

SECTION 011000

SUMMARY OF THE WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

- A. The title and location of the Work is printed on the cover of this Project Manual.
- B. Type of Contract: Fixed price.

1.02 RELATED CONTRACTS

- A. The Project consists of the following separate contracts:
HVAC Work Project No. 47430-H
Electrical Work Project No. 47430-E
- B. The suffix letter at the end of the project number distinguishes the separate Contracts. The Sections in Division 01 of the Specifications which have more than one suffix letter (such as this Section) are common to each related Contract.

1.03 CONCURRENT PROJECTS

- A. The following projects will be taking place concurrently with the work of this project:

Project No. 47006-C,H,E Replace Tray Washer, Building 144
Project No. Q1707-H,P,E Provide Temporary Kitchen and Replace Floors
Project No. Q1853-C Replace Floors and Install Equipment, Phase 2
- B. Coordinate the work of this project, thru the Director's Representative, to avoid conflicts with concurrent contracts.

1.04 SUBSTANTIAL AND PHYSICAL COMPLETION DATES

- A. Substantially complete the Work within 573 days after the Agreement is approved by the Comptroller.
 - 1. The time allocated for the performance of work under this contract includes 10 days for notification of the Contractor of the Comptroller's approval of the Agreement.
 - 2. The approval of the Agreement by the Comptroller constitutes the filing of the Contract Documents as a public record and notice to the Contractor that a fully executed contract exists between the Contractor and the State.
- B. Physically complete the Work within 90 days after the established Substantial Completion date.

1.05 CONTRACT AWARD SUBMITTALS

- A. Submittal No. 1: Submit the CONTRACTOR'S LIST OF SUBCONTRACTORS-SUPPLIERS information required in SCHEDULES AND RECORDS Article in Specification Section 013000 not later than 15 days after approval of the Contract by the Comptroller.
- B. Submittal No. 2: Submit Preliminary Project Schedule related information noted in 013113 Project Planning and Scheduling or 013200 Construction Progress Documentation, whichever section is applicable, within 15 days after approval of the Contract by the Comptroller for review by the Director's Representative and OGS Scheduling.
- C. Submittal No. 3: Submit the Pumps per Specification Section 232123 within 15 days after approval of the Contract by the Comptroller.
- D. Submittal No. 4: Submit the Air-Cooled, Rotary Screw Water Chillers per Specification Section 236416 within 15 days after approval of the Contract by the Comptroller.
- E. Submittal No. 5: Panelboards per Specification Section 262416 within 15 days after approval of the Contract by the Comptroller.

1.06 RESTRICTED WORK PERIOD

- A. HVAC Work Contract: Do not perform Work requiring shut off of the active chilled water system on or after May 1st and up to, but not including October 15th unless approved otherwise, in writing, by the Director.
- B. Asbestos-containing materials will be abated by the HVAC Work Contractor. Do not perform other Work in the area of such activity during the abatement of asbestos-containing materials.

1.07 ITEMS NOT INCLUDED

- A. The following items shown on the Drawings are not included in the Contract:
 - 1. Items indicated "NIC" (Not in Contract).
 - 2. Existing construction, except where such construction is to be removed, replaced, or altered.

1.08 CONFINED SPACE

- A. Comply with confined space and permit-required confined space as defined in Title 29, Part 1910, Section 146 of the Code of Federal Regulations (29CFR 1910.146).
- B. Comply with Safety Requirements for Confined Spaces (ANSI/ASSE Z117.1-2009).
- C. All spaces shall be treated as permit-required confined spaces until the Contractor and/or subcontractors are able to re-classify the space to a non-permit confined space as per 29CFR 1910.146 and ANSI/ASSE Z117.1-2009.

- D. Confined spaces may be present or created by the work of this contract. Notify the Director's Representative, in writing, of confined spaces created or eliminated during execution of the Work.
- E. For the purpose of inspecting ongoing work, furnish at no additional cost to the State, personnel, as directed, to allow the Director's Representative to enter confined space and permit-required confined space in compliance with Title 29, Part 1910, Section 146 of the Code of Federal Regulations (29CFR 1910.146).

1.09 OCCUPANCY

- A. This is an occupied Facility. The building will be occupied and operational during execution of the Work. Ingress to and egress from the building shall be maintained at all times.

1.10 CONTRACTOR USE OF PREMISES

- A. Work hours shall be as established by the Facility authorities thru the Director's Representative.
- B. Inform the Director's Representative of work area access requirements. The Director's Representative will coordinate and schedule the requirements with Facility staff to obtain and ensure timely availability of work areas.
- C. Check in with the Facility Representative, as directed, at the beginning of each workday. Furnish information regarding where employees will be working during the day.
- D. Comply with the Facility's Visitor Identification Policy. A copy of the current policy will be distributed at the initial job meeting.
- E. The following items are not allowed on the Site or on Facility premises.
 - 1. Firearms, ammunition, weapons, and dangerous instruments (other than tools required for the Work).
 - 2. Alcoholic beverages and persons under the influence of same.
 - 3. Cannabis and persons under the influence of same. Cannabis, as used herein shall refer to any form of cannabis that has psychoactive properties.
 - 4. Illegal controlled substances and persons under the influence of same.
 - 5. Cameras (except with written permission from the Director's Representative).
- F. Comply with Facility policies relating to smoking at the Site.
- G. Routes of ingress and egress within the building to the location of the Work shall be as directed by the Director's Representative.
- H. Store materials and perform the Work so that pedestrian and vehicular traffic is not obstructed.

- I. Do not diminish the level of life safety during performance of the Work.
- J. Furniture and portable equipment which interferes with execution of the Work will be removed and reset by Facility personnel.
- K. Utility Outages and Shutdowns: Do not interrupt utility services or branch services within the building except for the time required to make new connections. Arrange with the Director's Representative for the time and duration of interruptions of services. Provide temporary services required to maintain building services at all times other than during scheduled interruptions.
 - 1. HVAC Work Contract: During the asbestos abatement portion of the Project, comply with the requirements specified in Section 028213.
- L. Do not use existing elevators for the Work.
- M. Be responsible and accountable for employees, suppliers, subcontractors and their employees, with regard to their use of the premises. Direct them to comply with the Facility Regulations and with the security and traffic regulations.
- N. Furnish Facility authorities with a telephone number or method to contact the supervisor for the Work in case of an emergency after work hours, including weekends and holidays.
- O. Comply with applicable federal and State of New York Right-to-Know Law provisions. Provide Safety Data Sheets (SDS) documents for products that have SDS data prior to use on the project site.
 - 1. Upload and maintain electronic SDS documents on the Submittals Website (SDS tab).
 - 2. SDS tab is organized by prime contracts. To be readily identified, name products with SDS by specification section number and product name.
 - 3. Supply and maintain one hard copy of the appropriate SDS on the project site and one hard copy with the Facility's Right-to-Know Information Officer.
- P. Direct employees to be watchful for people in or near the work area where safety hazards may be present. Notify the Facility Safety/Security Department, if necessary, to remove them from the work area or Site.
- Q. Report fire and other emergency situations to the Facility Safety/Security Department immediately.

1.11 FACILITY REGULATIONS

- A. Do not physically, verbally or psychologically mistreat patients, clients or other persons at the facility.
- C. Do not receive from or give to patients, clients or other persons at the facility and items (food, cigarettes, money, matches, mail, etc) as this practice may be harmful to the treatment plan or may be illegal.

- D. Do not have sexual relations with any patient or client. This, even at their invitation, is a crime and may be a felony.

1.12 REFERENCE SPECIFICATIONS AND STANDARDS

- A. Comply with the requirements of the various specifications and standards referred to in these Specifications, except where they conflict with the requirements of these Specifications. Such reference specifications and standards shall be the date of latest revision in effect at the time of receiving bids unless the date is given.

1.13 LAYING OUT

- A. Examine the Contract Documents thoroughly and promptly report any errors or discrepancies to the Director's Representative before commencing the Work.
- B. Lay out the Work in accordance with the Contract Documents.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 011100

SAFETY

PART 1 GENERAL

1.01 SUMMARY

- A. This section requires compliance with applicable Safety codes, standards, and regulations, including but not limited to OSHA, Building Code of New York State, Fire Code of New York State, and Facility Regulations.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Summary of the Work: Section 011000.
- B. Regulatory Requirements: Section 014100.

