drawings since certain details and/or notes may appear anywhere therein that apply to his/her particular work. This prime contract is defined as, and includes, all Sections

1.8 CONTRACT : KITCHEN EQUIPMENT

A. Work of this Contract includes, but is not limited to, the following descriptions:

1. Includes provision of all Kitchen Equipment, with the exception of walk-in cooling equipment, as specified on the drawings, specifically on the schedules as listed on the Architect's Drawing Sheets A4.01 and A4.02.
2. Coordination:
 - a. Coordinate performance of work with the General Contractor.
3. Demolition: N/A
4. Temporary Facilities
 - a. Provide Temporary Facilities indicated as Work of this Contract in Division 1 Section 01500, "Temporary Facilities and Controls"
5. Construction:
 - a. Purchase and provision of equipment as specified in contract documents.
 - b. Delivery and installation of equipment (Electrical, Plumbing & Exhaust Connections by General Work Contractor).
 - c. Startup and Testing of Equipment.
 - d. Provide owner training / commissioning of equipment and controls.
6. General Requirements, including but not limited to, additional items specifically indicated as the Work of this Contract.

B. The Work of this Contract includes but is not limited to the Work that is specified in the Project Manual(s) and as shown on the drawings that form the contract plans. The Contractor is directed to examine all plan drawings since certain details and/or notes may appear anywhere therein that apply to his/her particular work. This prime contract is defined as, and includes, all Sections in the Divisions indicated by reference, and specific Sections noted:

1. **Section 114000, Food Service Equipment**

1.9 CONTRACT : COOLING EQUIPMENT

A. Work of this Contract includes, but is not limited to, the following descriptions:

1. Includes provision of Walk-in Cooling Equipment as specified on the drawings, specifically on the schedules as listed on the Architect's Drawing Sheets A4.01 and A4.02.
 2. Coordination:
 - a. Coordinate performance of work with the General Contractor.
 3. Demolition: N/A
 4. Temporary Facilities
 - a. Provide Temporary Facilities indicated as Work of this Contract in Division 1 Section 01500, "Temporary Facilities and Controls"
 5. Construction:
 - a. Purchase and provision of equipment as specified in contract documents.
 - b. Installation of new cooling equipment. (Electrical, Plumbing & Exhaust Connections by General Work Contractor).
 - c. Electrical connections for new cooling equipment.
 - d. Startup and Testing of Equipment.
 - e. Provide owner training / commissioning of equipment and controls.
 6. General Requirements, including but not limited to, additional items specifically indicated as the Work of this Contract.
- B. The Work of this Contract includes but is not limited to the Work that is specified in the Project Manual(s) and as shown on the drawings that form the contract plans. The Contractor is directed to examine all plan drawings since certain details and/or notes may appear anywhere therein that apply to his/her particular work. This prime contract is defined as, and includes, all Sections in the Divisions indicated by reference, and specific Sections noted:
1. **Section 114000, Food Service Equipment**

1.10 ADDITIONAL SCOPING

- A. Definition of Extent of Prime Contract Work; Additional Prime Contract Work not previously described
1. All Prime Contractors are responsible for reviewing plans and specs as it pertains to their scope of work mentioned in the contract documents. Scopes of work referenced may be found in multiple locations throughout the plans and specifications.
 2. Local custom and trade union jurisdictional settlements do not control the scope of work included in each prime contract. When a potential jurisdictional dispute or similar interruption of work is first identified or threatened, the affected prime contracts shall

- promptly negotiate a reasonable settlement to avoid or minimize the pending interruption and delays.
3. All OSHA safety and hazardous materials regulations will be enforced on this project. All Contractors must submit a safety program, a hazardous materials program, (all required data must be maintained at the job site) and attend safety meetings. Toolbox talks will be required from each prime contractor.
 4. All Contractors are responsible for any debris caused by their work. A daily clean-up and disposal is required by each Contractor for the periods which that Contractor is performing work on site, on a day selected by the Construction Manager. Each trade will assign at least one person to the weekly clean-up; the name of this person is to be submitted to the Construction Manager. Any Contractor not providing personnel will be "back-charged" for labor provided by the Construction Manager.
 5. All Contractors are responsible for cutting/patching required to complete their work. All exposed finishes must be ready to receive paint, etc.; all concealed openings (piping, ductwork, conduit, etc.) must be repaired to comply with specified wall or deck conditions.
 6. Multiple Crews: To maintain the project schedule, each Prime Contractor is to provide multiple crews. Each crew is to be furnished with own supervision, cranes, scaffold and other means necessary to maintain the Project Schedule.
 7. Supervision: The proposed project manager and field superintendent for the project is to have at least five years experience in the proposed position. Each successful bidder shall submit resumes to the Construction Manager for the proposed project manager and field superintendent for the project. This information will be reviewed with the Owner, Architect and Construction Manager for approval. Should the Project Managers and/or Superintendent prove unqualified for the position at any point in the project, the Construction Manager shall issue a letter stating that the person is to be removed from involvement in the project. Action by the contractor must be made within seven working days of receipt of such letter.
 8. In existing construction, each Prime Contractor is to provide all labor and material for their own rough openings, including all lintels, and any required structural framing for penetrations as part of their Prime Contract. All lintels and / or structural framing are to be sized in accordance with the schedules and standard details within the contract documents. Installation is to be performed by a mechanic qualified and experienced with the materials and finishes being altered or installed. Submit the name and qualifications of the subcontractor that is performing the installation prior to starting the work.
 9. For new work each prime contract shall furnish and coordinate exact locations of embedded items in concrete or masonry work with General Construction Work Contract (Contract #1). Each Prime Contractor shall monitor such items throughout concrete/masonry activities to ensure proper placement
 10. General Construction Work Contractor (Contract #1) shall provide shoring identified on the drawings and any other shoring as may be required during construction.
 11. Miscellaneous steel including stairs and loose lintels shall be furnished and installed by General Contractor (Contract #1). Coordinate with all contracts.
 12. When selective demolition or cutting and patching (all demolition necessary for work of their contract, including layout, sleeves, coring, debris removal, sawcuts, drywall work, plaster work, grouting, painting, ceiling removal, etc) is required solely by another prime contract to perform their work it shall be by the Prime Contractor requiring the work to

- achieve the result indicated. Under this condition, the prime contractor needing the demolition to perform the work will accomplish the demolition and the cutting and patching as indicated in Subparagraph 5 above.
13. Each prime contractor shall return areas disturbed by their work activities to condition prior to start of work.
 14. Each prime contractor shall maintain within its field office a complete and current set of Contract Documents (including any Addenda, Change Orders, and Modifications thereto), approved shop drawings, samples, color schedules and other data pertinent to the Project.
 15. Each prime contractor is to survey existing work and submit to the Construction Manager a list of damaged areas (i.e. plaster walls, woodwork) prior to commencing work. Any damaged areas not identified prior to the work shall be the responsibility of the contractor/ Contractors working in that area. Construction Manager will have photos of existing conditions on file for reference.
 16. Roof penetration work is assigned as follows:
 - a. All blocking, flashing, and cutting of roof material and installation are by the General Construction Contractor.
 - b. Support framing for roof, and floor penetrations and equipment suspended from steel structure is by General Construction Work Contract (Contract #1). All hung lintels are by General Construction Work Contract (Contract #1).
 - c. Cutting of roof deck is by the General Construction Work Contractor and coordinated with prime contractor requiring the penetration.
 - d. Roof curbs are furnished by the General Contractor (Contract # 1) and set in place by the General Construction Work Contractor.
 - e. The General Construction Work Contractor shall provide all required boot, pitch pocket, flashing materials, etc., for making roofing penetrations by other trades watertight.
 - f. The General Construction Work Contractor is responsible for cabling or roping off all roof openings in an OSHA approved manner. Provide all necessary fall protection.
 17. Clean up: Each Prime Contractor is to stockpile his debris on a daily basis, and place it in the dumpster. Dumpsters for non-asbestos containing materials will be provided by the General Work Contractor for use by the prime contractors, recycling of materials will be instituted daily.
 18. The General Construction Work Contract (Contract #1) is required to submit a construction and submittal schedule based on the milestone dates to the Construction Manager for review and comment no later than 2 weeks after a Notice to Proceed for the work is issued.
 19. Unless a specific item or material is noted as to remain the Owner's property or to become the Contractor's property (or similar words), any material having salvage or reuse value shall be inspected by the Owner. If the Owner wishes to retain this material, it shall be turned over to him on the site where directed. If the Owner designates the material as scrap, it shall become the Construction Manager's property and removed from the site. Material having salvage value shall be carefully removed. If the Construction Manager designates the material as scrap, it shall become the contractor's property and removed from the site. Material having salvage value shall be carefully removed.

20. When the building is occupied and fire alarm and safety system work is in progress, the General Work Contractor shall continuously maintain the existing building's fire alarm and detection system and exit and emergency lighting system or provisions must be made by the General Work Contractor to provide equivalent safety. General Work Contractor must notify the local fire department of any non-operating systems.
21. General Work Contractor shall be responsible for all electrical conduit and associated work on site. General Contractor shall coordinate and install conduits as required for transformer, meter pad construction, and duct bank. The General Work contractor shall coordinate with all local utilities for installation of their work.
22. The General Construction Work Contract (Contract #1) will be responsible for de-watering all excavations pertaining to their scope of work for the duration that the excavations remain open.
23. Each prime contract shall supply and coordinate exact locations of embedded items in concrete or masonry work with General Construction Work Contract (Contract # 1). Each Prime Contractor shall monitor such items throughout concrete/masonry activities to ensure proper placement. The General Construction Work Contract shall layout and installs anchor bolts leveling plates and loose bearing plates. The General Construction Work Contract shall grout leveling plates in accordance with specification Section 05500.
24. All miscellaneous steel including stairs and loose lintels shall be furnished and installed by General Construction Contractor (Contract #1). All prime contractors will provide within 30 days of the project start a complete listing (quantity and size) of loose lintels required per the Contract documents to the Construction Manager and General Work Contractor. The General Construction Contractor (Contract #1) shall install all lintels, angles and clips that are in contact with and get shop welded, field welded, or bolted to structural steel members or that support structural steel or metal roof / floor decking. The General Work Contractor (Contract #1) shall install all lintels, angles and clips that are embedded, set in or bolted to all other construction material other than structural steel or that do not support structural steel or that do not support structural steel or decking.
25. All personnel required to be on site shall at all times have all required personnel protective equipment on at all times.
26. All personnel on site shall at all times have a photo ID displayed where visible. Those without will be removed from site at once. If the same individual fails to have the ID a second time they will be removed from site and not be allowed back on site.

1.11 TESTING

- A. Required testing and test procedures are indicated under each Division of the Technical Specifications. Other testing shall be performed per generally accepted standards.
- B. The Architect shall reserve the right to require additional information as is deemed necessary to fully evaluate testing results.
- C. The Owner shall employ and pay for an independent testing and inspection agency for testing requirements of their work as assigned by this scope of work. All testing shall be per technical specification requirements The Prime Contractor requiring testing will notify the Construction Manager twenty four hours in advance of the required testing to allow for coordination and

scheduling. Failure to give sufficient notice will require the prime contractor to pay for alternate testing to satisfy the specification.

1.12 WORK SEQUENCE

- A. The Work will be conducted to provide the least possible interference to the activities of the Owner's personnel.
- B. All contract scopes of work in unoccupied areas of work can be performed weekdays from 7:00 AM to 3:30 PM unless otherwise noted. Please see schedule for scheduled second shift work. Work cannot be performed in occupied areas. Work shall be scheduled off-hours, vacations and weekends for occupied areas. A Construction Manager Superintendent must be on site at all times that work is being performed. If a contractor fails to maintain the progress as indicated by the milestone schedule by no other fault but its own, and requires overtime to complete the work; the contractor shall make arrangements with the Construction Manager 24 hours in advance and pay for a Construction Manager's superintendent at \$95.00 per hour. In the event that the cause for delay is multi-contract, then the costs shall be distributed evenly among contracts. Advise the Construction Manager 48 hours prior to commencing work inside the building.
- C. Coordination of any utility and/or power interruption must be done with the Construction Manager. Shutdowns must occur during off-hours and on days when the building is not occupied by the owner.
- D. Construction access to the site shall be limited to those designated for contractor's personnel, equipment and deliveries by the Owner. Contractors' staging, parking and storage shall be coordinated by the Construction Manager.
- E. Each Contractor shall inspect the site and review the AHERA report on file for the presence of asbestos. Unless otherwise noted, there will be asbestos containing material in place that will require work to take place in the vicinity of, around and/or next to. Each prime contractor that will be working above ceilings, demolishing, in crawl spaces, boiler rooms and all other areas that may contain asbestos per the AHERA report, shall employ "Allied Trades: certified/licensed tradesman as part of the onsite workforce".

1.13 OCCUPANCY REQUIREMENTS

- A. The General Work Contractor (Contract #1) shall provide indoor air quality management as specified by the Department of Labor and OSHA for the building, when the building is enclosed, as determined by the Construction Manager.
 - 1. Provide an exhaust air system for the project indoor areas that could produce fumes, VOC's off-gasses, gasses, dusts, mists, or other emissions.
 - 2. Exhaust air system for the project areas that could produce emissions listed in Paragraph 1 shall be utilized.
 - 3. Provide temporary partitions and air seals to prevent the migration of airborne contaminants from unoccupied areas to occupied areas when applicable.
- B. Quality assurance:

1. Maintain a negative pressure between the work area and the space surrounding the work area.
 2. Before start of work, submit a design for the exhaust air system. Do not begin work until approval of the Newburgh Enlarged City School District is obtained.
 - a. The number of machines required.
 - b. Location of the machines in the work space.
 - c. Description of the methods used to test air flow and pressure differential.
- C. System operation:
1. A sufficient quantity of exhaust fans in existing window openings or other approved locations shall be operated in accordance with the following applicable standards.
 2. Exhaust air system shall operate for a minimum of 72 hours after work is completed, or until all materials have cured sufficiently as to stop out gassing of fumes or odors and area has been ventilated to remove all detectable traces of odors and fumes.
 3. Maintain twenty-five (25) feet clearance from all temporary exhaust outlets to all active building outdoor air intakes.

1.14 PROJECT MILESTONE SCHEDULE

- A. See the milestone schedule included in specifications
- B. All Prime Contractors are required to submit a schedule based on the milestone dates to the Construction Manager for review and comment no later than 10 days after a Notice to Proceed for the work is issued.

1.15 ALTERNATES

- A. The Contractor shall state where requested on the Bid Form the amount to be added to or deducted from the base bid for the alternates described.

END OF SECTION

Section 011200a: Required Permitting & Approvals

Permits and approvals required to complete the proposed work scope include:

- **Special Permit (City of Peekskill Common Council):** Approved May 13, 2024
- **Site Plan Review (City of Peekskill Planning Commission):** Approved May 17, 2024
 - Include SEQRA (Unlisted Action – Sale of City Property)
- **Building Permit (City of Peekskill Building Department):** Application submitted May 1, 2023. Permit issuance pending Contract Award/ naming of Contractor.
- **Plumbing Permits (City of Peekskill Building Department):** To be filed by Plumbers after Contract Award. Two separate Plumbing Permits required (GC Contract #1 & KE Contract #2).
- **Electrical Permit (City of Peekskill Building Department):** To be filed by Electricians after Contract Award. Three separate Plumbing Permits required (One per Contract).
- **HVAC Work Permit (City of Peekskill Building Department):** To be filed by HVAC Contractors after Contract Award. Two separate Plumbing Permits required (GC Contract #1 & CE Contract #3).
- **Fire Protection Permit (City of Peekskill Building Department):** To be filed by Fire Protection Contractor after Contract Award (Sub-Contractor to GC- Contract #1).
- **Sign Permit (City of Peekskill Building Department):** To be filed by Sign Contractor after Contract Award (Sub-Contractor to GC- Contract #1).
- **Exterior (Site Work) Permit (City of Peekskill Building Department):** To be filed by General Contractor after Contract Award (GC- Contract #1).
- **Sidewalk Permit (City of Peekskill Building Department):** To be filed by General Contractor after Contract Award (GC- Contract #1).
- **Generator Permit (City of Peekskill Building Department):** To be filed by Electrician after Contract Award (Sub-Contractor to GC- Contract #1).
- **Electrical Permit- Low-Voltage Security & Surveillance (City of Peekskill Building Department):** To be filed by Electrician after Contract Award (Sub-Contractor to GC- Contract #1).
- **Food Service Approval (Westchester County Department of Health):** Approval pending. Initial plan review performed dated October 1, 2024.
- **Backflow Prevention Approval (Westchester County Department of Health):** To be filed by Plumbing Contractor after Contract Award (Sub-Contractor to GC- Contract #1).
- **Certificate of Occupancy (City of Peekskill Building Department):** Application submitted May 1, 2023. Issuance pending completion of work and inspection by Building Department.

Contractor shall verify and obtain any permits or approvals required prior to start of work. Contractor shall report any additional permitting or approvals necessary for their respective work to Architect prior to start of work.

Permit fee costs, with the exception of the Building Permit to be paid by Owner, shall be paid by respective Contractors.