1.03 DEFINITIONS, ABBREVIATIONS

- A. OSHA: Occupational Safety and Health Administration.
- B. BCNYS: Building Code of New York State.
- C. EBCNYS: Existing Building Code of New York State.
- D. FCNYS: Fire Code of New York State.
- E. NFPA: National Fire Protection Association.
- F. NEC: NFPA 70E.

1.04 SUBMITTALS

- A. Provide a **SITE SPECIFIC SAFETY PLAN** no later than 15 days after approval of the Contract by the Comptroller. The plan must include at a minimum:
 - 1. Cover page including Project Name/Location/Project Number/Contractor Name/Potential Start/Finish Dates.
 - 2. Complete Scope of work.
 - 3. Roles and Responsibilities page identifying Supervision, list of the names of all competent and/or qualified persons, including their qualifications, for each activity requiring a competent person i.e. excavations, scaffolding, rigging, fall protection, etc.
 - 4. A program for implementing appropriate PPE as specified in the High 5. Hazard Assessment detailed in Subparagraph 1.04 A.11 below.
 - 5. A program for assuring employees have proper work attire, i.e. substantial sole safety-toed footwear, long pants, shirts with minimum 4-inch sleeves, etc.
 - 6. A 100% 6-foot conventional fall protection program which provides full body harnesses, lanyards (connectors), and anchorage points, or guardrails for all trades when working 6 feet above a lower level.
 - a. Exception:

- 1) When the employer can demonstrate that it is infeasible or creates a greater hazard to utilize these systems, the employer shall develop and implement a Fall Protection Plan, which meets the requirements of paragraph (k) 1926.502. This plan must be approved before implementation by the applicable OGS Regional Safety Manager.
- 2) When working from portable ladders.
7. A program for raising employee awareness through the use of weekly Safety Talks (i.e. "Toolbox Talks" or "Tailgate Meetings") on topics related to upcoming/relevant work on the project. Contractor shall be required to verify that all employees on site participated in meeting, with documentation submitted to the Director's Representative.
8. Confined Space entry program and procedures for entry, when applicable.
9. A written Respirable Silica Protection Plan, including tasks for which employees could reasonably be expected to be exposed to harmful silica dust, and control methods that will be used to limit or eliminate exposure, as well as any PPE necessary to ensure protection.
10. Identify specific hazards related to this Project, and how employees will be protected from those hazards.
11. High Hazard Assessment's detailing procedures for all high hazard work activities including, but not limited to:
 - a. All lifts involving cranes or material handling equipment.
 - b. Scaffolding where scaffold working deck is expected to be 10' or higher from a lower level.
 - c. Demolition.
 - d. Excavations where anticipated depth is 5' or more.
 - e. Hot work activities, which shall follow all applicable requirements stated in NFPA 51B.
 - f. Steel erection with specific fall protection requirements detailed.
 - g. Work at elevations, including roofing work.
 - h. Electrical work involving Lock Out - Tag Out (LOTO) procedures.
 - 1) High Hazard Assessments shall include a step-by-step breakdown of a given task, the hazards associated with each step, the controls that will be utilized to eliminate or minimize the hazards, and the PPE that will be used to protect from remaining hazards.
 - 2) All required certifications shall be provided for all applicable types of work with required training/certifications (i.e. Powder Actuated Tools, Aerial Lifts, Forklifts, Crane Operators License, etc.).
12. A project safety inspection program, with a minimum of one documented safety inspection per week, during the course of construction. Submit copies of all resultant inspection reports to the Director's Representative on a weekly basis.
13. A program for providing proper care for injured employees, including the name of the employee with First Aid/CPR certification who will be on site at all times during the course of construction, to include local hospital/medical facility locations and contact information.
14. Provide an Emergency Action and Evacuation Plan, including Fire Protection and Emergency Response, when applicable.

- a. Plan to include:
 - 1) Procedures for reporting a fire or other emergency.
 - 2) Procedures for emergency evacuation, including type of evacuation and exit route assignments.
 - 3) Emergency Contact information.
 - 4) Procedures on how to alert workers of an emergency.
 - 5) Procedures to account for all employees after evacuation and muster/evacuation points.
 - 6) A list of all major fire hazards, to include type of fire protection equipment necessary to control hazard.
- B. Provide safety orientation training for each employee prior to their starting work on site. This orientation shall include, but not be limited to: Fitness for Duty (drug, alcohol, and cannabis policies), training on general safety hazards, site-specific safety policies and procedures, personal protective equipment, injury reporting and protocols, emergency evacuation and preferred medical providers, and HAZCOM (GHS Harmonization). Provide documentation of all safety orientation training for each new employee on the site, including all subcontractors, to the Director's Representative.
- C. Accident Reporting: The Director's Representative shall be immediately notified of any and all accidents. A copy of a written accident report shall be furnished to the Director's Representative within 24 hours of an incident.
 - 1. After any incident on site resulting in an employee being injured or damage to property, a Post- Accident Review Investigation shall be held as soon as possible after any incident. As a minimum, this investigation will involve the injured person, his/her supervisor, the responsible project superintendent and/ or supervisor and the onsite safety supervisor. The contractor shall be responsible to provide a written Post-Accident Corrective Action Plan, which will detail immediate steps taken to correct any unsafe condition that led to injury/property damage, long-term actions to prevent repeat incidents from happening on the site, and roles and responsibilities of individuals who will be implementing the corrective measures, which will be reviewed for effectiveness and continually monitored for implementation.

1.05 STOP WORK ACTIVITY AUTHORITY

- A. All NYS OGS Representatives have the authority to stop a work activity that exposes any Contractor employees to potentially serious injury and/or illness. The responsible Contractor shall immediately cease work, perform an assessment of the activity that is exposing employees to any Immediately Dangerous to Life or Health (IDLH) conditions, and take action necessary to satisfactorily address the unsafe condition(s), at no cost to the State. The activity may only resume when a NYSOGS Representative and respective Contractor's Safety Representative verify corrective measures have been satisfactorily completed. Any related impact to time of completion shall be considered within the Contractor's control.
- B. **No site work, other than mobilization, shall commence until the Site-Specific Safety Plan is approved.**

**1.06 ADDITIONAL SAFETY POLICIES THAT WILL BE ADHERED TO
THROUGHOUT THE CONSTRUCTION PHASE**

- A. All contractors are required to utilize head (hardhat) and eye protection (safety glasses) at all times well within the project limits.
- B. Any employee exposed to equipment/vehicles shall be required to utilize an ANSI Level 2 Safety Work Vest.
- C. Contractors are strictly prohibited from utilizing any state-owned equipment or materials during construction.
- D. All tools/equipment on multi-trade projects shall bear identifiable markings as to which contractor the tool/equipment belongs to. If any tool/equipment on the project does not have contractor's markings, the tool shall be immediately removed from the site until owner claims the tool/equipment.
- E. Seatbelts shall be utilized when operating all heavy equipment designed to be operated in a seated position. When traveling in a vehicle, all employees shall be seated in a secured seat with a seatbelt in place.
- F. Inspections of scaffolding prior to use, and excavations prior to entry shall be documented by an on-site competent person. Documented inspection will be available on-site for inspection by the Director's Representative.
- G. All electrical cords/water hoses, if feasible, shall be run overhead to avoid additional slip/trip hazards. If not feasible due to physical restrictions, cords/hoses shall be placed to avoid all walkways and work areas.
- H. All heavy equipment being utilized on site shall have a fire extinguisher of suitable size/rating within reach of operator.
- I. Any fuel-powered equipment shall have a fire extinguisher of suitable size/rating no closer than 10 feet and no further than 25 feet from the equipment.
- J. All electrical work shall be done when panels/lines/boxes have been de-energized and locked out, unless otherwise approved in writing by the Director's Representative.
- K. An applicable sized Spill Kit shall be available on all jobsites where heavy equipment is being utilized.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 012100

ALLOWANCES

PART 1 GENERAL

1.01 DESCRIPTION

- A. Include in the contract sum the allowances stated in this Section.
- B. Should the net cost be more than the specified amount of the allowance, the contract sum will be adjusted by Order on Contract in accordance with the General Conditions. No Work in excess of the allowance will be permitted except by Order on Contract. Should the net cost be less than the specified amount of the allowance, the balance will be deducted from the final payment.

1.02 ALLOWANCES FOR CONTINGENCIES

- A. Include in the contract sum the amount indicated below to cover the cost of additional labor and materials for contingent activities within the scope of the Contract as directed in writing by Field Order. The Field Order will include a description of the Work and a method for determining the cost of such Work.
 - 1. HVAC Work Contract: \$67,637.
 - 2. Electrical Work Contract: \$29,550.
- B. The value of the directed Work under this allowance will be determined by one or more of the methods authorized in Section 012200 which will be specified in the Field Order.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 012200

COST COMPUTATIONS

PART 1 GENERAL

1.01 DESCRIPTION

- A. The Contracting Officer shall determine the value of any order on contract or field order by one or more of the following methods:
1. Agreed to Amount:
 - a. By estimating the fair and reasonable cost of:
 - 1) Labor, including all wages, required wage supplements and insurance/taxes required by law (workers' compensation, social security, disability, unemployment, etc.) paid to or on behalf of working foremen, workers and other employees below the rank of the Contractor's designated representative directly employed at the Site of the Project, and, on contracts with an award price less than \$500,000, the Contractor's designated representative, regardless of job title or work status.
 - 2) Materials (to be installed or turned over to the State).
 - 3) Consumables are items that are used during the progression of the extra work that do not become a permanent part of the Work and as such are considered overhead.
 - 4) Equipment, excluding hand tools, which, in the judgment of the State, would have been or will be employed exclusively and directly on the omitted work or extra work.
 - 5) Where the omitted or extra work is performed directly by the Contractor; by adding to the total of such estimated costs a sum equal to 15 percent thereof, but, where the omitted or extra work is performed by a subcontractor, by adding a sum equal to 15 percent of said costs for the benefit of such subcontractor, and by adding, for the benefit of the Contractor (no further allowance will be made where extra work is performed by any sub-subcontractor), an additional sum equal to:
 - a) 10 percent of the first \$10,000 of the above-estimated costs, including the subcontractor's percentage override.
 - b) Plus 5 percent of the next \$90,000 of the total of said items.
 - c) Plus 3 percent of any sum in excess of \$100,000 of the total of said items.
 - d) For the purposes of the aforesaid percentage overrides, the words "extra work" shall be defined as a complete item of added, modified or changed work as described in writing to the Contractor and the reductions enumerated shall be applied individually to each Order on contract issued on a Contract. Such "extra work" may include the work of one or more trades and/or subcontractors or sub-subcontractors and shall include all labor, material, plant, equipment, tools and all incidentals directly and/or indirectly necessary, related, involved in or convenient to the successful completion of the extra work item.

- b. By accepting an amount agreed upon by both parties, which amount is to be calculated in a manner similar to that provided in subparagraph 1.01 A. 1. a.
 - c. Should the Contractor fail to submit the required proposal as required by Article 10.5.1, the Contractor shall be compensated as follows:
 - 1) The costs will be determined by the State as described in 1.01 A. 1. a. above, but the percentages for profit and overhead will be as follows:
 - a) Where the omitted or extra work is performed directly by the Contractor; by adding to the total of such estimated costs a sum equal to 10 percent thereof, but, where the omitted or extra work is performed by a subcontractor, by adding a sum equal to 10 percent of said costs for the benefit of such subcontractor, and by adding, for the benefit of the Contractor (no further allowance will be made where extra work is performed by any sub-subcontractor), an additional sum equal to:
 - (1) 5 percent of the first \$10,000 of the above-estimated costs, including the subcontractor's percentage override.
 - (2) Plus 3 percent of any sum in excess of \$10,000 of the total of said items.
 2. ACTUAL COSTS - By determining the actual cost of the extra work in the same manner as in the above Subparagraph 1.01 A. 1.a. except that actual costs of the Contractor be utilized in lieu of estimated costs. The State shall have the option to utilize this method provided it notifies the Contractor of its intent to do so prior to the time the Contractor is properly authorized to commence performance of such work.
 3. By applying the applicable price or prices set forth in the Contract Documents or by applying a unit price agreed to by both parties.
 4. All profit, overhead and expense of whatsoever kind and nature, other than those set forth above in Subparagraphs A.1.a. 1), 2) and 4), and below in Paragraph 1.01 F., of the Contractor, its subcontractors and sub-subcontractors, are covered by the aforesaid percentage overrides and no additional payment therefore will be made by the State.
- B. Irrespective of the method used or to be used by the State in determining the value of extra or omitted work, the Contractor shall, after receipt of a request, shall within 15 days submit to the State a detailed breakdown of the Contractor's estimate of the value of the omitted or extra work. The Contractor shall submit evidence, satisfactory to the Contracting Officer, to substantiate each and every item that constitutes his proposal for the change. The State shall promptly respond to such submission.
- C. Whenever this Contract requires the determination of labor hours, it shall be determined as follows:
1. Labor Hours shall be based on the labor factors as published in "RSMeans" by Reed Construction Data. The latest versions of the following books shall be used:
 - a. Building Construction Cost Data
 - b. Electrical Cost Data
 - c. Mechanical Cost Data
 - d. Plumbing Cost Data
 - e. Site Work and Landscape Cost Data
 2. In the event that a labor factor for an item of work is not available from these publications the Director shall establish a labor factor as to the amount of time it takes to perform an item of Work.
 - a. Conditions that affect the performance of the extra work whether addressed in the Contract Documents or not shall be taken into consideration and negotiated.

- b. Unforeseen conditions or conditions that are not identifiable shall not be included in the Contractor's proposal. If while in the process of performing the omitted or extra work a condition or event that affects the work becomes evident, it will be addressed at that time via a field order or change order.

D. Materials:

1. Materials used in performance of the extra work shall conform to Contract Documents and shall be listed by description, quantity and standard unit of measure.
2. Where the extended value of an item of material is FIVE THOUSAND DOLLARS OR MORE a quote or invoice from a supplier shall be included as part of the Contractor's proposal. The Director's Representative reserves the right to request substantiating pricing documentation to verify actual and reasonableness of any and all submitted costs. This requirement does not impede Subparagraph 1.01 B. above.
3. Travel costs including mileage, tolls, and overnight lodging and meal per diems incurred as a result of the extra work will be reimbursed at costs without any markup for the Contractor or subcontractor as the case may be. Daily travel to the project site must exceed 35 miles, one way, from the Contractor's office address to claim mileage and toll expenses; only mileage beyond 35 miles will be reimbursed. Distance must exceed 50 miles, one way, from Contractor's office address to the project site to claim overnight lodging and meal per diems. Actual cost for overnight lodging and meal per diems will be reimbursed up to the maximum rates listed per locality, as established by U.S. General Services Administration (GSA).
4. Personal Protection equipment required for hazardous materials abatement and materials used to create critical barriers and protection barriers, provided that they are expended during the performance of the extra work or turned over to the State at the request of the Director's Representative, are reimbursable as part of an order on contract.

E. Whenever this Contract requires the determination of the cost of equipment, it shall be determined as follows:

1. Equipment used or to be used in the performance of Work shall be specifically described by the manufacturer, model number and date of manufacture and be of suitable size and capacity required for the work to be performed.
2. Equipment, excluding hand tools which are defined as tools and equipment having a new purchase price of less than ONE THOUSAND DOLLARS, and which will be used exclusively and directly on the Work. For the purposes of computing the Contractor's cost for self-owned equipment, the rate used for periods of under five days shall be the monthly rate set forth for the item of equipment in the Equipment Watch® "Rental Rate Blue Book" published by Penton Media (800 669-3282) divided by 22 days to establish a **daily rate** and divided again by eight hours to establish an **hourly rate**. **The rate used for periods of 5 days or more shall be 45% of the published monthly rate.** In the event the "Rental Rate Blue Book" does not list the item of equipment used, the applicable rate shall be determined in the same manner as set forth above except that the monthly rate used shall be that set forth in "The AED Green Book" published by Penton Media (800 669-3282). In the event that a rate is not established in the "Rental Rate Blue Book" or "The AED Green Book" for a particular piece of equipment, the Contracting Officer shall establish a rate for ownership costs and operating costs for that piece of equipment that is consistent with its cost and expected life. Self-owned equipment is defined to include equipment rented from controlled or affiliated companies.
3. Rented equipment will be paid for at the actual rental cost. Equipment rented for the Work used in the performance of extra work will be reimbursed for operating costs only.