SECTION 012500: SUBSTITUTION PROCEDURES**PART 1: GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Special Conditions- wherever similar requirements of this section are present in the Special Conditions the more stringent of the two shall apply as determined by the Architect.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use form provided in the Project Manual.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and/or separate Contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable specification section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.

- e. Samples.
 - f. Certificates and qualification data.
 - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building codes in effect for Project.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within 14 days of receipt of a request for substitution. Architect will notify Contractor through Construction Manager of acceptance or rejection of proposed substitution within 15 days of receipt of request, or 14 days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

- A. Coordination: Modify or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2: PRODUCTS

2.1 SUBSTITUTIONS

- B. Substitutions for Cause: Submit requests for substitution immediately upon discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

- C. Substitutions for Convenience: Architect will consider requests for substitution if received within 60 days after the Notice of Award. Requests received after that time may be considered or rejected at discretion of Architect.
- D. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - 1. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - 2. Substitution does not result in an increase in cost to the Owner.
 - 3. Substitution request is fully documented and properly submitted.
 - 4. Requested substitution will not adversely affect Contractor's construction schedule.
 - 5. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - 6. Requested substitution is compatible with other portions of the Work.
 - 7. Requested substitution has been coordinated with other portions of the Work.
 - 8. Requested substitution provides specified warranty.
 - 9. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 3: EXECUTION (Not Applicable)

END OF SECTION

SECTION 013100: PROJECT MANAGEMENT AND COORDINATION**PART 1: GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Special Conditions- wherever similar requirements of this section are present in the Special Conditions the more stringent of the two shall apply as determined by the Architect.

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General project coordination procedures.
 - 2. Conservation.
 - 3. Coordination/Phasing Drawings.
 - 4. Administrative and supervisory personnel.
 - 5. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.
- C. The General Contractor will be acting as the Construction Manager/ Construction Coordinator.

1.3 COORDINATION

- A. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with 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 with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. If necessary, 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 and activities of other contractors 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. Preinstallation conferences.
 7. Project closeout activities.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work.

1.4 SUBMITTALS

- A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
1. Indicate relationship of components shown on separate Shop Drawings.
 2. Indicate required installation sequences.
- B. Staff Names: Within 15 days of starting construction operations, submit a list of principal staff 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 and office telephone numbers. 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.

1.5 COORDINATION DRAWINGS

- A. General: The Contract Drawings are diagrammatic in nature; performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results. Where possible, the Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing coordination drawings.
- B. Coordination Drawings: Prepare and submit Coordination Drawings for all plumbing, HVAC and electrical products and materials, and where limited space availability necessitates maximum utilization of space for efficient installation of different components. Show the interrelationship of components shown on separate shop drawings. Indicate required installation sequences. Comply with requirements contained in Section "Submittals" for format and content of submittal.
1. Preparation Responsibility: Preparation of Coordination Drawings is the responsibility of the prime Contractor principally involved, where involvement by other prime Contractors is minor.
 - a. Where there is substantial participation by more than one prime Contractor, including the Contractor for General Construction, the Contractor for General Construction shall prepare the initial and final set of Coordination Drawings and the Owner's Construction Manager shall coordinate the participation of other Contractors in the preparation of the Coordination Drawings.

2. Indicate relationship of components shown on separate Shop Drawings.
 3. Indicate required installation sequences.
- C. Mechanical Coordination Drawings: Prepare coordination drawings to a scale of $3/8" = 1'-0"$ or larger; detailing major elements, components, and systems of mechanical equipment and materials in relationship with other systems, installations, and building components. Indicate locations where space is limited for installation and access and where sequencing and coordination of installations are of importance to the efficient flow of the Work, including (but not necessarily limited to) the following:
1. Indicate the proposed locations of piping, ductwork, equipment, and materials. Include the following:
 - a. Clearances for installing and maintaining insulation.
 - b. Clearances for servicing and maintaining equipment, including tube removal, filter removal, and space for equipment disassembly required for periodic Maintenance.
 - c. Equipment connections and support details.
 2. Indicate all firewalls, rated partitions and smoke partitions on coordination drawings for coordination of life safety requirements.
- D. Coordination Process: All Contractors shall participate in the development of Mechanical/Electrical/Plumbing (MEP) Coordination Drawings for the entire project, both new construction and alterations to the existing areas. The process shall generally consist of the overlay of mechanical, electrical and plumbing information on the structural and architectural backgrounds to produce a coordinated drawing for the fabrication and installation of the mechanical (HVAC), electrical and plumbing work.
1. All coordination drawings and overlays shall be produced using latest version of AutoCad.
 2. General Contractor, shall produce the background structural and architectural information, which shall function as the project's base sheets. General Contractor, shall be responsible for printing of the final, coordinated, sign-off set of drawings to all involved parties. Each contractor shall be responsible for their own printing.
 3. General sequence of placing information on the backgrounds shall be: ductwork, plumbing work, hydronic work, electrical work. All work shall be of the exact size scale as the approved materials.
 4. Electrical work shown on the coordination drawings shall consist of panels, main conduit routing, light locations, transformers, switchgear and main equipment, cable tray, bus duct, etc.
 5. HVAC work shown on the coordination drawings shall consist of piping (with insulation), valves, strainers, thermometers, equipment, ductwork (with transitions and insulation) air handling devices, vents diffusers, dampers, boilers, flues, etc.
 6. Plumbing work shown on the coordination drawings shall consist of piping (with insulation), valves, cleanouts, drains, equipment, vents, etc.
 7. Mechanical (HVAC), Electrical and Plumbing Contractors and their pertinent sub-

contractors shall attend a formal meeting with the Construction Manager and the Architect and its design team within two weeks of notification of award with their intended coordination drawing draftsman/consultant. Document production and meeting schedule will be developed at that time. All contractors shall complete the MEP Coordination Drawing process within 8 weeks of the initial meeting.

8. Mechanical (HVAC), Electrical and Plumbing Contractors and their pertinent sub-contractors and their coordination drawing draftsman/consultant shall attend weekly Coordination Meetings. Refer to "Coordination Meeting" Article below.

1.5 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.
 1. Include special personnel required for coordination of operations with other contractors. Insert special requirements that exceed requirements contained in the General and Supplementary Conditions for superintendent and assistants.

1.6 PROJECT MEETINGS

- C. General: The Construction Manager shall schedule and conduct meetings and conferences at Project site, and be responsible for the following:
 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within 3 days of the meeting.
- D. Preconstruction Conference: Architect / Construction Manager will schedule a preconstruction conference before starting construction, no later than 15 days after execution of the Agreement. The purpose of the meeting is to review responsibilities and personnel assignments.
 1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing.
 - d. Designation of responsible personnel.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for processing Applications for Payment.
 - g. Distribution of the Contract Documents.
 - h. Submittal procedures.
 - i. Preparation of Record Documents.
 - j. Use of the premises.
 - k. Responsibility for temporary facilities and controls.

- l. Parking availability.
 - m. Office, work, and storage areas.
 - n. Equipment deliveries and priorities.
 - o. First aid.
 - p. Security.
 - q. Progress cleaning.
 - r. Working hours.
 - 3. Each Prime Contractor shall submit the following items at this meeting:
 - a. Contractor's Construction Schedule
 - b. List of Subcontractors.
 - c. Schedule of Values.
 - d. Submittal Schedule.
 - e. Products List (Proposed products and manufacturers including any substitution products proposed).
- E. Preinstallation Conferences: When required in the individual Specification Section, conduct a Preinstallation conference at Project site before each construction activity that requires coordination with other construction.
 - 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect and Construction Manager of scheduled meeting dates in advance.
 - 2. Contractor shall prepare agenda, preside at conference, record minutes, and distribute copies after conference to participants. Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related Change Orders.
 - d. Purchases.
 - e. Deliveries.
 - f. Submittals.
 - g. Review of mockups.
 - h. Possible Conflicts.
 - i. Compatibility problems.
 - j. Time schedules.
 - k. Weather limitations.
 - l. Manufacturer's written recommendations.
 - m. Warranty requirements.
 - n. Compatibility problems.
 - o. Acceptability of substrates.
 - p. Temporary facilities and controls.
 - q. Space and access limitations.
 - r. Regulations of authorities having jurisdiction.
 - s. Testing and inspecting requirements.
 - t. Required performance results.
 - u. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements.
 4. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- F. Progress Meetings: The Architect / Construction Manager will conduct progress meetings at prescheduled intervals. Coordinate dates of meetings with preparation of payment requests.
1. Construction Manager will preside over these meetings.
 2. Attendees: In addition to representatives of Owner and Architect, 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 conference 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.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Adjust list below to suit Project.
 - 2) Interface requirements.
 - 3) Sequence of operations.
 - 4) Status of submittals.
 - 5) Deliveries.
 - 6) Off-site fabrication.
 - 7) Access.
 - 8) Site utilization.
 - 9) Temporary facilities and controls.
 - 10) Work hours.
 - 11) Hazards and risks.
 - 12) Progress cleaning.
 - 13) Quality and work standards.
 - 14) Change Orders.
 - 15) Documentation of information for payment requests.
 4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.

- a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.
- G. Coordination Meetings: The Architect / Construction Coordinator will conduct coordination meetings at prescheduled intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
 - 1. Attendees: In addition to representatives of Owner and Architect, 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 conference shall be familiar with Project and authorized to conclude matters relating to the Work
 - 2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to Combined 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.
 - b. Schedule Updating: Revise Combined Contractor's Construction Schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
 - c. Review present and future needs of each contractor 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) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Change Orders / CFA's.
 - 3. Reporting: The Construction Manager shall record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting. If special meetings such as site mobilization conferences or Project closeout conferences are required, insert articles here specifying meeting requirements.

Parts 2 and 3 Not Used- END OF SECTION

SECTION 013200: 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 01 Specification Sections, apply to this Section.
- B. Special Conditions- wherever similar requirements of this section are present in the Special Conditions the more stringent of the two shall apply as determined by the Architect.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Preliminary Construction Schedule.
 - 2. Contractor's Construction Schedule.
 - 3. Submittals Schedule.
 - 4. Daily construction reports.
 - 5. Material location reports.
 - 6. Field condition reports.

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 activities are activities on the critical path. They must start and finish on the planned early start and finish times.
 - 2. Predecessor activity is an activity that must be completed before a given activity can be started.
- B. Event: The starting or ending point of an activity.
- C. Fragnet: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.
- D. Major Area: A story of construction, a separate building, or a similar significant construction element.
- E. Milestone: A key or critical point in time for reference or measurement.

1.4 SUBMITTALS

- A. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- B. Submittals Schedule: Submit five (5) copies of schedule. Arrange the following information in a tabular format:
 - 1. Scheduled date for first submittal.
 - 2. Specification Section number and title.
 - 3. Submittal category (action or informational).

4. Name of subcontractor.
 5. Description of the Work covered.
 6. Scheduled date for Architect's final release or approval.
- C. Contractor's Construction Schedule: three (3) printed copies of initial schedule, one a reproducible print and one a blue- or black-line print, large enough to show entire schedule for entire construction period.
1. Submit an electronic copy of schedule, using software indicated, on compact disc, and labeled to comply with requirements for submittals. Include type of schedule (Initial or Updated), and date, on label.

1.5 COORDINATION

- A. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
1. Secure time commitments for performing critical elements of the Work from parties involved.
 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2: PRODUCTS

2.1 SUBMITTALS SCHEDULE

- B. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, re-submittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
 2. Within 30 days after Notice to Proceed:
 - a. Structural Steel,
 - b. Soil proctors,
 - c. Concrete mix designs,
 - d. Billet steel shop drawings,
 - e. HVAC components,
 - f. Electrical panels,
 - g. and all other submittals required to commence work and long-lead items critical to job schedule
 3. Balance of Submittals- within 60 days after Notice to Proceed.
 4. Upon approval by the Architect, non-critical submittals may be transmitted later.
- C. Prepare a written schedule (or log) showing each specification item to be submitted, projected date into architect for review, lead time for procurement and required on job date.
- D. Distribution: Following response to the initial submittal, print and distribute copies for distribution to the Architect, Owner, and other parties required to comply with submittal dates indicated. Post copies in the Project meeting room and field office.
1. When revisions are made, distribute 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 construction activities.

- E. Schedule Updating: Revise the submittal schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- F. Bar-Chart Schedule: Prepare a fully developed, horizontal bar-chart-type, contractor's construction schedule. Submit within 2 weeks days after Notice to Proceed is issued.
 - 1. Provide a separate time bar for each significant construction activity. Show ordering and delivery times of all long-lead equipment and materials. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the Work as indicated in the "Schedule of Values".
 - 2. Within each time bar, indicate estimated completion percentage in 10 percent increments. As Work progresses, place a contracting mark in each bar to indicate Actual Completion.
 - 3. Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.
 - 4. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the Work. Show each activity in proper sequence. Indicate graphically the sequences necessary for completion of related portions of the Work.
 - 5. Coordinate the Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittal Schedule, progress reports, payment requests, and other schedules.
 - 6. Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time for the Architect's procedures necessary for certification of Substantial Completion.
 - 7. The Architect shall be responsible for coordination of Prime Contractors. Each Prime Contractor is to coordinate the work of each other Prime Contractor so that the work and schedule is not impeded. The contractors shall modify schedules to the Architect's master CPM schedule from commencement of work to completion of work.
- G. Work Stages: Indicate important stages of construction for each major portion of the Work, including submittal review, testing, and installation.
- H. Cost Correlation: At the head of the schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of Work performed as of the dates used for preparation of payment requests.
 - 1. Refer to Division 1 Section "APPLICATIONS FOR PAYMENT" for cost reporting and payment procedures.
- I. Distribution: Following response to the initial submittal, print and forward copies to the Architect for distribution to the Architect, Owner, subcontractors, and other parties required to comply with scheduled dates. Post copies in the Project meeting room and temporary field office.
 - 1. When revisions are made, distribute 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 construction activities.

- J. Schedule Updating: Revise the schedule after each meeting, event, or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.
- K. Computer Software: Prepare schedules using a program that has been developed specifically to manage construction schedules.

2.3 REPORTS

- L. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site and submit duplicate copies to the Architect at weekly intervals:
 - 1. List of subcontractors at Project site.
 - 2. List of separate contractors at Project site.
 - 3. Approximate count of personnel at Project site.
 - 4. High and low temperatures and general weather conditions.
 - 5. Accidents.
 - 6. Meetings and significant decisions.
 - 7. Unusual events (refer to special reports).
 - 8. Stoppages, delays, shortages, and losses.
 - 9. Meter readings and similar recordings.
 - 10. Emergency procedures.
 - 11. Orders and requests of authorities having jurisdiction.
 - 12. Change Orders received and implemented.
 - 13. Construction Change Directives received.
 - 14. Services connected and disconnected.
 - 15. Equipment or system tests and startups.
 - 16. Partial Completions and occupancies.
 - 17. Substantial Completions authorized.
- M. Material Location Reports: At weekly intervals, prepare a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.
- N. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare 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.

1.4 SPECIAL REPORTS

- A. General: Submit special reports directly to, Architect 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, and 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 (Not Used)

END OF SECTION

SECTION 013300: 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 01 Specification Sections, apply to this Section.
- B. Special Conditions- wherever similar requirements of this section are present in the Special Conditions the more stringent of the two shall apply as determined by the Architect.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Architect's responsive action.
- B. Informational Submittals: Written information that does not require Architect's approval. Submittals may be rejected for not complying with requirements.
- C. Field samples are full-size physical examples erected on site to illustrate finished, coatings, or finish materials. Field samples are used to establish the standard by which the Work will be judged.
- D. Mock-ups are full-size assemblies for review of construction, coordination, testing, or operation; they are not Samples.

1.4 SUBMITTAL PROCEDURES

- A. General: Electronic copies of CAD Drawings of the Contract Drawings will not be provided by Architect for Contractor's use in preparing submittals.
- 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. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Submittals Schedule: Comply with requirements in Division 1 Section "CONSTRUCTION PROGRESS DOCUMENTATION" for list of submittals and time requirements for scheduled performance of related construction activities.
- D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal.

1. Initial Review: Allow ten (10) working days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 2. If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Allow ten (10) working days for processing each resubmittal.
 4. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.
- E. Identification: Place a permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately 4 by 5 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
 3. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Unique identifier, including revision number.
 - i. Number and title of appropriate Specification Section.
 - j. Drawing number and detail references, as appropriate.
 - k. Other necessary identification.
- F. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.
- G. Additional Copies: Submit four more copies of each submittal than the number to be returned to the Contractor (example: if Contractor needs 3 copies returned, then 7 copies shall be submitted). Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions of the Contract Documents, initial submittal may serve as final submittal.
- H. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Attach the Submittal Cover Sheet (see Section 00331) to each copy of each submittal. Architect will return submittals, without review, received from sources other than Contractor.
1. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements of the Contract Documents, including minor variations and limitations. Include the same label information as the related submittal.
 2. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.
 3. Transmittal Form: Use sample form in Section 00331.
- I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

- J. Use for Construction: Use only final submittals with mark indicating action taken by Architect in connection with construction.