4. For the purposes of the performance of extra or additional work, when, in the opinion of the Contractor, and as approved in writing by the Director's Representative, suitable equipment is not available on the Site, the moving of said equipment to and from the Site will be paid for at actual cost.
 5. Notwithstanding any other provision, if the State should determine that the nature or size of the equipment used by the Contractor in connection with the performance of Work is larger or more elaborate, as the case may be, than the size or nature of the minimum equipment determined by the State to be suitable for the performance of Work, the cost of equipment used in calculating the costs of extra work or delay damages will not be based upon the equipment used by the Contractor but instead will be based on the smallest or least elaborate equipment determined by the State to have been suitable for the performance of the Work. In no event shall the amount paid to the Contractor as the allowance for the use of self-owned construction equipment exceed the lower of the actual cost of such equipment or the depreciated value of such equipment as carried on the Contractor or subcontractors books.
 6. The Contractor shall be reimbursed for its operating costs for self-owned equipment based on actual cost data. Operating costs shall include fuel, lubricants, other operating expendables and preventive and field maintenance. Operating costs do not include the operator's wages. In the event, after documented and demonstrated due diligence, actual operating costs are not ascertainable, then the Contractor will be compensated utilizing 100 percent of the operating costs set forth in the "Rental Rate Blue Book" and the Contractor shall be reimbursed the product of the number of hours of actual use multiplied by the operating cost per hour.
 7. The maximum amount of reimbursement for the ownership costs of self-owned equipment is limited to the original purchase price of the equipment as listed in the "Green Guide for Construction Equipment" published by Penton Media (800) 669-3282. In the specific event when the ownership reimbursement is limited by the original purchase price, the Contractor shall, nevertheless, be reimbursed for the operating cost per hour for each hour of actual use.
- F. Insurance and Bonds:
1. The additional cost of all required Bonds and Liability and Builder's Risk Insurance Premium required by this Contract, arising from the additional cost of performing extra work shall be paid by a change order or field order to be issued upon physical completion of the Work and upon the submission of proof of payment of such additional premiums assessed by the respective insurance companies for such additional cost of the extra work.
 2. Should the additional work require an additional insurance policy not initially required or anticipated in the execution of the contract, whether required of the Contractor or a subcontract between the Contractor and a subcontractor actually performing extra work, will be reimbursed based on actual cost.
- G. Unless otherwise specifically provided for in an order on contract or field order, the compensation specified therein for extra work includes full payment for both the extra work covered thereby and for any damage or expense caused the Contractor by any delays to other work to be done under the Contract resulting from or on account of said extra work, and the Contractor waives all rights to any other compensation for said extra work, damage or expense.
- H. In computing the value of an order on contract or field order which involves additions and deletions of work and the cost of the added work exceeds the cost of the deleted work, overhead and profit shall be computed on the amount by which the actual cost of additional labor and material exceeds the actual cost of the deleted labor and material, except no additional overhead

and profit shall be allowed on the value of any order on contract or field order determined by the method provided in Subparagraphs 1.01 A. 1.b. or 1.01 A. 3.

- I. In computing the value of an order on contract or field order which involves additions and deletions of work and the cost of the deleted work exceeds the cost of the added work, the Contractor will be allowed to retain the overhead and profit on the amount by which the cost of the deleted work exceeds the cost of the added work, except that no overhead and profit shall be retained on the cost of work determined by the method provided in Subparagraphs 1.01 A. 1.b. or 1.01 A. 3.
- J. Subject to the provisions of Article 17A of the General Conditions, the following elements of damage, and only the following elements, as determined by the Contracting Officer, will be recoverable by the Contractor as “delay damages” provided that they are actual, reasonable and necessary:
 - 1. Documented additional or escalated job site labor expenses.
 - 2. Documented additional or escalated costs for materials.
 - 3. Documented additional or escalated equipment costs less appropriate credits, as such are determined in accordance with this Section.
 - 4. Documented costs of extended job-site overhead (including job superintendent, office engineer and clerical staff, but not including working foremen).
 - 5. An additional 15 percent of the total of the above items in Subparagraphs 1.01 J. 1., 2., 3. and 4. for home office overhead and profit thereon.
 - 6. Documented additional or escalated insurance and bond costs.
 - 7. When the work is performed by a subcontractor, the Contractor shall be paid the actual, reasonable and necessary cost of such subcontracted work as outlined Subparagraphs 1.01 J. 1. through 4., including the subcontractor’s main office overhead and profit of 15 percent. The Contractor shall also be allowed an additional 5 percent administrative fee for processing.
 - 8. The phrases “additional expenses”, “escalated expenses”, “additional costs” and “escalated costs” shall include expenses and costs above or below those normally incurred in the performance of the work, less any appropriate credit, and/or attributable, with appropriate credits, to the performance of work or portions of work in a different time period than that which was indicated on the approved progress schedule.
- K. The parties agree that, with regard to delay damages, the State will have no liability for the following items and the Contractor further agrees it shall make no claim for the following items:
 - 1. Profit, in excess of that provided for above.
 - 2. Loss of anticipated or unanticipated profit.
 - 3. Labor inefficiencies and loss of productivity.
 - 4. Home office overhead in excess of that provided for above.
 - 5. Consequential damages, including but not limited to interest on monies in dispute, including interest which is paid on such monies, loss of bonding capacity, bidding opportunities, or interest on retainage or investment, or any resultant insolvency.
 - 6. Indirect costs or expenses of any nature.
 - 7. Direct or indirect costs attributable to performance of work where the Contractor, because of situations or conditions within its control, has not progressed in a manner satisfactory to the Executive Director.
 - 8. Attorneys’ fees, or claims preparation expenses.
- L. Remedies Exclusive: With respect to extra costs and delay damages, the parties agree that the State shall have no liability to the Contractor for expenses, costs, or items of damage other than

those which are specifically identified as payable above. In the event any legal action is instituted against the State by the Contractor on account of any extra work or for additional compensation, whether on account of delay, acceleration, breach of contract, or otherwise, the Contractor agrees that the State's liability will be limited to those items which are specifically identified as compensable above. The Contractor further agrees to make no claim for expenses other than those which are specifically identified as compensable above.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 013000

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Other requirements pertaining to payments are included in the General Conditions and in the various sections of the Specifications.
- B. Cost Computations: Section 012200.
- C. Submittals: Section 013300.

1.02 WAIVER OF CERTAIN SUBMITTAL REQUIREMENTS

- A. The Electronic Contractor Payments (ECP) program facilitates electronic submission of payment applications and related documents and information via a secure web-based portal. This portal is hereinafter referred to as the “Vendor Interface”. Hardcopy (paper) submission of the following forms is waived, and the information required by these forms shall be submitted via the Vendor Interface:
 - 1. BDC 169 (Contractor’s Application for Payment form).
 - 2. BDC 187 (Detailed Estimate form).
 - 3. BDC 329 (Contractor’s List of Subcontractors–Suppliers).

1.03 SCHEDULES AND RECORDS

- A. Submit the following information not later than 15 days after approval of the Contract unless the Contractor or the Director determines an earlier submission is required to properly schedule or progress the Work.
 - 1. **CONTRACTOR’S LIST OF SUBCONTRACTORS – SUPPLIERS:** An affirmative review of the subcontractor’s responsibility will be conducted. Any subcontractor disapprovals resulting from negative information derived from the State’s review will result in written notice (by letter or e-mail) to the Contractor. A responsibility meeting may result from these actions. The Contractor will defer to the provisions of Article 6, General Conditions, regarding its responsibility to prosecute the work.
 - a. Submit the **CONTRACTOR’S LIST OF SUBCONTRACTORS – SUPPLIERS** information using the required electronic entry process via the Vendor Interface.
 - b. Indicate the items of Work proposed to be accomplished by subcontractors, the name and address of each proposed subcontractor, the dollar value of the subcontract, and Minority and Women-Owned Business Enterprise (MWBE) information.
 - 1) Attach a properly completed and executed **NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE – FOR PROFIT CONSTRUCTION**

- (CCA-2) and forward to the Vendor Responsibility Unit for each subcontractor whose subcontract is valued at \$100,000.00 or more unless requested otherwise by the Contracting Officer and/or the Director's Representative.
- 2) As an alternative to submitting a paper version of the form, subcontractors may opt to submit the CCA-2 on-line via the New York State VendRep System. Information on this system and the New York State vendor responsibility requirements is available at: <http://www.osc.state.ny.us/vendrep/index.htm>.
 - c. Indicate the names and addresses of proposed suppliers, the dollar value of the supplies, and MWBE information.
 - d. Failure in providing this information may result in payments being withheld and referral to the Contracting Officer for a responsibility determination.
- B. If after initial approval, circumstances require a change in a subcontractor or supplier or require additional subcontractors or suppliers to be used, use the Vendor Interface to submit a revised BDC 329 form that reflects the changes or additions.

1.04 DETAILED ESTIMATE

- A. Before making the first requisition for a progress payment, prepare a detailed estimate of quantities and prices for materials, labor and other items required for the Work, which shall aggregate the contract sum.
1. Submit the DETAILED ESTIMATE information using the required electronic entry process via the Vendor Interface.
- B. The detailed estimate shall be supported by such evidence, including certified copies of subcontracts, as the Director may require.
- C. The detailed estimate must be approved by the Director who may revise it as, in his reasonable judgment, is necessary to make the various items conform to their true values.
1. The value of each requisition for payment shall be based on the approved detailed estimate.
- D. The Contractor shall bill any item of work listed as "Lump Sum" to 100%, no partial percentages will be allowed.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 013113

PROJECT PLANNING AND SCHEDULING

PART 1 GENERAL

1.01 RELATED REQUIREMENTS AND INFORMATION SPECIFIED ELSEWHERE

- A. Summary of the Work: Section 011000.
- B. Administrative Requirements: Section 013000.
- C. Project Meetings: Section 013119.

1.02 SUMMARY

- A. Section includes administrative and procedural requirements to plan, schedule, and document the progress of the Project, work in place, and predict and prevent delays to established activities and milestones during performance of the Work.

1.03 DEFINITIONS

- A. Activity: A task or grouping of tasks containing an anticipated start-date and corresponding duration in work days, anticipated labor resources, person responsible for the work, restricted work period, contract reference document, sequence of work, and budgeted cost (if required) comprising a generalized portion of the Work, that can be identified and measured for planning, coordinating, monitoring, and controlling the project.
- B. Activity Duration: Time needed for the represented work in work days. No duration in any baseline or recovery schedule shall be longer than one (1) reporting period as defined in Section 013119, except for submittal items. All procurement and work activities must be provided in sufficient detail to meet this duration requirement.
- C. Baseline Agreement: The agreement document for Section 013113 which will contain the baseline schedule report.
- D. Baseline Project Schedule: The schedule derived from the Contractors' Project Work Plan activities and their prescribed durations, predecessor activities, etc., recognizing the completion of the Work of the Project Work Plan in accordance with the Contract duration. The Baseline Project Schedule will remain unaltered as a tool to measure progress outlined and anticipated during the Initial Schedule Meetings and from the agreed-upon Baseline Project Schedule. The Project Team will agree to the resulting schedule by completing the Baseline Agreement within the Project Work Plan software. OGS Scheduling will maintain the agreed-upon Baseline Project Schedule as the assigned project baseline schedule.
- E. Calendar: The calendar utilized for each activity, set according to the direction of OGS Scheduling to accurately reflect anticipated State and Federal holidays.

Calendars reflecting additional shifts or non-traditional work hours must be reviewed with the Director's Representative and approved by OGS Scheduling and prior to use in the schedule.

- F. Constraints: Constraints are a function which can manipulate or hold specific dates. Constraints are used by OGS Scheduling in specific instances during the baseline process to hold dates dictated by the terms of the Contract or assigned to submittal & procurement items in the Project Work Plan. Constraints are not allowed to be used/entered by Contractors on any activities except for mobilization items.
- G. Data Date: The progress point or "status date" for activities/tasks in the project. Project status is up-to-date as of the Data Date. OGS Scheduling will specify the Data Date for each Project Update Reporting Period.
- H. Float: The measure of latitude in starting and/or completing an activity without impeding the successful realization of Project Milestones. It is an expiring Project resource that is jointly owned, not for the exclusive use or benefit of either the State or the Contractors. Float is available as needed to meet scheduled milestones and Project completion. Recognizing float within an activity, or chain of activities, does not permit the Contractors to disrupt progress or to delay completion of an activity.
- I. Milestone Activity: A significant start or finish to Work on a given set of activities on the Project, defined by both the Director's Representative and the Contractors. The Project Team will identify milestones, activities, or summary activities for incorporation into the Baseline or Project Schedule to assist in planning, scheduling, and coordinating the Project. This may include major milestones or phases required by the Contract Documents to be utilized by the Contractors and Project Team in developing the Baseline Project Schedule.
- J. OGS Project Work Plan System (OGS PWPS): The collaborative online system provided by OGS for Contractors to establish their Project Work Plan activities, duration, prerequisites, resources and budgeted cost (if required) for Work of the Project. All work is entered into the OGS PWPS by the Contractor(s).
 - 1. Importing of any information is not allowed.
 - 2. Time lags are not allowed to be scheduled between activities.
- K. OGS Scheduling: The department responsible for assisting and training the Project Team, reviewing, reporting, and interpreting the Contractor Project Work Plan and related information.
- L. Preliminary Project Schedule: This schedule is a summary outline of the Contractor's anticipated Project Work Plan for the sequence of work of this Contract through Substantial Completion as noted in the Summary of Work (Section 011000). The activities are developed using anticipated dates and are coordinated among the Contractor(s). The resulting Schedule outlines and aligns the sequence of work for the individual Contract and coordinates the Contracts that are part of a multiple trade Project. The Project Work Plan needs to address sequencing of the work, long lead items, and impact of weather and restricted

work periods as noted in Section 002219. The Project Team will agree to the resulting schedule by completing the Baseline Agreement within the Project Work Plan software.

- M. Project: Work to be performed as part of one or more Contracts.
- N. Project Team: The Designated Representatives acting on behalf of the State and/or Contractors to successfully plan, schedule, and coordinate the Work of the Project.
- O. Project Update Reporting Period (Project Schedule Updates): A regular reporting period as stipulated for this Project in Section 013119, that is concluded by a Project Update Meeting for review, evaluation, and adjustments to the Project Work Plan and Activity progress.
- P. Project Work Plan: A comprehensive list of Contractor tasks, including prerequisite activities, durations, labor resources, budgeted costs (if required), etc. used to develop the Project Schedule as entered by the Contractor's Supervision staff in the OGS PWPS.
- Q. Recovery Project Schedule: Revised Project Work Plan developed from recovery options presented by the Contractor to the Director's Representative when Project Update Reporting indicates the Work is 15 or more work days behind the current Substantial Completion dates of the agreed-to Baseline Project Schedule. The Contractor will update their Project Work Plan accordingly for the revision. The Project Team will agree to the resulting recovery project schedule by completing the Baseline Agreement within the Project Work Plan software. OGS Scheduling will maintain the Baseline Agreement Recovery Project Schedule as the assigned Baseline Project Schedule.
 - 1. The Recovery Project Schedule will only be reviewed by OGS when it is entered in the OGS PWPS.
- R. Resource: Any labor (workers), material, or equipment, shared or exclusive, required for the completion of the Work or an Activity, for which an associated cost is recognized.
- S. Schedule: A comprehensive plan of necessary procedural tasks, including task sequencing, projected start and finish dates, and resource allocation required to successfully complete the Work by the Project completion date. The dates in the Schedule are the result of the sequence, duration, and requirements from the Project Work Plan.

PART 2 PRODUCTS

2.01 SCHEDULE SOFTWARE

- A. The Project Work Plan software (Oracle Primavera) is provided by OGS through the OGS PWPS for use on this OGS contract only.

- B. Contractors are required to have Internet access to utilize the OGS PWPS for all parts of this section.
- C. Meetings will be held in accordance with Section 013119 and will be conducted via WebEx™ or an equivalent online method provided by OGS.
- D. OGS will provide training for access and use of the OGS PWPS. Additional support is available by OGS Scheduling as requested.