PART 2: PRODUCTS

2.1 ACTION SUBMITTALS

- K. General: Prepare and submit Action Submittals required by individual Specification Sections.
1. Number of Copies: Submit four more copies of each submittal than the number to be returned to the Contractor (example: if Contractor needs 3 copies returned, then 7 copies shall be submitted). Retain one returned copy as a Project Record Document.
- L. Collect Product Data into a single submittal for each system or element of construction. Mark each copy to show specific product choices and options applicable to the project. Product Data shall include the following information, where applicable:
1. Mark each copy of each submittal to show which products and options are applicable.
 2. Manufacturer's written recommendations.
 3. Manufacturer's product specifications.
 4. Manufacturer's installation instructions.
 5. Standard color charts.
 6. Manufacturer's catalog cuts.
 7. Wiring diagrams showing factory-installed wiring.
 8. Printed performance curves.
 9. Operational range diagrams.
 10. Mill reports.
 11. Standard product operating and maintenance manuals.
 12. Compliance with recognized trade association standards.
 13. Compliance with recognized testing agency standards.
 14. Application of testing agency labels and seals.
 15. Notation of coordination requirements.
 16. Do not proceed with installation until a copy of Product Data is in the Installer's possession.
 17. Do not permit use of unmarked copies of Product Data in connection with construction.
- M. 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: Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - f. Shopwork manufacturing instructions.
 - g. Templates and patterns.
 - h. Schedules.
 - i. Design calculations.
 - j. Compliance with specified standards.
 - k. Notation of coordination requirements.
 - l. Notation of dimensions established by field measurement.

2. Wiring Diagrams: Differentiate between manufacturer and field-installed wiring.
 3. 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 30 by 40 inches.
 4. Number of Copies: Submit four more copies of each submittal than the number to be returned to the Contractor (example: if Contractor needs 3 copies returned, then 7 copies shall be submitted). Retain one returned copy as a Project Record Document.
 5. Do not use Shop Drawings without an appropriate final stamp indicating action taken.
- N. Coordination Drawings: Comply with requirements in Division 1 Section "PROJECT MANAGEMENT AND COORDINATION."
- O. Samples: Prepare physical units of materials or products, including the following:
1. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 2. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 3. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Architect's sample where so indicated. Attach label on unexposed side that includes the following:
 - a. Generic description of Sample.
 - b. Product name or name of manufacturer.
 - c. Sample source.
 4. Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, provide the following:
 - a. Size limitations.
 - b. Compliance with recognized standards.
 - c. Availability.
 - d. Delivery time.
 5. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and actual component as delivered and installed.
 - a. If variation in color, pattern, texture, or other characteristic is inherent in the product represented by a Sample, submit at least three sets of paired units that show approximate limits of the variations.
 - b. Refer to individual Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, and details of assembly, connections, operation, and similar construction characteristics.
 6. Number of Samples for Initial Selection: Submit three full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return one (1) submittal with options selected.

7. Number of Samples for Verification: Submit at least three sets of Samples. Architect will retain two Sample sets; remainder will be returned. Retain one returned Sample set as a Project Record Sample.
 - a. Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
8. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
- P. Product Schedule or List: Prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 1. Type of product. Include unique identifier for each product.
 2. Number and name of room or space.
 3. Location within room or space.
- Q. Contractor's Construction Schedule: Comply with requirements in Division 1 Section "CONSTRUCTION PROGRESS DOCUMENTATION".
- R. Submittals Schedule: Comply with requirements in Division 1 Section "CONSTRUCTION PROGRESS DOCUMENTATION".
- S. Application for Payment: Comply with requirements in Division 1 Section "PAYMENT PROCEDURES".
- T. Schedule of Values: Comply with requirements in Division 1 Section "PAYMENT PROCEDURES".
- U. 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. Use form attached in Specification Section entitled "PROJECT FORMS AND RELATED DOCUMENTS". 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.

2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
 1. Number of Copies: Submit four copies of each submittal, unless otherwise indicated. Architect will not return copies.
 2. Certificates and Certifications: Provide a notarized 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.

- B. Contractor's Construction Schedule: Comply with requirements in Division 1 Section "CONSTRUCTION PROGRESS DOCUMENTATION."
- C. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- D. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
- E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
- F. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.
- G. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.
- H. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.
- I. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
- J. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements.
- K. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- L. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, 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.
- M. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. 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.
- N. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - 1. Name of evaluation organization.
 - 2. Date of evaluation.
 - 3. Time period when report is in effect.
 - 4. Product and manufacturers' names.

5. Description of product.
 6. Test procedures and results.
 7. Limitations of use.
- O. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements in Division 1 Section "CLOSEOUT PROCEDURES."
- P. Design Data: Prepare 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.
- Q. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:
1. Preparation of substrates.
 2. Required substrate tolerances.
 3. Sequence of installation or erection.
 4. Required installation tolerances.
 5. Required adjustments.
 6. Recommendations for cleaning and protection.
- R. Manufacturer's Field Reports: Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
1. Name, address, and telephone number of factory-authorized service 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.
- S. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
- T. Material Safety Data Sheets: Submit information directly to Owner. If submitted to Architect, Architect will not review this information but will return it with no action taken.

PART 3: EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

- B. Approval Stamp: 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 ARCHITECT'S ACTION

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
1. No Exception Taken.
 2. Revise & Resubmit.
 3. Furnish as Corrected.
 4. Rejected.
- C. Informational Submittals: Architect will review each submittal and will not return it, or will reject and return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- D. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION

SECTION 014000: 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 01 Specification Sections, apply to this Section.
- B. Special Conditions- wherever similar requirements of this section are present in the Special Conditions the more stringent of the two shall apply as determined by the Architect.

1.2 SUMMARY

- A. This 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.
 - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

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 Architect.
- C. Mockups: Full-size, physical assemblies that are constructed on-site. Mockups are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Approved mockups establish the standard by which the Work will be judged.
- D. Laboratory Mockups: Full-size, physical assemblies that are constructed at testing facility to verify performance characteristics.

- E. Preconstruction Testing: Tests and inspections that are performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.
- F. 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 industry standards.
- G. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- H. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- I. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- J. 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. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to trades people of the corresponding generic name.
- K. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

- A. General: 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 uncertainties and requirements that are different, but apparently equal, to Architect through the Construction Manager 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 Architect through the Construction Manager for a decision before proceeding.

1.5 SUBMITTALS

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
 - 1. Specification Section number and title.

2. Description of test and inspection.
 3. Identification of applicable standards.
 4. Identification of test and inspection methods.
 5. Number of tests and inspections required.
 6. Time schedule or time span for tests and inspections.
 7. Entity responsible for performing tests and inspections.
 8. Requirements for obtaining samples.
 9. Unique characteristics of each quality-control service.
- C. Reports: Prepare and submit certified written reports that include the following:
1. Date of issue.
 2. Project title and number.
 3. Name, address, and telephone number of testing agency.
 4. Dates and locations of samples and tests or inspections.
 5. Names of individuals making tests and inspections.
 6. Description of the Work and test and inspection method.
 7. Identification of product and Specification Section.
 8. Complete test or inspection data.
 9. Test and inspection results and an interpretation of test results.
 10. 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.
- 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.

1.6 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. 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.
- C. 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.
- D. 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.

- 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 sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirement for specialists shall not supersede building codes and regulations governing the Work.
- 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 548; 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. 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.
- I. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 - 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
 - d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
 - e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
 - f. When testing is complete, remove test specimens, assemblies, mockups, and laboratory mockups; do not reuse products on Project.
 - 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

- J. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
 2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 4. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
 - a. Allow seven days for initial review and each re-review of each mockup.
 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 6. Demolish and remove mockups when directed, unless otherwise indicated.
- K. Laboratory Mockups: Comply with requirements of preconstruction testing and those specified in individual Sections in Divisions 2 through 16.

1.7 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. 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, and the Contract Sum will be adjusted by Change Order.
- B. 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."
- C. Retesting/Re-inspecting: Regardless of whether original tests or inspections were Manufacturer's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- D. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect 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. Does 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.
- E. 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.
- F. 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.
- G. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Submit schedule within 30 days of date established for the Notice to Proceed.
1. Distribution: Distribute schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.8 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Conducted by a qualified testing agency as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:
1. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
 2. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
 3. Submitting a final report of special tests and inspections at Substantial Completion, this includes a list of unresolved deficiencies.
 4. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
 5. Retesting and re-inspecting corrected work.

PART 2: PRODUCTS (Not Used)**PART 3: EXECUTION****3.1 ACCEPTABLE TESTING AGENCIES**

- A. Any agencies which has the proper qualifications and certifications to perform the test and or inspection.

3.2 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 Architect.
 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 Architect's reference during normal working hours.

3.3 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. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
 2. Comply with the Contract Document requirements for Division 1 Section "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

SECTION 015000: TEMPORARY FACILITIES & CONTROLS**PART 1: GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Special Conditions- wherever similar requirements of this section are present in the Special Conditions the more stringent of the two shall apply as determined by the Architect.

1.2 SUMMARY

- A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection.
- B. Temporary utilities include, but are not limited to, the following:
 - 1. Water service and distribution.
 - 2. Temporary electric power and light.
 - 3. Temporary heat.
 - 4. Ventilation.
 - 5. Telephone service.
 - 6. Sanitary facilities, including drinking water.
 - 7. Storm and sanitary sewer.
- C. Support facilities include, but are not limited to, the following:
 - 1. Field offices and storage sheds.
 - 2. Architects/Engineers field office.
 - 3. Temporary roads and paving.
 - 4. Dewatering facilities and drains.
 - 5. Temporary enclosures.
 - 6. Hoists and temporary elevator use.
 - 7. Temporary project identification signs and bulletin boards.
 - 8. Waste disposal services.
 - 9. Rodent and pest control.
 - 10. Construction aids and miscellaneous services and facilities.
- D. Security and protection facilities include, but are not limited to, the following:
 - 1. Temporary fire protection.
 - 2. Barricades, warning signs, and lights.
 - 3. Environmental protection.
 - 4. Tree and plant protection.
 - 5. Pest control.
 - 6. Security enclosure and lockup.
 - 7. Temporary enclosures.
 - 8. Temporary partitions.

1.3 DIVISION OF RESPONSIBILITIES

- A. General: Each prime contractor is specifically assigned certain responsibilities for temporary services and facilities to be used by other prime contractors, and other nonprime contractors and separate entities at the site, Owner's workforces, Construction Manager, Architect, testing agencies, personnel of governing authorities, and personnel authorized to be at project site during contract time. The General Construction Work Contractor (Contract #1) is responsible for providing temporary facilities and controls that are not normal construction activities of other prime contractors and are not specifically assigned otherwise by the Contract Documents.

1.4 USE CHARGES

- A. General: Cost or use charges for temporary facilities are not chargeable to the Owner or the Architect. The Architect will not accept a prime contractor's cost or use charges for temporary services or facilities as a basis of claim for an adjustment in the Contract Sum or the Contract Time.
- B. Water Service: Use water from the Owner's existing water system without metering and without payment of use charges. Access to water shall be designated by the owner.
- C. Electric Power Service: Temporary electric power including set-up, maintenance and use charges is the responsibility of the Electrical Work Contractor (Contract #4).
1. Use of electric power from the Owner's permanent power system (when operational) will be granted to all prime contractors without payment of use charges.
- D. Temporary Heating, Cooling, and Ventilation for the Building: The General Construction Work Contractor (Contract #1) is responsible for temporary building heating, cooling, and ventilation, and shall pay for all utility use charges. Electric heat may not be used. See milestone schedule for temporary heat duration to be used for bidding purposes.

1.5 SUBMITTALS

- A. Temporary Utilities: The prime contractor shall submit reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities.
- B. Implementation and Termination Schedule: Within 15 days of the date established for submittal of the Contractor's Construction Schedule, each prime contractor shall submit a schedule indicating implementation and termination of each temporary utility for which the Contractor is responsible.
- C. Temporary Signage: Provide shop drawings, indicating the size and layout of the signs, color choices for Owner selection and installation details.

1.6 QUALITY ASSURANCE

- A. Regulations: The prime contractor shall comply with industry standards and with applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:
1. Building code requirements.
 2. Health and safety regulations.
 3. Utility company regulations.
 4. Police, fire department and rescue squad rules.
 5. Environmental protection regulations.

- B. Standards: The prime contractor shall comply with NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities."
 - 1. Trade Jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with the normal application of trade regulations and union jurisdictions.
 - 2. Electrical Service: Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.7 PROJECT CONDITIONS

- A. Temporary Utilities: The prime contractor shall prepare a schedule indicating dates for implementation and termination of each temporary utility for which the Contractor is responsible. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of permanent service.
 - 1. Temporary Use of Permanent Facilities: The Installer of each permanent service shall assume responsibility for its operation, maintenance, and protection during use as a construction facility prior to the Owner's acceptance, regardless of previously assigned responsibilities.
- B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.

PART 2: PRODUCTS

2.1 MATERIALS

- A. General: The prime contractor shall provide new materials. If acceptable to the Architect, undamaged, previously used materials in serviceable condition may be used. Provide materials suitable for use intended.
- B. Lumber and Plywood: Comply with requirements in Division 6 Section "Miscellaneous Carpentry."
 - 1. For job-built temporary offices, shops, and sheds within the construction area, provide UL-labeled, fire-treated lumber and plywood for framing, sheathing, and siding.
 - 2. For signs and directory boards, provide exterior-type, Grade B-B high-density concrete form overlay plywood of sizes and thicknesses indicated.
 - 3. For fences and vision barriers, provide minimum 3/8-inch- thick exterior plywood.
 - 4. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch- thick exterior plywood.
- C. Pavement: Comply with Division 2 Pavement Sections
- D. Insulation: Unfaced mineral-fiber blanket manufactured from glass, slag wool, or rock wool; with maximum flame spread and smoke developed indices of 25 and 50, respectively.

- E. Gypsum Wallboard: Provide gypsum wallboard on interior walls of temporary offices.
- F. Roofing Materials: Provide UL Class A standard-weight asphalt shingles or UL Class C mineral-surfaced roll roofing on roofs of job-built temporary offices, shops, and sheds.
- G. Paint: Comply with requirements of Division 9 Section "Painting."
 - 1. For job-built temporary offices, shops, sheds, fences, and other exposed lumber and plywood, provide exterior-grade acrylic-latex emulsion over exterior primer.
 - 2. For sign panels and applied graphics, provide exterior-grade alkyd gloss enamel over exterior primer.
 - 3. For interior walls of temporary offices, provide 2 coats interior latex-flat wall paint.
- H. Tarpaulins: Provide waterproof, fire-resistant, UL-labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.
- I. Water: Provide potable water approved by local health authorities.
- J. Open-Mesh Fencing: Provide 0.12-inch- thick, galvanized 2-inch chainlink fabric fencing 6 feet high with galvanized barbed-wire top strand and galvanized steel pipe posts, 1-1/2 inches I.D. for line posts and 2-1/2 inches I.D. for corner posts.

2.2 EQUIPMENT

- A. General: The prime contractor shall provide new equipment. If acceptable to the Architect, undamaged, previously used equipment in serviceable condition may be used. Provide equipment suitable for use intended.
- B. Water Hoses: Provide 3/4-inch heavy-duty, abrasion-resistant, flexible rubber hoses 100 feet long, with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge.
- C. Electrical Outlets: Provide properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.
- D. Electrical Power Cords: Provide grounded extension cords. Use hard-service cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
- E. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered-glass enclosures, where exposed to breakage. Provide exterior fixtures where exposed to moisture.
- F. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the type of fuel being consumed.
- G. Temporary Offices: Each prime contractor shall provide its own prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows, and serviceable finishes. Provide heated and air-conditioned units on foundations adequate for normal loading.

- H. Temporary Toilet Units: Provide self-contained, single-occupant toilet units of the chemical, aerated recirculation, or combustion type. Provide units properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
- I. Fire Extinguishers: Provide hand-carried, portable, UL-rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried, portable, UL-rated, Class ABC, dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for the exposures.
 - 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

PART 3: EXECUTION

3.1 TEMPORARY UTILITY INSTALLATION

- A. See the Evaluations of Division 1 Section "Construction Facilities and Temporary Controls" for further discussion.
- B. General: Engage the appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with company recommendations.
 - 1. Arrange with the company and existing users for a time when service can be interrupted, if necessary, to make connections for temporary services.
 - 2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
 - 3. Obtain easements to bring temporary utilities to the site where the Owner's easements cannot be used for that purpose.
- C. Water Service: The General Work Contractor (Contract #1) shall provide and maintain temporary water service and distribution piping of sizes and pressures adequate for construction and hose bibs on site as to provide service to all areas of construction activities as directed by the Construction Manager, as required throughout the construction period.
 - 1. Water service shall be potable and modified as required or as directed by the Construction Manager, as Work progresses.
 - a. Sterilization: Sterilize temporary water piping prior to use.
 - 2. Wash Facilities: Install wash facilities supplied with potable water at convenient locations for personnel who handle materials that require wash up. Dispose of drainage properly. Supply cleaning compounds appropriate for each type of material handled.
 - 3. Drinking Water Facilities: Provide bottled water drinking water units.
 - a. Where power is accessible, the General Work Contractor (Contract #1) shall provide electric water coolers to maintain dispensed water temperature at 45 to 55 deg F. Provide one per floor.
 - b. The Prime Contractor shall provide containerized, tap-dispenser, bottled-water drinking-water units, including paper cup supply.
 - 4. Provide safety showers, eyewash fountains, and similar facilities for convenience, safety, and sanitation of personnel.
 - 5. Users shall provide their own hoses to points of need, but shall practice prudent conservation.

- D. Temporary Electric Power Service: The Electrical Work Contractor (Contract #4) shall provide and maintain temporary electric service consisting of main power hook-up and panel board and temporary lighting for site and existing building. Temporary service shall be maintained during all work days, and shall comply with all codes and regulations. System shall be modified as required or as directed by the Construction Manager as work progresses. Each Prime shall provide power distribution for its own use from EC's panel.

- Electrical service:

1. Obtain temporary service from existing building service or local power pole. If practical, power to each location shall be tapped at transformer vault or main distribution panel, ahead of main breakers to minimize demand on service equipment from operations. Overcurrent protection shall be installed as required.
 2. Provide disconnect at connection to service.
 3. Provide service conductors and equipment.
 4. Minimum power characteristics: 240/120 volt, single phase.
 5. Provide distribution equipment, feeders, and branch circuit panelboards to serve:
 - a. Temporary lighting.
 - b. Temporary convenience receptacles. (4 gang outlet boxes to allow for 50' extension cord; enough to accommodate requirements of the entire building)
 - c. To accommodate construction operations require power, use of power tools, electric heating and start up testing of permanent electric powered equipment prior to its permanent connection to electrical system.
 6. Each Contractor shall provide his own extension lines, and other special equipment; welding equipment shall run from generator trucks.
 7. The Electrical Work Contract (Contract #4) shall be responsible for initial connections and final demolition of all temporary fixtures and wiring at direction of the Construction Manager.
 8. The Electrical Work Contract (Contract #4) Contractor shall maintain OSHA standards for power and foot candle levels in all areas while workers occupy the space. The temporary lighting shall be energized daily at 6:50 A.M. to 4:35 P.M. as a minimum duration until permanent fixtures are installed.
 9. Not unlike other equipment in this contract, upon installation, the temporary electric system becomes the property of the Owner and shall not be controlled by any one contractor.
 10. Temporary Site Lighting: Electrical Work Contract (Contract #4) to maintain existing exterior Lighting to adequately light the entrances and exits of project site. Temporary lighting shall be controlled by time clocks and lighting contactors; settings to be coordinated by the Construction Manager.
 11. Each Prime Contractor will be responsible for hookup of own project trailers to temporary electric pedestal. If abused, power from temporary service will be disconnected. The Electric Contractor shall erect poles safely sufficient for site power and telephone service. All installations shall conform to strictest standards. The E.C. shall disconnect all items upon project completion.
- E. Temporary Lighting: When an overhead floor or roof deck has been installed, the General Work Contract shall provide temporary lighting with local switching.
1. Install and operate temporary lighting that will fulfill security and protection requirements without operating the entire system. Provide temporary lighting that will provide adequate illumination for construction operations and traffic conditions.

- a. Temporary lighting shall be maintained in accordance with OSHA standards for power and foot candle levels in all areas while workers occupy the space.
 2. Temporary lighting shall be controlled by time clocks and lighting contactors; settings to be coordinated by the Construction Manager.
- F. Temporary Heat:
1. Upon enclosure of the new addition (by either temporary barriers or permanent wall systems) or as indicated by the milestone schedule, whichever is sooner, the General Work Contractor shall provide temporary heating equipment and all fuel necessary to continue construction work at proper heated conditions in the buildings. The means and methods shall be as field determined for specific buildings and/or areas. In no case shall temperature be less than 50°F; electrical power and connections shall be by General Work Contractor; Ventilation requirements by the General Work Contractor
 2. The General Construction Work Contractor (Contract #1) shall provide manpower for maintenance, operation and supervision for the temporary heating system, first and second shifts where applicable.
 3. The Owner will not accept utilization of permanent HVAC system for temporary heat until project acceptance.
 4. Temporary heating plants utilizing electric power as energy source shall not be used on this project.
 5. Temporary Heating and Cooling for Isolated work area: Each prime contractor shall 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 safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize energy consumption.
 6. Use of gasoline-burning space heaters, open flame, or salamander-type heating units is prohibited.
- G. Temporary Telephones: Each Prime Contractor shall provide temporary telephone service throughout the construction period for all personnel engaged in construction activities.
1. Contractors are required to lease or purchase a cellular telephone – to be used by their site superintendents for communication with the other primes and the Construction Manager.
 2. Provide telephone lines for the following:
 - a. Provide a dedicated telephone line for a fax machine in each prime contractor's field office.
 - b. At each telephone, post a list of important telephone numbers.
- H. Sanitary Facilities: The General Work Contractor (Contract #1) shall provide temporary portable chemical toilet facilities for all construction personnel. Comply with regulations and health codes for the type, number, location, operation, and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs.
1. Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Provide covered waste containers for used material.
 2. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy. Use of pit-type privies will not be permitted.
 - a. Provide separate facilities for male and female personnel.

I. Temporary Construction:

1. Temporary bridging, decks, hoists, lifts, scaffolding, and cranes shall be the responsibility of Contractor requiring same.
2. Provide temporary partitions to separate construction area from adjacent occupied areas. Construct partitions with non-combustible materials or fire-retardant plywood and seal seams and gaps to control transmission of dust to occupied areas. After completion of work, remove partitions and restore surfaces damaged by temporary provisions. This work is the responsibility of the General Work Contractor (Contract #1)
3. Temporary perimeter scaffolding and stairwell barricades at grade changes and multiple levels, shall be installed and maintained under the General Work Contractor (Contract #1); if a Contractor should need to temporarily relocate barrier, same Contractor shall protect personnel in the area and replace barrier to original location. This clause does not void any Contractor's liability to maintain a safe work site, but merely to assign temporary work to one contract.
4. Temporary entrances and exits to the building, shall be furnished, installed and maintained under the General Work Contractor (Contract #1) as directed by the Construction Manager. Exits shall be maintained for exiting in emergency conditions until permanent structures are in place.

J. Daily cleanup

1. Dumpsters are to be provided by the General Work Contractor (Contract #1). See allowance specified under the summary of work. Dumpsters will be inspected to assure they are not misused and removed and hauled to a recycling center off site for processing. OWNER will not be responsible for the removal of any hazardous materials; this will be the responsibility of the prime contractor doing the same.
2. The maintenance of a clean work site shall be the responsibility of each Contractor.
3. Each Contractor shall remove own debris daily from work area to waste disposal containers (dumpsters), time lapse not acceptable.
4. The condition of cleanliness in which an area is found, is the condition each Contractor shall leave.
5. Each and every Contractor working on site shall submit manpower on Friday at 8 A.M. to work as a team to remove debris to dumpsters until complete. At discretion of Construction Manager, a Contractor not complying may be back-charged for work performed by others. The responsibility of broom cleaning and debris disposal remains with General Construction Contract (#2) and shall include use of sweeping compound.
6. Final cleaning shall be the responsibility of each Prime Contractor for his/her own work.
7. Protection of Work: Each Prime Contractor is reminded to temporarily protect work in place until accepted by the Owner per Article 10 of the General Conditions of the Contract.
8. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 3 days during normal weather or 1 day when the temperature is expected to rise above 80°F (27°C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully. First aid requirements are the responsibility of each Contractor.

3.2 INSTALLATION

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. The prime contractor shall provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.
- C. The prime Contractor will be responsible for hookup of own project trailers. Use of energy, including heat (shall be set back at night) if practical from electric service will be available. If abused, power from temporary service will be disconnected. All installations shall conform to strictest standards.

3.3 SAFETY

- A. Identification Badges with picture of worker and Contractor employer will be required.
- B. Personal Protection while on site is strictly enforced in accordance with OSHA regulations (All contractors on site will be 10 Hr OSHA certified) NO TOLERANCE for non-compliance.
- C. All prime contractors must have a bona-fide safety program manual on file with Construction Manager.
- D. All prime contractors must have tool-box meeting reports updated prior to submission of pay apps. (Non-compliance will hold up req. process).
- E. Workers non-compliance of regs (includes ID badge, safety vests, personal protection as outlined by OSHA, security maintenance): Breech of rules ,will be reported to the Foreman and Company employing the worker, and an immediate response is expected, or worker will forfeit his ID badge and be removed from the Project.
- F. If removing the worker causes a delay to other trades, or to the Job schedule, The company employing the removed worker, will be charged for lost time at the rate dictated by the affected trades, and may include multiple trades for schedule delays. These charges will be assessed at the time of req request, and automatically deducted prior to payment process. Construction Manager will maintain records of notification as well as photos of infraction and proof of Contractor notification, in order to enforce "back charge" for infractions.
- G. Emergency Notification: Off hour phone numbers of all trades shall be on file in the Construction Manager Field office, each trade shall designate an ON CALL person in the event of an emergency.

3.4 SUPPORT FACILITIES INSTALLATION

- A. Locate field offices, storage sheds, sanitary facilities, and other temporary construction and support facilities for easy access as directed by the Construction Manager.
 - 1. Maintain support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.
- B. Provide incombustible construction for offices, shops, and sheds located within the construction area or within 30 feet of building lines. Comply with requirements of NFPA 241.

- C. Field Offices: Each prime contractor, when necessary, shall provide an insulated, weathertight temporary office of sufficient size to accommodate required office personnel at the Project Site. Keep the office clean and orderly for use for small meetings. Furnish and equip offices as follows:
1. Furniture: Furnish with a desk and chairs, a 2-drawer file cabinet, plan table, plan rack, and a bookcase.
 2. Equip with a water cooler and private toilet complete with water closet, lavatory, and medicine cabinet unit with a mirror.
- D. Storage and Fabrication Sheds: Install storage and fabrication sheds sized, furnished, and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be open shelters or fully enclosed spaces within the building or elsewhere on-site.
- E. Temporary Parking/Staging and Access Roads
1. Temporary roads are installed and/or maintained by the General Work Contractor (Contract #1) where designated on site logistics plans.
 2. Contractors will be permitted to utilize existing roads, as designated (as segregated by the Owner - if required).
 3. Road Cleaning: Maintain roads and walkways in an acceptably clean condition. This includes the removal of debris daily, if required, and/or a minimum of once a week due to all project traffic. Road cleaning equipment to be wet/vacuum type. General Work Contractor (Contract #1) will clean the roads affected by all contract work. General Construction Work Contractor (Contract #1) will maintain roads until project completion.
 4. Snow Plowing: Site Construction Work Contractor (Contract #1) will provide snow plowing of temporary road, parking area, access route, and a 5' walkway to all office trailers.
 5. Temporary parking by construction personnel shall be allowed only in areas so designated.
 6. Traffic Regulations:
 - a. Utilize only entrances/temporary roads as designated
 - b. Construction parking will not be allowed adjacent to residential buildings, additions or monuments.
 7. Traffic Controls: General Work Contractor (Contract #1) shall provide temporary traffic controls at junction of temporary roads with public roads. Include warning signs for public traffic and "STOP" signs for entrance onto public roads. Comply with requirements of authorities having jurisdiction.
- F. De-watering Facilities and Drains:
1. For temporary drainage and dewatering facilities and operations not directly associated with construction activities included under individual Sections, comply with dewatering requirements of applicable Division 2 Sections. Where feasible, use the same facilities. Maintain the site, excavations, and construction free of water.
 2. For temporary drainage and de-watering facilities and operations directly associated with the building and other construction activities, comply with Division 2; General Construction Work Contractor (Contract #1) is directly responsible for de-watering of all excavations associated with building additions.

- G. Temporary Enclosures / Signage: The General Work contractor (Contract #1) shall provide temporary enclosure for protection of construction in progress and completed, from exposure, foul weather, other construction operations, and similar activities as follows unless otherwise noted:
1. Install tarpaulins securely, with incombustible wood framing and other materials. Close openings of 25 sq. ft. (2.3 sq. m) or less with plywood of similar materials.
 2. Close openings through floor decks and horizontal surfaces with load-bearing, wood-framed construction.
 3. Where temporary wood or plywood enclosure exceeds 100 sq. ft. (9.2 sq. m) in area, use UL-labeled, fire-retardant treated material for framing and main sheathing.
 4. Generally, temporary closures for specific openings for a prime contractor to perform their work openings are the responsibility of Contractor creating the opening and shall be installed to protect building from exterior elements.
 5. Temporary partitions shall be installed at all openings where additions connect to existing buildings, and where required to protect areas, spaces, property, personnel, students, and faculty; to separate and control dust, debris, noise, access, sight, fire areas, safety and security and to separate phased construction areas per the phasing plan. Temporary partitions shall be installed and maintained. Construction material and methods to suit need as determined by Construction Manager.
 6. Temporary Lifts and Hoists: Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered “tools and equipment” and not temporary facilities.
 7. Temporary Signs: Prepare signs to provide directional information to construction personnel and visitors as follows: The Site Construction Work Contractor (Contract #1) shall furnish and install construction signage as required:
 - a. Engage an experienced sign painter to apply graphics. Comply with details indicated.
 - b. For construction traffic control/flow at entrances/exits, as designated by the Owner (3 required)
 - c. To direct visitors (1 required)
 - d. For construction parking (1 required)
 - e. To direct deliveries (2 required)
 - f. For warning signs as required
 - g. Per OSHA standards as necessary
 - h. For trailer identification
 - i. Temporary exit signs
- H. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully.

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Operations of the Contractor may not block, hinder, impede, or otherwise inhibit the safe and expeditious exiting of the building's occupants during an emergency.
- B. In the event of an emergency, (designated by the sounding of the fire alarm system) all construction activities must immediately cease. Contractor's work force will evacuate themselves from work areas and remain outside of work areas until the "all clear" is given. No work operations will be tolerated during the evacuation of the building or during an emergency.
- C. Temporary Facility Changeover: Except for using permanent fire protection as soon as available, do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion, or longer, as requested by the Construction Manager.
- D. Temporary Fire Protection: General Work Contractor (Contract #1) shall provide, until fire-protection needs are supplied by permanent facilities, install and maintain temporary fire-protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10, "Standard for Portable Fire Extinguishers," and NFPA 241, "Standard for Safeguarding Construction, Alterations, and Demolition Operations."
 - 1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
 - 2. Store combustible materials in containers in fire-safe locations.
 - 3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes for fighting fires. Prohibit smoking in hazardous fire-exposure areas.
 - 4. Provide supervision of welding operations, combustion-type temporary heating units, and similar sources of fire ignition.
 - 5. Permanent Fire Protection: At the earliest feasible date in each area of the Project, complete installation of the permanent fire-protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.
- E. Fall Protection:
 - 1. The General Work Contractor (Contract #1) shall provide temporary cable top & mid railings per OSHA regulations around mechanical floor openings. Most of the exterior can be done by running cables from column to column, but some areas may require installation of posts as well. Include toe boards around perimeter and openings where required. The Prime Contractor must provide his own means for providing OSHA approved fall protection for his work persons. Temporary railings removed by a Prime Contractor for some reason other than constructing the permanent wall, must be immediately replaced by that Prime Contractor.
 - 2. The General Work Contractor (Contract #1) shall rope off all roof openings in an OSHA approved manner. Include fluorescent ribbons or flags to accent the ropes.
- F. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed, provide lighting, including flashing red or amber lights.
- G. Enclosure Fence: General Work Contractor (Contract #1) shall before, site excavation begins, install an enclosure fence with lockable entrance gates. Locate where indicated, or enclose the entire site or the portion determined sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs, and other animals from easily entering the site, except by the entrance gates.

1. Provide 200' of open-mesh, 8-foot high chainlink fencing with posts at 8-feet on center, set in a compacted mixture of gravel and earth.
 2. Provide min. 3 double swing access gates and man gates. Each gate is to have a chain and padlock.
 - a. Provide (2) keys for each lock to the Construction Manager.
 3. Remove fence upon completion of all exterior activities or sooner if directed by Construction Manager.
- H. Security Enclosure and Lockup: General Work Contractor (Contract #1) shall install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft and similar violations of security.
1. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
- I. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted or that other undesirable effects might result. Avoid using tools and equipment that produce harmful noise. Restrict use of noise-making tools and equipment to hours that will minimize complaints from persons or firms near the site.

3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. Maintenance: Maintain facilities and good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
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.
 2. Protection: Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Termination and Removal: Unless the Construction Manager requests that it be maintained longer, remove each temporary facility when the need has ended, when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
1. Materials and facilities that constitute temporary facilities are the property of each prime contractor. The Owner reserves the right to take possession of project identification signs.
 2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where the area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil in the area. 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 the temporary entrances, as required by the governing authority.

3. At Substantial Completion, clean and renovate permanent facilities used during the construction period including, but not limited to, the following:
 - a. Replace air filters and clean inside of ductwork and housings.
 - b. Replace significantly worn parts and parts subject to unusual operating conditions.
 - c. Replace lamps burned out or noticeably dimmed by hours of use.

END OF SECTION

SECTION 015000a: TEMPORARY FACILITIES & CONTROLS**PART 1: GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Special Conditions- wherever similar requirements of this section are present in the Special Conditions the more stringent of the two shall apply as determined by the Architect.