PART 3 EXECUTION

3.01 PROJECT AWARD

- A. OGS Scheduling will establish one account for each Contractor.
- B. The Initial Schedule and Training Meeting is coordinated by the Director's Representative and Project Team. Prior to the meeting all Contractor accounts need to be set up by OGS Scheduling.

3.02 INITIAL SCHEDULE MEETING – (PERIOD DEFINED BY SECTION 013119)

- A. The meeting is mandatory for the members of the Project Team and will be conducted by OGS Scheduling for the purpose of defining the intent of the specification and reporting structure of the Project. The mutual agreements reached at this and subsequent meetings form the basis for the Baseline and other Project Schedule(s), and will be used for coordinating, scheduling, and monitoring the Work of all related contracts.
- B. This meeting also includes training for the Project Team using the OGS PWPS. Each session will be one hour (total of two hours) via WebEx™ or an equivalent online method provided by OGS.
 - 1. SESSION 1 - Preliminary Project Schedule & Initial Training
 - 2. SESSION 2 - Baseline Project Schedule Training

3.03 PRELIMINARY PROJECT SCHEDULE – (PERIOD DEFINED BY SECTION 011000, IF SPECIFIED)

- A. In the OGS PWPS, the Contractor will develop their Project Work Plan activities and provide information relating to activity naming, anticipated work dates, resources, and budgeted cost (if required) on the OGS PWPS. The Project Team will establish a focused work breakdown structure (WBS). The activities are developed using anticipated dates and are coordinated among the Contractor(s).
- B. Activities are to be appropriately placed within the OGS PWPS. Activity durations are only limited by the requirements of coordinating the work of the Preliminary Project Schedule by the Project Team. For the purposes of

coordinating this schedule, relationships (predecessors and successors) are not required between the activities.

- C. The Preliminary Project Schedule must be agreed to by the Project Team. Each Contractor and the Director's Representative shall agree to it by completing the Baseline Agreement within the Project Work Plan Software (sample agreement included at the end of Section 013113) .

3.04 BASELINE PROJECT SCHEDULE – (45 DAYS AFTER AWARD)

- A. The Contractor(s) shall develop and enter their Project Work Plan activities which adequately represent their scope of Work of the Contract and the required coordination efforts for the Project. This includes, but is not limited to, sequence requirements, identification of logical connections to other work critical to Substantial Completion, accounting for critical submittals or submissions, the fabrication and delivery of long-lead materials, products, specialized equipment or services, and the recognition of critical testing, inspection, or commissioning durations for coordination and tracking.
- B. Each activity will identify the Contractor's anticipated duration for the activity defined in workdays, resources, and budgeted cost (if required) of the activity. The Contractor is responsible to provide the mandatory requirements outlined by OGS and the online OGS PWPS layout within the project structure provided by OGS. Revisions to the project structure must be agreed upon by the Project Team.
- C. Activity durations cannot exceed the time frame in work days of the Project Reporting Period as defined in Section 013119.
- D. The Contractors will identify each activity with a unique Activity Name that clearly communicates the scope of the work item to the rest of the Project Team. No Activity Name or Activity ID will be altered without approval of the Director's Representative and OGS Scheduling after the Baseline Project Schedule has been agreed to by the Director's Representative.
- E. The Baseline Project Schedule must be agreed to by the Project Team. Each Contractor and the Director's Representative shall agree to it by completing the Baseline Agreement within the Project Work Plan software (sample agreement included at the end of Section 013113).

3.05 PROJECT SCHEDULE UPDATES (PERIOD DEFINED BY SECTION 013119)

- A. Project Schedule meetings will be led by the Director's Representative and held to review Contractor updates to the actual starts, actual finishes, and remaining duration of in-progress activities, and consider logic changes, predecessor alterations, duration amendments, time impact events, and scope changes, for the purpose of determining the status of construction progress for the updated Project Schedule. At each meeting the Project Team will:
 - 1. Agree to the completed Activity dates.
 - 2. Coordinate and agree to the next 6-week Project Work Plan.

3. Evaluate and acknowledge any impact to the Contractor's ability to execute the Project Schedule according to the Baseline Project Schedule.
- B. During the progress of Work on the Project, the Contractors are required to document actual start, actual finish, and remaining duration on a daily basis. Information will be posted by the Contractor to the OGS PWPS as defined during the Initial Schedule Meeting.
 - C. Contractors are required to update the status of all their activities two (2) days prior to the Project Schedule Meeting. The Contractors will notify the Director's Representative and OGS Scheduling when their update information for all activities is complete.
 1. Any variation of 5 days (+/-) in the start or finish date for each activity must be explained and posted to each activity.
 2. All necessary initiated documents such as Request for Information (RFI), Information Bulletins (IB), Field Orders (FO), Change Orders (CO), and Notice of Claim (NOC) must be incorporated by the Contractor into the Contractor's Work Plan.
 3. Any Contractor failing to progress their Work as outlined in the updated Project Work Plan will be informed of their deficiencies and, if required, be requested to provide a recovery option.
 - D. Performing Work out of sequence with the Project Schedule is not permitted unless written approval is obtained from the Director's Representative prior to commencement.

3.06 RECOVERY PROJECT SCHEDULE

- A. When the Project Schedule completion date is projected to be greater than the agreed-to Baseline Project Schedule's Substantial Completion date by 15 or more work days, the Contractor(s) will revise the existing Project Work Plan as necessary towards meeting the specified completion date within 10 calendar days after the Project Schedule update meeting.
- B. Contractor recovery options may include, but are not limited to, allocating additional resources to reduce activity duration or modify activity sequencing.
- C. Alterations to the Project Work Plan activities for a Recovery Work Plan will require the approval of the Contractor(s) and the Director's Representative. Agreed-to alterations to the Project Work Plan activities for a Recovery Work Plan will constitute the updated Project Schedule.
- D. The updated Project Schedule must be agreed to by the Project Team. Each Contractor and the Director's Representative shall agree to it by completing the Baseline Agreement within the Project Work Plan Software (sample agreement included at the end of Section 013113).
- E. The previous Baseline Project Schedule will be retained. The new agreed-upon Baseline Project Schedule will be used to measure progress moving forward.

3.07 SCHEDULE CLOSEOUT (AS-BUILT SCHEDULE)

- A. A schedule meeting must occur to update the project schedule with the actual progress dates and to confirm that all activities are complete for Substantial Completion.
- B. The Director's Representative will determine if any of the original Substantial Completion activities need to be tracked for Physical Completion in the project schedule.

3.08 TIME IMPACT AND TIME IMPACT ANALYSIS (TIA)

- A. The Contractor(s) will represent the impact relative to the assigned Baseline Project Schedule in the OGS PWPS. The Contractor will incorporate the impact of any change in their Work Plan per the current OGS PWPS requirements for impacts. The requirements include but are not limited to:
 - 1. A day-for-day tracking of the impact to illustrate the sequence of the impact from the initiating event.
 - 2. All information required to create an Activity and the associated codes for the impact in the OGS PWPS as defined previously.
 - 3. Modification of existing activities so that the name of each associated task enhances the reader's understanding of the impact. Modification of the associated (TIA) codes for the change in the OGS PWPS.
 - 4. For the addition of any new activities, an explanation of how the modified scope impacts the agreed-to Baseline Project Schedule.
- B. Contractors and the Project Team will use the most current Project Work Plan update to prepare the Time Impact representation.
- C. If Project Work Plans have not been updated in accordance with this specification, an update by the Contractor must be generated which includes an accurate realization of the Work performed and progressed up to the Time Impact event. Failure to maintain Project Work Plan updates in accordance with this or related specifications will not absolve the Contractors of the responsibility to identify Time Impact as defined by, but not limited to, Specification Section 013113 or the General Conditions.
- D. OGS Scheduling will assist the Contractor with this process as requested.
- E. A Request for Time Extension will require Time Impact recognition within the OGS PWPS and Schedule.
- F. Time Impact events will be reviewed for accuracy and are to be updated in accordance with relevant new information regarding time for resolution and impact to the remaining work on the Project.
- G. All impacts (sequence, duration, and scope) must be agreed to by the Project Team.