1.2 SUMMARY

- A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection.
- B. Temporary utilities include, but are not limited to, the following:
 - 1. Sanitary facilities, including drinking water.
- C. Support facilities include, but are not limited to, the following:
 - 1. Temporary project identification signs and bulletin boards.
 - 2. Waste disposal services.
- D. Security and protection facilities include, but are not limited to, the following:
 - 1. Barricades, warning signs, and lights.
 - 2. Security enclosure and lockup.

1.3 DIVISION OF RESPONSIBILITIES

- A. General: Each prime contractor is specifically assigned certain responsibilities for temporary services and facilities to be used by other prime contractors, and other nonprime contractors and separate entities at the site, Owner's workforces, Architect, testing agencies, personnel of governing authorities, and personnel authorized to be at project site during contract time. The General Construction Work Contractor (Contract #1) is responsible for providing temporary facilities and controls that are not normal construction activities of other prime contractors and are not specifically assigned otherwise by the Contract Documents.

1.4 USE CHARGES

- A. General: Cost or use charges for temporary facilities are not chargeable to the Owner or the Architect. The Architect will not accept a prime contractor's cost or use charges for temporary services or facilities as a basis of claim for an adjustment in the Contract Sum or the Contract Time.
- B. Water Service: Use water from the Owner's existing water system without metering and without payment of use charges. Access to water shall be designated by the owner.
- C. Electric Power Service: Temporary electric power including set-up, maintenance and use charges is the responsibility of the Electrical Work Contractor (Contract #4).
 - 1. Use of electric power from the Owner's permanent power system (when operational) will be granted to all prime contractors without payment of use charges.

1.5 SUBMITTALS

- A. Temporary Utilities: The prime contractor shall submit reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities.
- B. Implementation and Termination Schedule: Within 15 days of the date established for submittal of the Contractor's Construction Schedule, each prime contractor shall submit a schedule indicating implementation and termination of each temporary utility for which the Contractor is responsible.
- C. Temporary Signage: Provide shop drawings, indicating the size and layout of the signs, color choices for Owner selection and installation details.

1.6 QUALITY ASSURANCE

- A. Regulations: The prime contractor shall comply with industry standards and with applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:
 - 1. Building code requirements.
 - 2. Health and safety regulations.
 - 3. Utility company regulations.
 - 4. Police, fire department and rescue squad rules.
 - 5. Environmental protection regulations.
- B. Standards: The prime contractor shall comply with NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities."
 - 1. Trade Jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with the normal application of trade regulations and union jurisdictions.
 - 2. Electrical Service: Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.7 PROJECT CONDITIONS

- A. Temporary Utilities: The prime contractor shall prepare a schedule indicating dates for implementation and termination of each temporary utility for which the Contractor is responsible. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of permanent service.
 - 1. Temporary Use of Permanent Facilities: The Installer of each permanent service shall assume responsibility for its operation, maintenance, and protection during use as a construction facility prior to the Owner's acceptance, regardless of previously assigned responsibilities.

- B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.

PART 2: PRODUCTS

2.1 MATERIALS

- A. General: The prime contractor shall provide new materials. If acceptable to the Architect, undamaged, previously used materials in serviceable condition may be used. Provide materials suitable for use intended.
- B. Lumber and Plywood: Comply with requirements in Division 6 Section "Miscellaneous Carpentry."
1. For job-built temporary offices, shops, and sheds within the construction area, provide UL-labeled, fire-treated lumber and plywood for framing, sheathing, and siding.
 2. For signs and directory boards, provide exterior-type, Grade B-B high-density concrete form overlay plywood of sizes and thicknesses indicated.
 3. For fences and vision barriers, provide minimum 3/8-inch- thick exterior plywood.
 4. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch- thick exterior plywood.
- C. Pavement: Comply with Division 2 Pavement Sections
- D. Paint: Comply with requirements of Division 9 Section "Painting."
1. For job-built temporary offices, shops, sheds, fences, and other exposed lumber and plywood, provide exterior-grade acrylic-latex emulsion over exterior primer.
 2. For sign panels and applied graphics, provide exterior-grade alkyd gloss enamel over exterior primer.
 3. For interior walls of temporary offices, provide 2 coats interior latex-flat wall paint.
- E. Open-Mesh Fencing: Provide 0.12-inch- thick, galvanized 2-inch chainlink fabric fencing 6 feet high with galvanized barbed-wire top strand and galvanized steel pipe posts, 1-1/2 inches I.D. for line posts and 2-1/2 inches I.D. for corner posts.

2.2 EQUIPMENT

- A. General: The prime contractor shall provide new equipment. If acceptable to the Architect, undamaged, previously used equipment in serviceable condition may be used. Provide equipment suitable for use intended.
- B. Water Hoses: Provide 3/4-inch heavy-duty, abrasion-resistant, flexible rubber hoses 100 feet long, with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge.
- C. Electrical Outlets: Provide properly configured, NEMA-polarized outlets to prevent insertion of 110- to 120-V plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.

- D. Electrical Power Cords: Provide grounded extension cords. Use hard-service cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
- E. Temporary Toilet Units: Provide self-contained, single-occupant toilet units of the chemical, aerated recirculation, or combustion type. Provide units properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.

PART 3: EXECUTION

3.1 TEMPORARY UTILITY INSTALLATION

- A. General: Engage the appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with company recommendations.
 - 1. Arrange with the company and existing users for a time when service can be interrupted, if necessary, to make connections for temporary services.
 - 2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
 - 3. Obtain easements to bring temporary utilities to the site where the Owner's easements cannot be used for that purpose.
- B. Sanitary Facilities: The General Work Contractor (Contract #1) shall provide temporary portable chemical toilet facilities for all construction personnel. Comply with regulations and health codes for the type, number, location, operation, and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs.
 - 1. Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Provide covered waste containers for used material.
 - 2. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy. Use of pit-type privies will not be permitted.
 - a. Provide separate facilities for male and female personnel.
- C. Temporary Construction:
 - 3. Temporary bridging, decks, hoists, lifts, scaffolding, and cranes shall be the responsibility of Contractor requiring same.
 - 4. Temporary entrances and exits to the building, shall be furnished, installed and maintained under the General Work Contractor (Contract #1) as directed by the Architect. Exits shall be maintained for exiting in emergency conditions until permanent structures are in place.
- D. Daily cleanup
 - 1. Dumpsters are to be provided by the General Work Contractor (Contract #1). See allowance specified under the summary of work. Dumpsters will be inspected to assure they are not misused and removed and hauled to a recycling center off site for processing. OWNER will not be responsible for the removal of any hazardous materials; this will be the responsibility of the prime contractor doing the same.
 - 2. The maintenance of a clean work site shall be the responsibility of each Contractor.
 - 3. Each Contractor shall remove own debris daily from work area to waste disposal containers (dumpsters), time lapse not acceptable.

4. The condition of cleanliness in which an area is found, is the condition each Contractor shall leave.
5. Each and every Contractor working on site shall submit manpower on Friday at 8 A.M. to work as a team to remove debris to dumpsters until complete. At discretion of the Architect, a Contractor not complying may be back-charged for work performed by others. The responsibility of broom cleaning and debris disposal remains with General Construction Contract and shall include use of sweeping compound.
6. Final cleaning shall be the responsibility of each Prime Contractor for his/her own work.
7. Protection of Work: Each Prime Contractor is reminded to temporarily protect work in place until accepted by the Owner per Article 10 of the General Conditions of the Contract.
8. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 3 days during normal weather or 1 day when the temperature is expected to rise above 80°F (27°C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully. First aid requirements are the responsibility of each Contractor.

3.2 INSTALLATION

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. The prime contractor shall provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.
- C. The prime Contractor will be responsible for hookup of own project trailers. Use of energy, including heat (shall be set back at night) if practical from electric service will be available. If abused, power from temporary service will be disconnected. All installations shall conform to strictest standards.

3.3 SAFETY

- A. Identification Badges with picture of worker and Contractor employer will be required.
- B. Personal Protection while on site is strictly enforced in accordance with OSHA regulations (All contractors on site will be 10 Hr OSHA certified) NO TOLERANCE for non-compliance.
- C. All prime contractors must have a bona-fide safety program manual on file with the Architect.
- D. All prime contractors must have tool-box meeting reports updated prior to submission of pay apps. (non-compliance will hold up req. process).
- E. Workers non-compliance of regs (includes ID badge, safety vests, personal protection as outlined by OSHA, security maintenance): Breach of rules, will be reported to the Foreman and Company employing the worker, and an immediate response is expected, or worker will forfeit his ID badge and be removed from the Project.

- F. If removing the worker causes a delay to other trades, or to the Job schedule, The company employing the removed worker, will be charged for lost time at the rate dictated by the affected trades, and may include multiple trades for schedule delays. These charges will be assessed at the time of req request, and automatically deducted prior to payment process. The Architect will maintain records of notification as well as photos of infraction and proof of Contractor notification, in order to enforce “back charge” for infractions.
- G. Emergency Notification: Off hour phone numbers of all trades shall be on file with the Architect, each trade shall designate an ON CALL person in the event of an emergency.

3.4 SUPPORT FACILITIES INSTALLATION

- A. Locate field offices, storage sheds, sanitary facilities, and other temporary construction and support facilities for easy access as directed by the Architect.
 - 1. Maintain support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.
- B. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully.

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Operations of the Contractor may not block, hinder, impede, or otherwise inhibit the safe and expeditious exiting of the building’s occupants during an emergency.
- B. In the event of an emergency, (designated by the sounding of the fire alarm system) all construction activities must immediately cease. Contractor’s work force will evacuate themselves from work areas and remain outside of work areas until the “all clear” is given. No work operations will be tolerated during the evacuation of the building or during an emergency.
- C. Temporary Facility Changeover: Except for using permanent fire protection as soon as available, do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion, or longer, as requested by the Architect.
- D. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed, provide lighting, including flashing red or amber lights.
- E. Enclosure Fence: General Work Contractor (Contract #1) shall before, site excavation begins, install an enclosure fence with lockable entrance gates. Locate where indicated, or enclose the entire site or the portion determined sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs, and other animals from easily entering the site, except by the entrance gates.
 - 1. Provide 200’ of open-mesh, 8-foot high chainlink fencing with posts at 8-feet on center, set in a compacted mixture of gravel and earth.

2. Provide min. 3 double swing access gates and man gates. Each gate is to have a chain and padlock.
 - a. Provide (2) keys for each lock to the Architect.
 3. Remove fence upon completion of all exterior activities or sooner if directed by Architect.
- F. Security Enclosure and Lockup: General Work Contractor (Contract #1) shall install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft and similar violations of security.
1. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.

3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. Termination and Removal: Unless the Architect requests that it be maintained longer, remove each temporary facility when the need has ended, when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
1. Materials and facilities that constitute temporary facilities are the property of each prime contractor. The Owner reserves the right to take possession of project identification signs.
 2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where the area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil in the area. 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 the temporary entrances, as required by the governing authority.
 3. At Substantial Completion, clean and renovate permanent facilities used during the construction period including, but not limited to, the following:
 - a. Replace air filters and clean inside of ductwork and housings.
 - b. Replace significantly worn parts and parts subject to unusual operating conditions.
 - c. Replace lamps burned out or noticeably dimmed by hours of use.

END OF SECTION

Section 015600: Affirmative Action

***The minimum contract award value to MWBEs by the General Work Contractor shall be a minimum of Two Hundred and Ninety-Eight Thousand Five Hundred Dollars (\$285,900).**

***Requirement established for compliance with NYSESD (New York State Empire State Development) Grant.**

1. UTILIZATION OF LOCAL MINORITY AND WOMEN OWNED BUSINESS ENTERPRISES (MWBEs) AND SERVICE DISABLED VETERAN-OWNED BUSINESSES (SDVOB)

A. Participation by local Minority and local Women-Owned Business Enterprises (MWBEs) and SDVOB (M/WBEs): The Contractor shall use every good faith effort to provide for meaningful Participation by M/WBEs and SDVOBs in the Work. Such good faith efforts shall include at least The following:

- i. Dividing the Work to be subcontracted into smaller portions where Technically feasible.
- ii. Actively and affirmatively soliciting bids for subcontracts from local Certified M/WBEs and SDVOBs including circulation of solicitations to local Minority And Women Contractors' Associations. Contractor shall maintain records Detailing the efforts made to provide for meaningful M/WBEs contacted And, if any such M/WBE is not selected as a joint venture or subcontractor, The reasons for such decision.
- iii. Making plans and specifications for prospective work available to certified M/WBEs and SDVOBs, in sufficient time for review.
- iv. Utilizing the services and cooperating with those organizations providing Technical assistance in connection with M/WBE and SDVOB participation.
- v. Utilizing the list of certified M/WBEs and SDVOBs maintained by the New York State Department of Economic Development, Division of Minority & Women's Business Development, NYSDOT, DASNY, OGS, Empire State Development, and any other certified Resource for the purpose of soliciting bids for subcontracts and supplies.
- vi. Encouraging the formation of joint ventures, partnerships or other similar Arrangements among subcontractors, where appropriate, to insure that Appropriate to insure that the Contractor will meet its obligations Hereunder.
- vii. Insuring that provisions are made to provide progress payments to certified M/WBEs and SDVOBs on a timely basis.
- viii. Not requiring bonds from and/or providing bonds and insurance for Certified M/WBEs and SDVOBs where appropriate.
- ix. The Contractor shall include the foregoing provisions (i) through (ix) in

Every subcontract or purchase order so that such provisions will be binding
Upon such subcontractor or supplier.

- x. NYS Certified MWBE Registry:
<https://ny.newnycontracts.com/FrontEnd/searchcertifieddirectory.asp>

2. AFFIRMATIVE ACTION: WORKFORCE (EEO)

A. Participation by local Minority Persons and Women: The Contractor shall use every Good faith effort to ensure meaningful participation by local Minority persons and Women in the Work. Such good faith efforts shall include at least the following:

- i. Ensure and maintain a working environment free of harassment, Intimidation and coercion. The Contractor shall specifically ensure that all Foremen, superintendents and other supervisory personnel are aware of and Carry out the Contractor's obligation to maintain such a working Environment.
- ii. Establish and maintain a current list of local Minority and Women Recruitment sources and notifies such sources and Minority community Organizations when employment opportunities are available, and maintain A record of the sources' and organizations' responses.
- iii. Maintain a file of the names and addresses of each local Minority person And Woman referred to it by an individual, recruitment source or Community organization and of what action was taken with respect to each Such referred individual. If the individual was not employed by the Contractor, the file should set forth reasons therefore.
- iv. Promptly notify the District when the unions with which the Contractor Has a collective bargaining agreement has not referred to Contractor a Minority person or Woman sent by the Contractor to such union for Employment in the work, or when it has other information that the union Referral process has impeded efforts to meet its obligations.
- v. Disseminate the Contractor's equal employment opportunity policy within Its organization by including it in any employee handbook or policy Manual; by publicizing it in company newspapers and annual reports; and By advertising such policy at reasonable intervals in union publications. The equal employment opportunity policy should be further disseminated By conduction staff meetings to explain and discuss the policy; by posting Of the policy at the site of any work and by review of the policy with Employees.
- vi. Disseminate the Contractor's equal employment opportunity policy Externally by informing and discussing it with all recruitment sources and Community organizations; by advertising in news media, specifically Including Minority and Women news media; and by notifying and Discussing it with all subcontractors.

- vii. Make specific and reasonably recurrent, written and oral recruitment Efforts, directed at Minority and Women's organizations, schools with Substantial Minority and Women enrollment, and to Minority and Women Recruitment and Training organizations within the Contractor's recruitment Area.
- ix. Ensure that seniority practices, job classifications, work assignments and Other personnel practices do not have a discriminatory effect.
- x. Ensure that all facilities and company activities are non-segregated except That to separate or single user toilet and necessary changing facilities shall Be provided to assure privacy between the sexes.
- xi. Continually monitor all personnel activities to ensure that it's equal Employment opportunity policy is being carried out including the Evaluation of Minority and Women employees for promotional Opportunities on an annual basis, and the encouragement of such Employees to seek those opportunities.
- xii. File monthly compliance reports relating to the operation and Implementations of Approved affirmative action programs.
- xiii. The contractor shall include the foregoing provisions (i) through (xiii) in Every subcontract or purchase order so that such provision will be binding Upon each subcontractor or supplier.

3. LOCAL MINORITY AND WOMEN PARTICIPATION

***The minimum contract award value to MWBEs by the General Work Contractor shall be a minimum of Two Hundred and Ninety-Eight Thousand Five Hundred Dollars (\$285,900).**

***Requirement established for compliance with NYSESD (New York State Empire State Development) Grant.**

A) Goals for Equal Employment Opportunity (EEO) Minority and Women Workforce Participation:

- i. The Contractor shall exert good faith efforts to achieve a 15% combined Goal for local minority and women workforce participation for each Occupation utilized in the work on an occupation basis including trainees.
- ii. The local Minority and Women workforce participation goals are Expressed for each occupation such that a percentage equal to the person hours Of training and employment in that occupation of Minority and Women workers used by the Contractor and any subcontractor in the work, Divided by the total person-hours of training and employment of all Workers in that occupation (including supervisory personnel) used by the Contractor and any subcontractor in the Work.
- iii. The Contractor shall not participate in the transfer of Minority or Women

Employees or trainees from employer-to-employer or from project-to-Project for the sole purpose of meeting the Contractor's obligations Hereunder.

- iv. In achieving the goals for local Minority and Women workforce Participation in the Work, the Contractor shall make every good faith and Reasonable effort to find and employ qualified local Minority and Women Supervisory personnel and journey persons.
- v. The non-working hours of trainees or apprentices may be considered in Meeting the goals for Minority and Women workforce participation if: (1) Such trainees or apprentices are employed by the Contractor during the Training period, (2) the Contractor has made a commitment to employ the Availability of employment opportunities; and (3) the trainees are trained Pursuant to a training program approved by the District.
- vi. The Contractor shall include the foregoing provisions (i) through (VI) in Every Subcontract, so that such provisions will be binding upon each Subcontractor.

B) Goals for local Minority and Women-Owned Business Enterprises Participation:

- i. The Contractor is required to achieve a 15% combined Goal for Minority Business Enterprise participation in the Work and Women Owned Business Enterprise participation in the Work.
- ii. The goal for participation in the conduct of the Work is expressed as a Percentage equal to the dollar value of the Work performed divided by the Contract Sum. Use of Minority Owner or Women Owned Supply firms is Encouraged but will not count toward achieving the above percentage goal.
- iii. The dollar value of the Work performed by MIWBEs will be determined As: (1) Where an MIWBE is not the Contractor - the dollar value of the Work subcontracted to Lobes, (2) where the Contractor is a joint Venture including one or more M/WBEs as joint ventures - the contract Sum multiplied by the percentage of the joint venture's profits (or losses) Which are to accrue to the M/WBE joint venture(s) under the joint venture? Agreement; and (3) Where any MIWBE is the Contractor or where the Contractor is a joint venture consisting entirely of MIWBEs, and the Contractor can document good faith efforts to subcontract to MIWBE Subcontractors and/or suppliers - the Contract Sum.

C. Compliance Reports: The Contractor shall file monthly compliance reports with The District regarding compliance with the provisions of this Article. Compliance Reports shall be filed within such time, shall contain such information and shall be In such form as the District may prescribe. Compliance Reports are to be Submitted with each monthly requisition for payment. Payment requisitions will Not be processed without the properly completed Compliance Reports.

D. Access to the Contractor's Books: The Contractor shall permit access to its books,

Records and accounts by the Owner for purposes of investigation to ascertain compliance with the provisions of this Article. The Contractor shall include this provision in every subcontract so that such provision will be binding upon each subcontractor.

4. DEFINITIONS

A. MINORITY OR WOMEN-OWNED BUSINESS ENTERPRISE (MWBE):

- At least 51% owned and controlled by the minority members and/or Women;
- The minority and/or women ownership interest, is real, substantial and Continuing;
- The minority and/or women ownership has and exercises the authority to Independently owned, operated and authorized to do business in NY State.
- Must be listed & certified by agencies per I.a.v on page AA-I.

Note: Businesses eligible to participate in the program must be owned and operated by women and/or minority group members who are citizens of the United States or permanent resident aliens. Generally they must be in operation for at least one year.

B. MINORITY GROUP MEMBER:

A United States citizen or permanent resident alien who has and can Demonstrate membership in one of the following groups:

- Black persons having origins in any of the Black African racial groups
- Hispanic persons of Mexican, Puerto Rican, Dominican, Cuban, Central or South American descent of either Indian or Hispanic origin, regardless of Race
- Native American or Alaskan native persons having origins in any of the Original people's of North America
- Asian and Pacific Islander persons having origins in any of the Far East countries, South East Asia, the Indian subcontinent or the Pacific Islands

C. CONTRACTOR:

An individual, a business enterprise including a sole proprietorship, a Partnership, a corporation, a not-for-profit corporation, or any other party to a State contract or a bidder in conjunction with the awarding of a state contract

END OF SECTION

Monthly Employment Utilization Report

U.S. Department of Labor

Employment Standards Administration
Office of Federal Contract Compliance Programs

This report is required by Executive Order 11246, Sec. 203. Failure to report can result in contracts being cancelled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts of federally assisted construction contracts.

1. Covered Area (SMSA or EA)

2. Employers I.D. No.

OMB No. 1215-01633
Expires: 12/13/92

3. Current Goals
Minority
Female **6.9%**

4. Reporting Period
From _____
To _____

Name and Location of Contractor

Federal
Funding
Agency

5. CONSTRUCTION TRADE	Classifications	6. TOTAL FEDERAL & NON-FEDERAL CONSTRUCTION WORK HOURS												9.		10.	
		6a. Total All Employees By Trade		6b. Black (Not of Hispanic Origin)		6c. Hispanic		6d. Asian or Pacific Islander		6e. American Indian or Native American		7, Minority Percentage	8. Female Percentage	Total Number of Employees		Total Number of Minority Employees	
		M	F	M	F	M	F	M	F	M	F			M	F	M	F
	Journey Worker																
	Apprentice																
	Trainee																
	Sub-Total																
	Journey Worker																
	Apprentice																
	Trainee																
	Sub-Total																
	Journey Worker																
	Apprentice																
	Trainee																
	Sub-Total																
	Journey Worker																
	Apprentice																
	Trainee																
	Sub-Total																
	Journey Worker																
	Apprentice																
	Trainee																
	Sub-Total																
Total Journey Worker																	
Total Apprentices																	
Total Trainees																	
Grand Total																	

11. Company Official's Signature and Title

12. Telephone Number
(Include area code)
()

13. Date Signed

Page

of

CONTRACTOR'S UTILIZATION PLAN

Contract No. _____

Contractor's Name, Address and Federal ID No.:		Contract Description/Location:		MBE <input type="checkbox"/> WBE <input type="checkbox"/>		Date Submitted:		Bid Date:		MWBE Goals	
Federal ID No.						Submittal No.:		Contract Amount:		MBE WBE	
Certified MBE/WBE Name and Address		Federal ID No.		MBE		WBE		Description of Subcontracting/Supplies		Contract Dollar Value	
				<input type="checkbox"/>	<input type="checkbox"/>						
				<input type="checkbox"/>	<input type="checkbox"/>						
				<input type="checkbox"/>	<input type="checkbox"/>						
				<input type="checkbox"/>	<input type="checkbox"/>						

Pursuant to Executive Law Article 15-A, my firm proposes to use the certified firms listed above.

Proposed Goal Attainment:

MBE % _____ MBE \$ _____ WBE % _____ WBE \$ _____

☐ Accepted ☐ Accepted as Noted ☐ Rejected

Reason: _____

Contractor's Signature _____ Title _____ Date _____

Authorized Signature _____ Date _____



Dormitory Authority State of New York
515 Broadway
Albany, New York 12207-2964

COMPLIANCE REPORT

Page __ of __

Payment Requisition Date: __/__/____

Payment Requisition Amount: \$ _____

PRIME CONTRACTOR / CONSULTANT / VENDOR INFORMATION

NAME:	PROJECT#	CONTRACT#	WORK AUTH# (if applicable):
ADDRESS: CITY, STATE ZIP:	FEDERAL ID#	INSTITUTION:	
CONTACT PERSON: (person completing form)	TELEPHONE# - - EMAIL:	WORK DESCRIPTION:	

<input type="checkbox"/> Please check here if you were granted a Total Waiver of the M/WBE Goals by receipt of letter dated: / /	<input type="checkbox"/> Please check here if you are a Professional Service Consultant & the original contract or Term Work Authorization amount is under \$50,000
<input type="checkbox"/> Please check here if you are a Construction Contractor and the original contract amount is under \$100,000.	<input type="checkbox"/> Please check here if you are a Commodity Vendor & the original purchase order/contract amount is under \$25,000.

SUBCONTRACTOR/SUBCONSULTANT and SUPPLIER PAYMENT INFORMATION

*** ALL M/WBE Firms must be listed.**
*** Non-M/WBE Firms with a "Total Value of Subcontract/PO" over \$10,000 must be listed.**

<input type="checkbox"/> Please check here if <u>no</u> subcontractors or suppliers are being utilized on this contract COMPANY INFORMATION	FEDERAL TAX ID NUMBER	CLASSIFICATION (select from both categories)		AMOUNT TO BE PAID OUT OF THE PROCEEDS OF THIS REQUISITION	TOTAL AMOUNT OF ALL PAYMENTS MADE PRIOR TO THIS REQUISITION	TOTAL VALUE OF SUBCONTRACT/PO's ISSUED
Name: Address: Work Description:		<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Non-M/WBE	<input type="checkbox"/> Subcontractor <input type="checkbox"/> Subconsultant <input type="checkbox"/> Supplier	\$	\$	\$
Name: Address: Work Description:		<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Non-M/WBE	<input type="checkbox"/> Subcontractor <input type="checkbox"/> Subconsultant <input type="checkbox"/> Supplier	\$	\$	\$
Name: Address: Work Description:		<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Non-M/WBE	<input type="checkbox"/> Subcontractor <input type="checkbox"/> Subconsultant <input type="checkbox"/> Supplier	\$	\$	\$
Name: Address: Work Description:		<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Non-M/WBE	<input type="checkbox"/> Subcontractor <input type="checkbox"/> Subconsultant <input type="checkbox"/> Supplier	\$	\$	\$
Name: Address: Work Description:		<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Non-M/WBE	<input type="checkbox"/> Subcontractor <input type="checkbox"/> Subconsultant <input type="checkbox"/> Supplier	\$	\$	\$

****False statements, information or data submitted on or with application for payment, may result in one or more of the following actions: Termination of Contract for cause; disapproval of future bids, contracts, or subcontracts; Withholding of final payments on the contract; and Civil and/or criminal prosecution.**

Principal's Signature:	Print Name and Title:	Date: / /
------------------------	-----------------------	-------------------



Dormitory Authority State of New York
515 Broadway
Albany, New York 12207-2964

COMPLIANCE REPORT

Continuation Sheet

Page __ of __

Payment Requisition Date: __/__/____

PRIME CONTRACTOR / CONSULTANT / VENDOR INFORMATION

NAME:	PROJECT#	CONTRACT#	WORK AUTH# (if applicable):
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SUBCONTRACTOR/SUBCONSULTANT and SUPPLIER PAYMENT INFORMATION

*** ALL M/WBE Firms must be listed.**
*** Non-M/WBE Firms with a "Total Value of Subcontract/PO" over \$10,000 must be listed.**

COMPANY INFORMATION	FEDERAL TAX ID NUMBER	CLASSIFICATION (select from both categories)		AMOUNT TO BE PAID OUT OF THE PROCEEDS OF THIS REQUISITION	TOTAL AMOUNT OF ALL PAYMENTS MADE PRIOR TO THIS REQUISITION	TOTAL VALUE OF SUBCONTRACT/PO'S ISSUED
Name: Address: Work Description:		<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Non-M/WBE	<input type="checkbox"/> Subcontractor <input type="checkbox"/> Subconsultant <input type="checkbox"/> Supplier	\$	\$	\$
Name: Address: Work Description:		<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Non-M/WBE	<input type="checkbox"/> Subcontractor <input type="checkbox"/> Subconsultant <input type="checkbox"/> Supplier	\$	\$	\$
Name: Address: Work Description:		<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Non-M/WBE	<input type="checkbox"/> Subcontractor <input type="checkbox"/> Subconsultant <input type="checkbox"/> Supplier	\$	\$	\$
Name: Address: Work Description:		<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Non-M/WBE	<input type="checkbox"/> Subcontractor <input type="checkbox"/> Subconsultant <input type="checkbox"/> Supplier	\$	\$	\$
Name: Address: Work Description:		<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Non-M/WBE	<input type="checkbox"/> Subcontractor <input type="checkbox"/> Subconsultant <input type="checkbox"/> Supplier	\$	\$	\$
Name: Address: Work Description:		<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Non-M/WBE	<input type="checkbox"/> Subcontractor <input type="checkbox"/> Subconsultant <input type="checkbox"/> Supplier	\$	\$	\$
Name: Address: Work Description:		<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Non-M/WBE	<input type="checkbox"/> Subcontractor <input type="checkbox"/> Subconsultant <input type="checkbox"/> Supplier	\$	\$	\$
Name: Address: Work Description:		<input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Non-M/WBE	<input type="checkbox"/> Subcontractor <input type="checkbox"/> Subconsultant <input type="checkbox"/> Supplier	\$	\$	\$

Compliance Report Instructions

This report is required with the submittal of each payment requisition. Payment will not be processed without a completed report with an original signature.

PRIME CONTRACTOR/CONSULTANT /VENDOR INFORMATION	Please provide all of the Prime and Project information as requested.
SUBCONTRACTOR/SUBCONSULTANT and SUPPLIER PAYMENT INFORMATION	<p>If you are not reporting any sub/supplier payments, please check the appropriate box.</p> <p>All of the M/WBE sub/supplier information requested must be provided.</p> <p><u>ALL</u> M/WBE Firms must be listed.</p> <p>Non-M/WBE Firms with a “Total Value of Subcontract/PO” over \$10,000 must be listed.</p> <p>ABOVE FIRMS MUST BE REPORTED EVEN IF THEY ARE NOT RECEIVING A PAYMENT THIS MONTH.</p> <p><i>** Only firms that have NYS Certification by the Empire State Development Corporation can be counted towards the M/WBE goal achievement for this contract.</i></p>

*****Please follow the instructions below carefully.***

AMOUNT TO BE PAID OUT OF THE PROCEEDS OF THIS REQUISITION	<p>Indicate the amount <u>TO BE PAID</u> to each sub/supplier from the money you will receive from this requisition. If no payment will be made, enter \$0</p> <p><i>*This is not the amount that you “intend” to pay over the life of the contract.</i></p>
TOTAL AMOUNT OF ALL PAYMENTS MADE PRIOR TO THIS REQUISITION	<p>Indicate the amount that has <u>ACTUALLY</u> been paid to date.</p> <p>Note: DO NOT include the amount to be paid out of the proceeds of this requisition.</p> <p><i>*M/WBE amounts will be verified by DASNY’s Office of Opportunity Programs through the receipt of copies of canceled checks. You may attach (please staple!) check copies to the report for expediency.</i></p>
TOTAL VALUE OF ALL SUBCONTRACT/PO’s ISSUED	<p>Indicate the total value to date of ALL subcontract agreements issued by your company to the subcontractors/suppliers for this contract. This should be inclusive of any change orders issued to the original contract.</p> <p>-or-</p> <p>Indicate the total amount of ALL purchase orders issued by your company to the subcontractors/suppliers for this contract.</p>

Questions regarding the completion of the form may be directed to DASNY’s Office of Opportunity Programs at : (518) 257-3465 or you may e-mail your questions to croops@dasny.org



INSTRUCTIONS: This form must be submitted with any bid, proposal, or proposed negotiated contract or within a reasonable time thereafter, but prior to contract award. This MWBE and SDVOB Utilization Plan must contain a detailed description of the supplies and/or services to be provided by each certified Minority and Women-owned Business Enterprise (M/WBE) and/or Service Disabled Veteran Owned Business (SDVOB) under the contract. Attach additional sheets if necessary.

* indicates mandatory fields

* Contractor Name: _____

Address: _____

* Representative Name: _____

Town, State & Zip: _____

* Phone: _____

* ESD Contract/Project Number: _____

* Fax: _____

RFP/RFQ/Solicitation Number: _____

* Email: _____

* MWBE Goal: MBE _____% + WBE _____% = MWBE GOAL _____%

* Total Dollar Value of Contract/Grant: \$ _____

* SDVOB Goal: _____%

1. * Certified MWBE or SDVOB Firm Name, Contact Person's Name, Address, Phone and Email.	2. * Check All That Apply	3. * Federal ID No.	4. Detailed Description of Work (Attach additional sheets, if necessary, Attach Contract if available)	5. Dollar Value of Contract (if unavailable or yet undetermined, indicate \$1)
A.	<u>NYS CERTIFIED</u> <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB			
B.	<u>NYS CERTIFIED</u> <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB			



OCSD-4

6. If unable to fully meet the MWBE and/or SDVOB goals set forth in the contract, the Contractor must submit a Waiver Request form, which may be obtained from the Office of Contractor and Supplier Diversity, at OCSD@ESD.NY.GOV.

PREPARED BY (Signature): _____ DATE: _____

Preparer's Name (Print or Type): _____

Preparer's Title: _____

Date: _____

SUBMISSION OF THIS FORM CONSTITUTES THE CONTRACTOR'S ACKNOWLEDGEMENT AND AGREEMENT TO COMPLY WITH THE MWBE AND SDVOB REQUIREMENTS SET FORTH UNDER NYS EXECUTIVE LAW ARTICLES 15-A AND 17-B, 5 NYCRR PART 143, 9 NYCRR PART 252, AND THE ABOVE-REFERENCED SOLICITATION. FAILURE TO SUBMIT COMPLETE AND ACCURATE INFORMATION MAY RESULT IN A FINDING OF NONCOMPLIANCE AND POSSIBLE TERMINATION OF YOUR CONTRACT.