3.09 SUBSTANTIAL COMPLETION DATE CHANGES

- A. If the Substantial Completion date of the project is modified by an Order on Contract in accordance with the General Conditions, the Project Team will agree to a new Baseline Project Schedule within 10 calendar days after the approval of the Order on Contract.
1. The previous Baseline Project Schedule will be retained. The new agreed-upon Baseline Project Schedule will be used to measure progress moving forward.
 2. The new Baseline Agreement must be agreed to by the Project Team. Each Contractor and the Director's Representative shall agree to it by completing the Baseline Agreement within the Project Work Plan Software (sample agreement included at the end of Section 013113).

SAMPLE BASELINE AGREEMENT

Baseline Agreement



Project:

It is agreed that the referenced Project Schedule defined by the following reports has been reviewed and is accepted for use in coordinating, scheduling, and monitoring the work of all related contracts

By acknowledging within the Project Work Plan software, OGS does not waive the terms and conditions set forth in the Contract Documents. In accordance with the General Conditions (Document 007213) any change in the Contract sum or time of completion requires an Order on Contract.

Refer to the following report for the specific dates.

Contract	Representative	Activity Name	Date
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END OF SECTION

SECTION 013119

PROJECT MEETINGS

PART 1 GENERAL

1.01 INITIAL JOB MEETING

- A. The Director's Representative will notify all parties concerned of the time and place of the initial job meeting. The meeting will be conducted by the Director's Representative. The agenda will be based on the Format for Initial Job Meeting. All items on the format, as they apply, will be discussed.
 - 1. A copy of the Facility's current Visitor Identification Policy will be distributed.

1.02 PROJECT SCHEDULE MEETINGS

- A. The Initial Schedule Meeting will be held within 15 days of Project award. The Director's Representative will notify all members of the Project Team of the time and place of the meeting. The meeting will be conducted by the Director's Representative and OGS Scheduling via WebEx™ or an equivalent online method for the following purposes:
 - 1. Define the intent of the specification.
 - 2. Review the reporting structure of the Project.
 - 3. Provide training to the Project Team.
- B. The Director's Representative will notify all members of the Project Team of any Schedule development/coordination meetings conducted by the Director's Representative and OGS Scheduling via WebEx™ or an equivalent online method.
- C. The Project will have monthly project update reporting periods. The update meetings will be conducted by the Director's Representative and OGS Scheduling via WebEx™ or an equivalent online method for the following purposes:
 - 1. Agree to the completed Activity dates.
 - 2. Coordinate and approve the next 6-week Project Work Plan.
 - 3. Evaluate and acknowledge any impact to the Contractor's ability to execute the Project Schedule according to the approved Baseline Project Schedule.

1.03 BI WEEKLY JOB MEETINGS

- A. Unless otherwise directed, job meetings will be held bi weekly, at a time and place agreed upon by the Director's Representative, the Contractor, and the Facility Representative. Other interested parties may attend when needed, e.g., subcontractors and representatives from suppliers, public utilities, and local government. The meetings will be conducted by the Director's Representative for the following purposes:

1. Review job progress, quality of Work, and approval and delivery of materials.
2. Identify and resolve problems which impede planned progress.
3. Coordinate the efforts of all concerned so that the project progresses on schedule to on-time completion.
4. Maintain sound working relationships between the Contractors and the Director's Representative, and a mutual understanding of the project requirements.
5. Maintain sound working procedures.

1.04 PRE-INSTALLATION MEETINGS

- A. Pre-installation meetings will be held to review the specifications, Project Schedule, drawings, and approved submittals in preparation for start of a particular activity.
- B. The meetings shall be attended by the Director's Representative, a Design Representative, and the Contractor's Representative, including installer and representatives of manufacturers & fabricators involved in or affected by the installation and its coordination with other materials/trades.
- C. The Director's Representative shall schedule the meetings prior to the start of the work. The goal of these meetings is to ensure the quality of construction and to maintain the schedule.

1.05 ATTENDANCE

- A. A Contractor's Representative shall be required to attend all meetings scheduled by the Director's Representative, as set forth above.
- B. If the Contractor's Representative fails to attend two scheduled meetings without prior approval, the Contractor will be directed to replace the current Contractor's Representative. Further incidents of non-attendance by the Contractor's Representative will form the basis for review of the Contractor's responsible vendor status.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 013300

SUBMITTALS

PART 1 GENERAL

1.01 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Other requirements pertaining to submittals are included in the General Conditions and in the various sections of the Specifications.
- B. Summary of the Work: Section 011000.
- C. Administrative Requirements: Section 013000.
- D. Contract Closeout Submittals: Section 017716.

1.02 DEFINITIONS

- A. Deviation: Changes in products, materials, equipment and methods of construction from those required by the Contract Documents and proposed by the Contractor.
- B. Acceptable Manufacturer, Company or Product: A manufacturer, company or product capable of achieving the requirements established in the Contract Documents and demonstrating compliance.
- C. Portable Document Format (PDF): An open standard file format used for representing documents in a device-independent and display resolution-independent fixed layout document format.

1.03 DEVIATIONS FROM REQUIREMENTS OF THE CONTRACT DOCUMENTS

- A. Deviations from the requirements of the Contract Documents will not be allowed unless a request for deviation is made in writing prior to or at the time of submission and the specific deviation is approved by the Director's Representative subject to the requirements of Article 4 of the General Conditions. The request for deviation shall be made utilizing the CONTRACT DOCUMENT DEVIATION REQUEST FORM (Form BDC 49) accessible from the OGS Web Site.
 - 1. The submission of a deviation shall be done in a timely manner according to the schedule of submittals to allow the Director sufficient time for review.

1.04 "OR EQUAL" TO BRAND NAME PRODUCTS

- A. Whenever a product is specified by brand name, a comparable brand, equal to that named, may be submitted for approval subject to the requirements of Article 5 of the General Conditions.

1. The Contractor shall bear the burden of proving that the proposed product is equal to the specified product. The submission of an “or equal” shall be done in a timely manner to allow the Director sufficient time to review the proposed product.
2. Whenever a color or pattern is indicated by a specific manufacturer’s name or number, the intent is to communicate the required color or pattern of the material. Other manufacturers’ comparable colors or patterns may be submitted for approval as equal.

1.05 WAIVER OF CERTAIN SUBMITTAL REQUIREMENTS

- A. Unless otherwise specified, the requirement to submit product data and samples for approval will be waived for products specified by brand name if the specifically named products are furnished for the Work. In such cases, submit required Product Data to the Director’s Representative via Submittal Exchange® for information only.

1.06 ADMINISTRATIVE REQUIREMENTS

- A. Participate in the OGS’s hosted web-based collaboration service (Submittal Exchange® at www.submittalexchange.com) to transmit and track Contractor provided project related documents.
- B. Identify submittals by project title and number. Include Contractor’s name, date, and revision date. On shop drawings, product data and samples, also include the name of the supplier and subcontractor (if any), and applicable specification section number. Stamp each submittal and initial or sign the stamp to certify review and approval of submittal.
- C. Assemble submittals in accordance with the requirements in the individual sections of the Specifications and as required by this section. It is the Contractor's responsibility to review and verify that all information required for each submittal is included in the submittal package. Errors or omissions found by the Contractor are to be corrected prior to the submission of the submittal package for approval. Incomplete submittal packages that have been submitted for review and approval will be returned.
 1. It is the Contractor's responsibility to verify that portions of the submittal package to be provided by a subcontractor (or supplier) are complete, as well as portions of the submittal package being provided directly by the Contractor.
 2. Do not combine the submittals of more than one specification section with submittals required by other specification sections unless specifically stated in the contract Specifications.
- D. If a submittal is based on, or the result of, a change order or field order to the Contract Documents, include copies of the applicable change order or field order with the submittal.
- E. 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. Submit all submittal items required for each specification section concurrently unless instructions for partial submittals are required in a specific specification section requiring sequential submissions.
 3. Submit action submittals and informational submittals required by the same specification section as separate packages under separate transmittals.
 4. Coordinate transmittals 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. The Director's Representative reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- F. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on uploading the submittal to Submittal Exchange®. No extension of the project schedule will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow time for the initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. The Designer of Record will advise the Director's Representative when a submittal being processed must be delayed for coordination.
 2. Resubmittal Review: Allow time for review of each resubmittal.
 3. Sequential Review: Where sequential review of submittals by the project team is necessary for coordination, allow time for review.

1.07 SUBMITTALS

- A. Schedule of Submittals acknowledgement: Provide written acknowledgement that the Schedule of Submittals has been received and reviewed with Critical Submittals identified and Contractor's Projected Dates (three dates inserted into each column) are entered for each specification item.