The MWBE Certification status of the firms listed on this form **MUST** be verified using the New York State Contract System's Directory of Certified Minority and Women-owned Business Enterprises.

This directory is available at <https://ny.newnycontracts.com>.

The SDVOB Certification status of the firms listed on this form **MUST** be verified using the Directory of New York State Certified Service-Disabled Veteran-Owned Businesses.

This directory is available at <https://online.ogs.ny.gov/SDVOB/search>.

TELEPHONE NO.:

EMAIL ADDRESS:

**** FOR OCSD USE ONLY ****

REVIEWED BY:

DATE:

UTILIZATION PLAN APPROVED?

☐ YES ☐ NO Date:

Contract No.:

Project No. (if applicable):

Contract Award Date:

Estimated Date of Completion:

Amount Obligated Under the Contract:

Description of Work:

NOTICE OF DEFICIENCY ISSUED?

☐ YES ☐ NO Date of Issue:

NOTICE OF ACCEPTANCE ISSUED?

☐ YES ☐ NO Date of Issue:

**NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(EXECUTIVE ORDER 11246 AND 41 CFR PART 60-4)**

The following Notice shall be included in, and shall be a part of all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of \$10,000.

The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables	Goals for minority participation for each trade	Goals for female participation for each trade
	%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is:

State of _____

County of _____

City of _____

SECTION 016000: PRODUCT REQUIREMENTS**PART 1: GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Special Conditions- wherever similar requirements of this section are present in the Special Conditions the more stringent of the two shall apply as determined by the Architect.

1.2 SUMMARY

- A. This Section includes the following administrative and procedural requirements: selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and equivalent products.

1.3 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.
 - 3. Equivalent Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the Contractor after award of the Contract are considered to be requests for substitutions. The following are not considered to be requests for substitutions:
 - 1. Substitutions requested during the bidding period and accepted by Addendum prior to award of the Contract.
 - 2. Specified options for products and construction methods included in the Contract Documents.
 - 3. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.
- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating equivalent products of other named manufacturers.

- D. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
- E. Special Warranty: Written warranty required by or incorporated into the Contract Documents to extend time limit provided, either by manufacturer's warranty or to provide more rights for Owner.

1.4 SUBMITTALS

- A. Submittals shall comply with the requirements of the Construction Contract Clauses, Division 1 section "SUBMITTAL PROCEDURES" and the individual sections specifying the work.
- B. Product List: Submit a list, in tabular form, showing specified products. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.
 - 1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
 - 2. Form: Tabulate information for each product under the following column headings:
 - a. Specification Section number and title.
 - b. Generic name used in the Contract Documents.
 - c. Proprietary name, model number, and similar designations.
 - d. Manufacturer's name and address.
 - e. Supplier's name and address.
 - f. Installer's name and address.
 - g. Projected delivery date or time span of delivery period.
 - h. Identification of items that require early submittal approval for scheduled delivery date.
 - 3. Initial Submittal: Within 15 workdays after date of commencement of the Work, submit 3 copies of initial product list. Include a written explanation for omissions of data and for variations from Contract requirements.
 - a. At Contractor's option, initial submittal may be limited to product selections and designations that must be established early in Contract period.
 - 4. Completed List: Within 30 workdays after date of commencement of the Work, submit 3 copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.
 - 5. Architect's Action: Architect will respond in writing to Contractor within 10 workdays of receipt of completed product list. Architect's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Architect's response, or lack of response, does not constitute a waiver of requirement that products comply with the Contract Documents.
- C. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use form provided in Specification Section entitled "PROJECT FORMS AND RELATED DOCUMENTS".
 - 2. Submit 3 copies of each request for substitution.
 - 3. Identify the product or the fabrication or installation method to be replaced in each request. Include related specification section and Drawing numbers.

4. Provide complete documentation including but not limited to the following information, as appropriate:
 - a. Statement indicating why specified material or product cannot be provided.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by others that will be necessary to accommodate the proposed substitution.
 - c. A detailed comparison of the significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include performance, weight, size, durability and visual effect.
 - d. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - e. Product data and drawings, including descriptions of products and fabrication and installation procedures.
 - f. Samples, where applicable or requested.
 - g. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
 - h. Cost information, including a proposal of the net change, if any, in the Contract price.
 - i. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - j. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
 - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
 - l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
5. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 10 workdays of receipt of request, or 5 workdays of receipt of additional information or documentation, whichever is later.
 - a. Form of Acceptance: Change Order.
 - b. Use product specified if Architect can not make a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

- A. Source Limitations: To the fullest extent possible, provide products of the same kind from a single source. Equipment of the same function shall be manufactured by the same entity, unless otherwise indicated.

- B. Compatibility of Options: When the Contractor is given the option of selecting between 2 or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.
- C. Labels and nameplates: Except for required labels and operating data, do not attach or imprint manufacturers or producer's nameplates or trademarks on surfaces of products that will be exposed to view in occupied spaces or on the exterior.
 - 1. Labels: Locate required product labels and stamps on concealed surfaces or, where required for observation after installation, on accessible surfaces that are not conspicuous.
 - 2. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate nameplate on an easily accessible surface that is inconspicuous in occupied spaces. The nameplate shall contain the following information:
 - a. Name of product manufacturer.
 - b. Model and serial numbers.
 - c. Operating data such as capacity, speed and ratings.
 - 3. Protection: Labels and nameplates shall be protected from defacement and other damage during the remainder of the Work.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
 - 5. Store products to allow for inspection and measurement of quantity or counting of units.
 - 6. Store materials in a manner that will not endanger Project structure.
 - 7. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 - 8. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 - 9. Protect stored products from damage.
- B. Storage: Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: Forms are included with the Specifications. Prepare a written document using appropriate form properly executed.
 - 3. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties. Insert specific requirements if a single warranty must cover work by several contractors. Prepare draft of such warranty with advice of Owner's legal counsel and include it at end of this Section.

PART 2: PRODUCTS

2.1 PRODUCT OPTIONS

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged, and unless otherwise indicated, that are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," Architect will make selection.
 - 5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
 - 6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
 - 7. Equalivant: Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "or approved," comply with provisions in "Equalivant Products" Article to obtain approval for use of an unnamed product.
- B. Product Selection Procedures: Procedures for product selection include the following:
 - 1. Available Products: Where Specification paragraphs or subparagraphs titled "Available Products" introduce a list of names of both products and manufacturers, provide one of the products listed or another product that complies with requirements. Comply with provisions in "Equalivant Products" Article to obtain approval for use of an unnamed product.

2. Available Manufacturers: Where Specification paragraphs or subparagraphs titled "Available Manufacturers" introduce a list of manufacturers' names, provide a product by one of the manufacturers listed or another manufacturer that complies with requirements. Comply with provisions in "Equalivnt Products" Article to obtain approval for use of an unnamed product.
3. Basis-of-Design Products: Where Specification paragraphs or subparagraphs titled "Basis-of-Design Products" are included and also introduce or refer to a list of manufacturers' names, provide either the specified product or an equalivnt product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in "Equalivnt Products" Article to obtain approval for use of an unnamed product.
4. Visual Matching Specification: Where Specifications require matching an established Sample, select a product (and manufacturer) that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches satisfactorily.
 - a. If no product available within specified category matches satisfactorily and complies with other specified requirements, comply with provisions of the Contract Documents on "substitutions" for selection of a matching product.
5. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, and textures" or a similar phrase, select a product (and manufacturer) that complies with other specified requirements.
 - a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that does not include premium items.
 - b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that includes both standard and premium items.
6. Descriptive Requirements: Where Specifications describe a product or assembly, listing exact characteristics required, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.
7. Performance Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements and are recommended by the manufacturer for the application indicated. Manufacturer's recommendations may be contained in published product literature or by the manufacturer's certification of performance.
8. Prescriptive Requirements: Where Specifications require products that are produced using specified ingredients and components, including specific requirements for mixing, fabricating, curing, finishing, testing and similar operations in the manufacturing process, provide products produced in accordance with the prescriptive requirements that otherwise comply with Contract requirements.
9. Codes, Standards and Regulations: Where Specifications require compliance with an imposed code, standard or regulation; select a product that complies with the codes, standards or regulations specified.

2.2**PRODUCT SUBSTITUTIONS**

- A. Timing: Architect will consider requests for substitution if received within 60 days after commencement of the Work. Requests received after that time may be considered or rejected at discretion of Architect.
- B. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - 1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
 - 2. Requested substitution does not require extensive revisions to the Contract Documents.
 - 3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - 4. The request is timely, fully documented, and properly submitted.
 - 5. The specified product or method of construction cannot be provided within the Contract Time. The Architect will not consider the request if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.
 - 6. The specified product or method of construction cannot be provided in a manner that is compatible with other materials and where the Contractor certifies that, the substitution will overcome the incompatibility.
 - 7. The specified product or method of construction cannot be coordinated with other materials and where the Contractor certifies that the proposed substitution can be coordinated.
 - 8. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provides the required warranty.
 - 9. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - 10. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

2.3 EQUALIVANT PRODUCTS

- A. Where products or manufacturers are specified by name, submit the following, in addition to other required submittals, to obtain approval of an unnamed product:
 - 1. Evidence that the proposed product does not require extensive revisions to the Contract Documents that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 - 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - 3. Evidence that proposed product provides specified warranty.
 - 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 - 5. Samples, if requested.

PART 3: EXECUTION

3.1 INSTALLATION OF PRODUCTS

- A. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.
 - 1. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION

SECTION 017300: EXECUTION**PART 1: GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Special Conditions- wherever similar requirements of this section are present in the Special Conditions the more stringent of the two shall apply as determined by the Architect.

1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. General installation of products.
 - 4. Coordination of Owner-installed products.
 - 5. Progress cleaning.
 - 6. Starting and adjusting.
 - 7. Protection of installed construction.
 - 8. Correction of the Work.

1.3 SUBMITTALS

- A. Qualification Data: For land surveyor to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- B. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.
- C. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.
- D. Certified Surveys: Submit two copies signed by land surveyor.
- E. Final Property Survey: Submit 10 copies showing the Work performed and record survey data.

1.4 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

PART 2: PRODUCTS (Not Used)**PART 3: EXECUTION****3.1 EXAMINATION**

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
 - 1. Before construction, verify the location and points of connection of utility services.
- C. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- D. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - a. Description of the Work.
 - b. List of detrimental conditions, including substrates.
 - c. List of unacceptable installation tolerances.
 - d. Recommended corrections.
 - 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Coordinate with requirements specified in Division 1 Section "Temporary Facilities and Controls" for temporary utilities.

- C. Existing Utility Interruptions: 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 Architect and Owner not less than five days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Architect's & Owner's written permission.
- D. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- E. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- F. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.
- B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.
 - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 - 2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 - 3. Inform installers of lines and levels to which they must comply.
 - 4. Check the location, level and plumb, of every major element as the Work progresses.
 - 5. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
 - 6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

- A. Identification: Owner will identify existing benchmarks, control points, and property corners.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
 - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
 - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
- D. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and site work.
- E. Final Property Survey: Prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.
 - 1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.
 - 2. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.5 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
 - 4. Maintain minimum headroom clearance of 10 feet in spaces without a suspended ceiling.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produces harmful noise levels.
- F. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
- G. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- H. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 OWNER-INSTALLED PRODUCTS

- A. Site Access: Provide access to Project site for Owner's construction forces.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction forces.
 - 1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
 - 2. Preinstallation Conferences: Include Owner's construction forces at pre-installation conferences covering portions of the Work that are to receive Owner's work. Attend pre-installation conferences conducted by Owner's construction forces if portions of the Work depend on Owner's construction.

3.7 PROGRESS CLEANING

- A. Requirements for final cleaning before Substantial Completion are included in Division 1 Section "Closeout Procedures."
- B. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- C. Site: Maintain Project site free of waste materials and debris.

- D. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- E. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- F. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- G. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- H. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.
 - 1. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.
- I. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- J. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- K. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- L. Limiting Exposures: Supervise construction operations to assure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust operating components for proper operation without binding. Adjust equip. for oper.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 1 Section "Quality Requirements."

3.9 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.10 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 1 Section "Cutting and Patching."
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION

SECTION 017329: CUTTING AND PATCHING**PART 1: GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Special Conditions- wherever similar requirements of this section are present in the Special Conditions the more stringent of the two shall apply as determined by the Architect.

1.2 SUMMARY

- A. This Section includes procedural requirements for cutting and patching.

1.3 DEFINITIONS

- A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work, including, but not limited to; cutting, drilling, chopping, and other similar operations.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation or removal of other Work, including, but not limited to; patching, rebuilding, reinforcing, repairing, refurbishing, restoring, replacing, an other similar operations to match adjoining surfaces.

1.4 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
 - 1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
 - 2. Changes to Existing Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
 - 3. Products: List products to be used and firms or entities that will perform the Work.
 - 4. Dates: Indicate when cutting and patching will be performed.
 - 5. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.
 - 6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.

1.5 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
 - 1. Obtain approval of the cutting and patching proposal before cutting and patching the following structural elements:

- a. Foundation construction
 - b. Bearing and retaining walls
 - c. Structural concrete
 - d. Structural steel
 - e. Lintels
 - f. Timber and primary wood framing
 - g. Structural decking
 - h. Stair systems
 - i. Miscellaneous structural metals
 - j. Exterior curtain-wall construction
 - k. Equipment supports
 - l. Piping, ductwork, vessels, and equipment
 - m. Structural systems of special construction in Division 13 Sections.
- B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or those results in increased maintenance or decreased operational life or safety.
- 1. Obtain approval of the cutting and patching proposal before cutting and patching the following operating elements or safety related systems:
 - a. Primary operational systems and equipment
 - b. Air or smoke barriers
 - c. Water, moisture, or vapor barriers
 - d. Membranes and flashings
 - e. Fire protection systems
 - f. Noise and vibration control elements and systems
 - g. Control systems
 - h. Communication systems
 - i. Conveying systems
 - j. Electrical wiring systems
 - k. Operating systems of special construction in Division 13 Sections
- C. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- 1. If possible, retain the original install or fabricator to cut and patch the exposed Work listed below. If it is impossible to engage the original installer or fabricator, engage another recognized experienced and specialized firm.
 - a. Firestopping
 - b. Acoustical ceilings
 - c. Acoustical panels
 - d. Finished wood flooring
 - e. Synthetic sports flooring
 - f. Carpeting
 - g. HVAC enclosures, cabinets, or covers
 - h. Ceramic and quarry tile
 - i. Gypsum board
 - j. Masonry (exterior and interior where exposed)

- k. Tack boards
 - l. Casework
 - m. Finish carpentry
- D. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or those results in increased maintenance or decreased operational life or safety.
 - 1. Water, moisture, or vapor barriers.
 - 2. Membranes and flashings.
 - 3. Exterior curtain-wall construction.
 - 4. Equipment supports.
 - 5. Piping, ductwork, vessels, and equipment.
 - 6. Noise- and vibration-control elements and systems.

1.6 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2: PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections of these Specifications.
- B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

PART 3: EXECUTION

1.7 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

- D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to minimize interruption of services to occupied areas.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Division 2 Sections where required by cutting and patching operations.
 - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 6. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 - 4. Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

END OF SECTION

SECTION 017419: CONSTRUCTION WASTE MANAGEMENT & DISPOSAL**PART 1: GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Special Conditions- wherever similar requirements of this section are present in the Special Conditions the more stringent of the two shall apply as determined by the Architect.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for the following:
 - 1. Disposing of nonhazardous demolition and construction waste.
- B. See Division 1 Section "Selective Demolition" for disposition of waste resulting from partial demolition of buildings.

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 the Work.

1.4 SUBMITTALS

- A. Waste Management Plan: Submit **3** copies of plan within **7** days of date established for the Notice to Proceed.

- B. 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.

1.5 WASTE MANAGEMENT PLAN

- A. General: Develop plan consisting of waste identification and waste reduction work plan. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of demolition and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
 - 1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
 - 2. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 - 3. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
 - 4. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

PART 2: PRODUCTS (Not Used)

PART 3: EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement waste management plan as approved by Owner. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
- B. 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.

3.2 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle all demolition materials accepted by local recyclers. Recycle paper and beverage containers used by on-site workers. Recycle packaging and shipping pallets.

1. As much as possible, require deliveries using pallets to remove pallets from Project site.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.
- C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.
 1. Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 4. Store components off the ground and protect from the weather.
 5. Remove recyclable waste off Owner's property and transport to recycling receiver or processor.

3.3 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

SECTION 017700: 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 01 Specification Sections, apply to this Section.
- B. Special Conditions- wherever similar requirements of this section are present in the Special Conditions the more stringent of the two shall apply as determined by the Architect.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Project Record Documents.
 - 3. Operation and maintenance manuals.
 - 4. Warranties.
 - 5. Instruction of Owner's personnel.
 - 6. Final cleaning.

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 in request.
 - 1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete.
 - a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
 - b. If 100 percent completion cannot be shown, 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 photographs, 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 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. Complete startup testing of systems.

9. Submit test/adjust/balance records.
 10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 11. Advise Owner of changeover in heat and other utilities.
 12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
 13. Complete final cleaning requirements, including touchup painting.
 14. 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, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect 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 Architect 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 date of Final Completion, complete the following:
1. Submit a final Application for Payment according to Division 1 Section entitled "PAYMENT PROCEDURES."
 - a. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
 2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. 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 final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion or when the Owner took possession of and assumed responsibility for corresponding elements of the Work.
 5. Submit consent of surety to final payment.
 6. Submit pest-control final inspection report and warranty.
 7. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training videotapes.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction 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.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three copies 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. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 3. Include the following information at the top of each page:
 - a. Project Name
 - b. Date
 - c. Name of Architect
 - d. Name of Contractor
 - e. Page Number

1.6 PROJECT RECORD DOCUMENTS

- A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.
- B. Record Drawings: Maintain and submit one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.
1. Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity that obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
 - b. Accurately record information in an understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 - d. Mark Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings.
 2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 3. Mark important additional information that was either shown schematically or omitted from original Drawings.
 4. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
 5. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.
- C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy 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. Note related Change Orders, Record Drawings, and Product Data, where applicable.
- D. Record Product Data: Submit one copy of each Product Data submittal. Mark one set to indicate the actual product installation where installation varies substantially from that indicated in Product Data.
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 Drawings, and Record Specifications, where applicable.
- E. Record Sample Submitted: Immediately prior to Substantial Completion, the Contractor shall meet with the Architect and the Owner's personnel at the Project Site to determine which Samples are to be transmitted to the Owner for record purposes. Comply with the Owner's instructions regarding delivery to the owner's Sample storage area.
- F. Miscellaneous Record Submittals: 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.

1.7 OPERATION AND MAINTENANCE MANUALS

- A. Assemble a complete set of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system. Include operation and maintenance data required in individual Specification Sections and as follows:
1. Operation Data:
 - a. Emergency instructions and procedures.
 - b. System, subsystem, and equipment descriptions, including operating standards.
 - c. Operating procedures, including startup, shutdown, seasonal, and weekend operations.
 - d. Description of controls and sequence of operations.
 - e. Piping diagrams.
 2. Maintenance Data:
 - a. Manufacturer's information, including list of spare parts.
 - b. Name, address, and telephone number of Installer or supplier.
 - c. Maintenance procedures.
 - d. Maintenance and service schedules for preventive and routine maintenance.
 - e. Maintenance record forms.
 - f. Sources of spare parts and maintenance materials.
 - g. Copies of maintenance service agreements.
 - h. Copies of warranties and bonds.
 - i. Wiring Diagrams
 - j. Fixture lamping schedule

- B. Organize operation and maintenance manuals into suitable sets of manageable size. Bind and index data in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, with pocket inside the covers to receive folded oversized sheets. Identify each binder on front and spine with the printed title "OPERATION AND MAINTENANCE MANUAL," Project name, and subject matter of contents.

1.8 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (115-by-280-mm) paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

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 DEMONSTRATION AND TRAINING

- A. Instruction: Instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. Provide instructors experienced in operation and maintenance procedures.
 - 2. Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
 - 3. Schedule training with Owner, through Architect, with at least seven days' advance notice.
 - 4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.

- B. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline. Include instruction for the following:
1. System design and operational philosophy.
 2. Review of documentation.
 3. Operations.
 4. Adjustments.
 5. Troubleshooting.
 6. Maintenance / Maintenance agreements and similar continuing commitments
 7. Repair.
 8. Spare Parts and Materials
 9. Tools
 10. Lubricants
 11. Fuels
 12. Identification Systems
 13. Control Sequences
 14. Hazards
 15. Cleaning
- C. As part of instruction for operating equipment, demonstrate the following procedures:
1. Start-up
 2. Shutdown
 3. Emergency operations
 4. Noise and vibration adjustments
 5. Safety procedures
 6. Economy and efficiency adjustments
 7. Effective energy utilization
- D. Record "As-Built" Drawings
1. Upon completion of the Work, and review of the record drawings by the Architect, prepare a final set of record drawings. Submit final set of transparencies to the Architect.
 2. The cost of furnishing above prints and preparing these record drawings shall be included in the Contract price.

3.2 FINAL CLEANING

- A. General: Provide 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. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. If final cleaning is delayed until final acceptance, revise subparagraph below.

2. The General Work Contractor (Contract #1) shall 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. Remove snow and ice to provide safe access to building.
 - d. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - e. Sweep concrete floors broom clean in unoccupied spaces.
 - f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - g. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - h. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - i. 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.
 - j. Clean windows adjacent to areas of work, inside and outside including frames.
 - k. 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.
 - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 - l. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - m. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

SECTION 017823: OPERATION AND MAINTENANCE DATA**PART 1: GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Special Conditions- wherever similar requirements of this section are present in the Special Conditions the more stringent of the two shall apply as determined by the Architect.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory.
 - 2. Emergency manuals.
 - 3. Operation manuals for systems, subsystems, and equipment.
 - 4. Maintenance manuals for the care and maintenance of systems and equipment.

1.3 DEFINITIONS

Definition in first paragraph below is from ASHRAE's "Technology Handbook."

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 SUBMITTALS

Usually retain first paragraph below, which gives Architect an opportunity to review contents before Substantial Completion.

- A. Initial Submittal: Submit 2 draft copies of each manual at least 15 days before requesting inspection for Substantial Completion. Include a complete operation and maintenance directory. Architect will return 1 copy of draft and mark whether general scope and content of manual are acceptable.
- B. Final Submittal: Submit 1 copy of each manual in final form at least 15 days before final inspection. Architect will return copy with comments within 15 days after final inspection.
 - 1. Correct or modify each manual to comply with Architect's comments. Submit 3 copies of each corrected manual within 15 days of receipt of Architect's comments.

1.5 COORDINATION

- A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

PART 2: PRODUCTS**2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY**

- A. Organization: Include a section in the directory for each of the following:
 - 1. List of documents.
 - 2. List of systems.
 - 3. List of equipment.
 - 4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with the same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 MANUALS, GENERAL

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 - 1. Title page.
 - 2. Table of contents.
 - 3. Manual contents.
- B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:

Revise list below to suit Project.

- 1. Subject matter included in manual.
 - 2. Name and address of Project.
 - 3. Name and address of Owner.
 - 4. Date of submittal.
 - 5. Name, address, and telephone number of Contractor.
 - 6. Name and address of Architect.
 - 7. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
 - 1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

Paragraph and subparagraphs below describe typical requirements for binding copies of operation and maintenance manuals. Revise to suit Project.

- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

Revise subparagraphs and associated subparagraphs below to suit Project. An alternate binding is a post-type fastener.

1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

Revise both subparagraphs below to suit Project.

- a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.

In subparagraph below, insert special requirements such as indicating five-digit Section number on bottom of spine for identification.

- b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.

Subparagraph below provides protection for troubleshooting software diskettes used in some operation systems. Delete requirements if unnecessary.

3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.

Requirements in subparagraphs below are normal. Insert unique requirements, such as special paper or plastic lamination of important items for permanent preservation, if needed.

4. Supplementary Text: Prepared on 8-1/2-by-11-inch, 20-lb/sq. ft. white bond paper.
5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.

Avoid placing loose, oversize drawings in binder pockets. Use reduced drawings or place folded drawings in labeled envelopes bound in manual.

- b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 EMERGENCY MANUALS

- A. Include emergency information that must be immediately available during emergency situations to protect life and property and to minimize disruptions to building occupants.
- B. Content: Organize manual into a separate section for each of the following:
 - 1. Type of emergency.
 - 2. Emergency instructions.
 - 3. Emergency procedures.
- C. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
 - 1. Fire.
 - 2. Flood.
 - 3. Gas leak.
 - 4. Water leak.
 - 5. Power failure.
 - 6. Water outage.
 - 7. System, subsystem, or equipment failure.
 - 8. Chemical release or spill.
- D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- E. Emergency Procedures: Include the following, as applicable:
 - 1. Instructions on stopping.
 - 2. Shutdown instructions for each type of emergency.
 - 3. Operating instructions for conditions outside normal operating limits.
 - 4. Required sequences for electric or electronic systems.
 - 5. Special operating instructions and procedures.

2.4 OPERATION MANUALS

Include information needed for daily operations and management of systems and equipment.

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
 - 1. System, subsystem, and equipment descriptions.
 - 2. Performance and design criteria if Contractor is delegated design responsibility.
 - 3. Operating standards.
 - 4. Operating procedures.
 - 5. Operating logs.
 - 6. Wiring diagrams.
 - 7. Control diagrams.
 - 8. Piped system diagrams.
 - 9. Precautions against improper use.
 - 10. License requirements including inspection and renewal dates.
- B. Descriptions: Include the following:

1. Product name and model number.
 2. Manufacturer's name.
 3. Equipment identification with serial number of each component.
 4. Equipment function.
 5. Operating characteristics.
 6. Limiting conditions.
 7. Performance curves.
 8. Engineering data and tests.
 9. Complete nomenclature and number of replacement parts.
- C. Operating Procedures: Include the following, as applicable:
1. Startup procedures.
 2. Equipment or system break-in procedures.
 3. Routine and normal operating instructions.
 4. Regulation and control procedures.
 5. Instructions on stopping.
 6. Normal shutdown instructions.
 7. Seasonal and weekend operating instructions.
 8. Required sequences for electric or electronic systems.
 9. Special operating instructions and procedures.
- D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.
- E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.5 PRODUCT MAINTENANCE MANUAL

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B. Source Information: List each product included in manual identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Product Information: Include the following, as applicable:
1. Product name and model number.
 2. Manufacturer's name.
 3. Color, pattern, and texture.
 4. Material and chemical composition.
 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
1. Inspection procedures.
 2. Types of cleaning agents to be used and methods of cleaning.
 3. List of cleaning agents and methods of cleaning detrimental to product.
 4. Schedule for routine cleaning and maintenance.

5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 1. Include procedures to follow and required notifications for warranty claims.

2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in the manual identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
 1. Standard printed maintenance instructions and bulletins.
 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 3. Identification and nomenclature of parts and components.
 4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
 1. Test and inspection instructions.
 2. Troubleshooting guide.
 3. Precautions against improper maintenance.
 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 5. Aligning, adjusting, and checking instructions.
 6. Demonstration and training videotape, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
 1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 2. Maintenance and Service Record: Include manufacturers' forms for maintenance.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

- H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

PART 3: EXECUTION

3.1 MANUAL PREPARATION

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.
- B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
 - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 - 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - 1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.
 - 1. Do not use original Project Record Documents as part of operation manuals.
 - 2. Comply with requirements of newly prepared Record Drawings in Division 1 Section "Project Record Documents."
- G. Comply with Division 1 Section "Closeout Procedures" for the schedule for submitting operation and maintenance documentation.

END OF SECTION

SECTION 017839: PROJECT RECORD DOCUMENTS**PART 1: GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Special Conditions- wherever similar requirements of this section are present in the Special Conditions the more stringent of the two shall apply as determined by the Architect.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.

1.3 SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set of marked-up Record Prints.
 - 2. Number of Copies: Submit copies of Record Drawings as follows:
 - a. Initial Submittal: Submit one set of plots from corrected Record CAD Drawings and one set of marked-up Record Prints. Architect will initial and date each plot and mark whether general scope of changes, additional information recorded, and quality of drafting are acceptable. Architect will return plots and prints for organizing into sets, printing, binding, and final submittal.
 - b. Final Submittal: Submit one set of marked-up Record Prints, one set of Record CAD Drawing files, one set of Record CAD Drawing plots, and three copies printed from record plots. Plot and print each Drawing, whether or not changes and additional information were recorded.
 - 1) Electronic Media: CD-ROM.
- B. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit one copy of each Product Data submittal.
 - 1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in the manual instead of submittal as Record Product Data.

PART 2: PRODUCTS**2.1 RECORD DRAWINGS**

- A. Paragraph below contains normal recording procedures regardless of requirements for final output.
- B. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.

1. 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 prepare the 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 understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 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. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Construction Change Directive.
 - k. Changes made following Architect's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
 3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the 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.
- C. Record Transparencies: Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Prints with Architect. When authorized, prepare a full set of corrected transparencies of the Contract Drawings and Shop Drawings.
1. Incorporate changes and additional information previously marked on Record Prints. Erase, redraw, and add details and notations where applicable.
 2. Refer instances of uncertainty to Architect for resolution.
 3. Owner will furnish Contractor one set of transparencies of the Contract Drawings for use in recording information.
 4. Print the Contract Drawings and Shop Drawings for use as Record Transparencies. Architect will make the Contract Drawings available to Contractor's print shop.
- D. Record CAD Drawings: Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Prints with Architect. When authorized, prepare a full set of corrected CAD Drawings of the Contract Drawings, as follows:

1. Format: Same CAD program, version, and operating system as the original Contract Drawings.
 2. Format: DWG, Latest Version of AutoCAD, operating in Windows XP 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 Architect for resolution.
 5. Architect will furnish Contractor one set of CAD Drawings of the Contract Drawings for use in recording information.
 - a. Architect makes no representations as to the accuracy or completeness of CAD Drawings as they relate to the Contract Drawings.
 - b. CAD Software Program: The Contract Drawings are available in AutoCAD, operating in Windows XP operating system.
- E. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing Record Drawings where Architect 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 with Architect 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.
- F. 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 Transparencies: Organize into unbound sets matching Record Prints. Place transparencies in durable tube-type drawing containers with end caps. Mark end cap of each container with identification. If container does not include a complete set, identify Drawings included.
 3. Record CAD Drawings: Organize CAD 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 CAD file.
 4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect.
 - 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 the 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, Record Drawings, and Product Data where applicable.

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 Drawings, and Product Data where applicable.

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.

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 Architect's reference during normal working hours.

END OF SECTION

SECTION 017900: DEMONSTRATION AND TRAINING**PART 1: GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Special Conditions- wherever similar requirements of this section are present in the Special Conditions the more stringent of the two shall apply as determined by the Architect.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Demonstration of operation of systems, subsystems, and equipment.
 - 2. Training in operation and maintenance of systems, subsystems, and equipment.

1.3 SUBMITTALS

- A. Instruction Program: Submit two copies of outline of instructional program for demonstration and training, including a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
 - 1. At completion of training, submit one complete training manual for Owner's use.
- B. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- C. Attendance Record: For each training module, submit list of participants and length of instruction time.
- D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.
- E. Demonstration and Training Videotape: Submit two copies at end of each training module.

1.4 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Division 1 Section "Quality Requirements," experienced in operation and maintenance procedures and training.
- C. Pre-instruction Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, the following:

1. Inspect and discuss locations and other facilities required for instruction.
2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
3. Review required content of instruction.
4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.5 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

PART 2: PRODUCTS

2.1 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections, and as follows:
 1. Motorized doors, including, overhead coiling doors, overhead coiling grilles and automatic entrance doors.
 2. Equipment, including stage equipment, projection screens, loading dock equipment, waste compactors, food-service equipment, residential appliances and laboratory fume hoods.
 3. Fire-protection systems, including fire alarm, fire pumps and fire-extinguishing systems.
 4. Intrusion detection systems.
 5. Conveying systems, including elevators, wheelchair lifts and cranes.
 6. Gas equipment, including medical gas equipment and piping.
 7. Laboratory equipment, including laboratory air and vacuum equipment and piping.
 8. Heat generation, including, boilers, feedwater equipment, pumps, steam distribution piping and water distribution piping.
 9. Refrigeration systems, including chillers, cooling towers, condensers, pumps and distribution piping.
 10. HVAC systems, including air-handling equipment, air distribution systems and terminal equipment and devices.
 11. HVAC instrumentation and controls.
 12. Electrical service and distribution, including transformers, switchboards panelboards, uninterruptible power supplies and motor controls.
 13. Packaged engine generators, including transfer switches.
 14. Lighting equipment and controls.
 15. Communication systems, including intercommunication, surveillance, clocks, programming voice and data and television equipment.
 16. Any other equipment not specifically listed that is part of these construction documents.

- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following:
1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
 2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Operations manuals.
 - c. Maintenance manuals.
 - d. Project Record Documents.
 - e. Identification systems.
 - f. Warranties and bonds.
 - g. Maintenance service agreements and similar continuing commitments.
 3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
 4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
 5. Adjustments: Include the following:
 - a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
 6. Troubleshooting: Include the following:
 - a. Diagnostic instructions.

- b. Test and inspection procedures.
- 7. Maintenance: Include the following:
 - a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
- 8. Repairs: Include the following:
 - a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

PART 3: EXECUTION

3.1 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a combined training manual.
- B. Set up instructional equipment at instruction location.

3.2 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. Architect will furnish an instructor to describe basis of system design, operational requirements, criteria, and regulatory requirements.
 - 2. Owner will furnish an instructor to describe Owner's operational philosophy.
 - 3. Owner will furnish Contractor with names and positions of participants.
- C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 - 1. Schedule training with Owner, through Architect, with at least seven days' advance notice.
- D. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of a demonstration performance-based test.
- E. Demonstration and Training Videotape: Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 - 1. Comply with requirements in Division 1 Section "Photographic Documentation."

2. At beginning of each training module, record each chart containing learning objective and lesson outline.
- F. Cleanup: Collect used and leftover educational materials and remove from Project site. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

END OF SECTION