1.08 RE-EVALUATION FEE

- A. In accordance with Article 4.7 of the General Conditions, a re-evaluation processing fee will be levied against the Contractor for each re-evaluation of a Submittal or Submittal Package submission that was returned for failure to comply with the submittal requirements relative to completeness, content or format.

1.09 ELECTRONIC SUBMITTALS

- A. Submittal Exchange® is used to provide an on-line database and repository which shall be used to transmit and track project related documents. The intent for using this service is to expedite the construction process by reducing paperwork, improving information flow, and decreasing submittal review turnaround time.

1. Project submittals (shop drawing, product data and quality assurance submittals) shall be transmitted by the Contractor in PDF to Submittal Exchange®, where it will be tracked and stored for retrieval for review. After the submittal is reviewed it is uploaded back to Submittal Exchange® for action or use by the Contractor and Director's Representatives.
 2. The service also tracks and stores documents related to the project such as RFI's (Request for Information), IB's (Information Bulletins), CAD Coordination, Minutes, Testing, and Closeout documents.
- B. For each submittal, the Contractor shall review and apply electronic stamp certifying that the submittal complies with the requirements of the Contract Documents, including verification of manufacturer/product, dimensions and coordination of information with other parts of the work.
- C. It is the Contractor's responsibility to provide submittals in PDF. The Contractor may use the following options:
1. Subcontractors and suppliers provide electronic submittals in PDF to the Contractor through Submittal Exchange®.
 2. Subcontractors and suppliers provide paper submittals to the Contractor, who electronically scans and converts them to PDF.
 3. Contract a Scanning Service, which will allow the Contractor and the Contractor's subcontractors and suppliers to provide paper submittals to the Scanning Service, which electronically scans and converts them to PDF. It will be the Contractor's responsibility to transmit the scanned submittals to Submittal Exchange®.
- D. Image Quality:
1. Image resolution: The PDF files shall be created at a minimum resolution of 200 dots per inch utilizing the original document size. The Contractor will be responsible to increase the resolution of the scanned file or images being submitted as required to adequately present the information.
 2. Image Color Rendition: When information represented requires color to convey the intent and compliance, provide full color PDF reproduction.
- E. Internet Service and Equipment Requirements:
1. The Contractor will be required to have an Email address and Internet access at Contractor's main office.
 2. Unless the Contractor will exclusively be using a Scanning Service to create PDF documents, the Contractor will be required to own a PDF reviewing, creating and editing software, such as Adobe Acrobat (www.adobe.com), Bluebeam PDF Revu® (www.bluebeam.com), or other similar PDF reviewing, creating and editing software for applying electronic stamps and comments.
- F. Training and Support:
1. Submittal web-based collaboration training and support shall be available, free of charge from Submittal Exchange®, for project participants using the submittals website.

2. Training schedule will be coordinated through the Director's Representative.
- G. Paper prints (hardcopies) of reviewed submittals:
1. Record Copy: Each Contractor shall provide one paper copy of each submittal they are responsible for to the Director's Representative within 14 days of receipt of a released submittal (i.e. marked "Approved", "Approved As Noted", or other implied acceptance of a submittal), or meeting the requirements of Waiver Of Certain Submittal Requirements Article of this specification section.
 - a. Exception: Paper copies are not required for a submittal that is disapproved or requiring resubmission.
 - b. Paper copies shall be printed in a size format equal to the original document.
 - c. Scaled Shop Drawings shall be printed to the scale noted on the drawings.
 - d. The resolution of the printed copy shall be equal to that of the PDF file that it is being printed from.
 - e. The Record Copy shall be used by the Director's Representative during the construction of the project and shall be retained as a turn-over item to the facility at the end of the project as required under Section 017716 Contract Closeout.
 2. Use for Construction: Retain complete copies of submittals on project site. The Contractor shall not commence work for related activities until the appropriate submittals are approved and the corresponding record copies are delivered to the Director's Representative.
 3. Distribution: The Contractor will furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Maintain transmittal forms indicating distribution of submittals.

1.10 SHOP DRAWINGS

- A. Provide shop drawings in the format required by the Specifications. Show the information, dimensions, connections and other details necessary to insure that the shop drawings accurately interpret the Contract Documents. Show adjoining construction in such detail as required indicating proper connections. Where adjoining connected construction requires shop drawings or product data, submit such information for approval at the same time so that connections can be accurately checked.
- B. Electronic copies of CAD Drawings of the Contract Drawings will be provided by the Director's Representative for Contractor's use in preparing submittals.
1. The Director's Representative will furnish one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings.
 - a. The Director's Representative makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
 - b. Digital Drawing Software Program: The Contract Drawings are available in AutoCAD.

- c. The following digital data files will be furnished for each appropriate discipline:
 - 1) Floor Plans.
 - 2) Site Plans
 - 2. The Contractor will be required to sign a Use Agreement for Project Documents prior to release of digital data drawing files of the Contract Drawings.
- C. Have shop drawings prepared by a qualified detailer. Shop drawings shall be neatly drawn and clearly legible. Machine duplicated copies of Contract Drawings will not be accepted as shop drawings.
 - 1. Where shop drawings are indicated to be drawn to scale:
 - a. Use scale normally found on an "Architect" or "Engineer" scale.
 - b. Written Scale: Clearly label scales being used on each drawing and/or on each detail on the drawing.
 - 1) Examples: $1/8" = 1'-0"$ $1" = 40'-0"$.
 - c. Graphic Scale: Adjacent to each Written Scale, provide a graphic scale delineating the scale being used. Graphic scale shall be divided into measuring units relating to the accuracy required for the drawing or details.
 - d. Clearly dimension key elements of the drawing or detail.
 - 2. When the drawing sheet is printed full size, the minimum text size shall be 1/8" (3.2 mm) for hand drafting and 3/32" (2.5 mm) for CADD drawings.
- D. Submit the shop drawings through Submittal Exchange®. The shop drawings will be reviewed and the review results will be posted on Submittal Exchange®. Contractor will receive email notice of completed review. If the review results in disposition of "DISAPPROVED" or "RETURNED FOR CORRECTION", promptly correct the deficiencies and resubmit the shop drawings meeting Contract requirements.

1.11 PRODUCT DATA

- A. Provide product data in the format required by the Specifications. Modify product data by deleting information that is not applicable to the project or by marking the product data to identify pertinent products. Supplement standard information, if necessary, to provide additional information applicable to project.
- B. Submit the product data through Submittal Exchange®. The product data will be reviewed and the review results will be posted on Submittal Exchange®. Contractor will receive email notice of completed review. If the review results in disposition of "DISAPPROVED" or "RETURNED FOR CORRECTION", promptly correct the deficiencies and resubmit the product data meeting Contract requirements.
- C. Comply with applicable federal and State of New York Right-to-Know Law provisions. Provide Safety Data Sheets (SDS) documents for products that have SDS data prior to use on the project site.
 - 1. Upload and maintain electronic SDS documents on the Submittal Exchange® SDS tab.

2. SDS tab is organized by prime contracts. To be readily identified, name products with SDS by specification section number and product name.
3. Supply and maintain one hard copy of the appropriate SDS on the project site and one hard copy with the Facility's Right-to-Know Information Officer.

1.12 QUALITY ASSURANCE

- A. Provide quality assurance information in the format required by the Specifications, including supporting documentation as required.
- B. Submit the quality assurance information through Submittal Exchange®. The quality assurance information will be reviewed and the review results will be posted on Submittal Exchange®. Contractor will receive email notice of completed review. If the review results in disposition of "DISAPPROVED" or "RETURNED FOR CORRECTION", promptly correct the deficiencies and resubmit the quality assurance information meeting Contract requirements.

1.13 SAMPLES

- A. Submit 2 (unless a different number is specified) of each sample required by the Specifications.
- B. Samples will become the property of the State when submitted and will not be incorporated in the Work unless specifically stated otherwise.
- C. The electronic submittal process is not intended for color samples, color charts, or physical material samples.
- D. Record transmittal of each sample required by the Specifications through Submittal Exchange®.
- E. Consult with the Director's Representative for direction on where Samples will be sent for review.
- F. The sample will be reviewed and the review results will be posted on Submittal Exchange®. Contractor will receive email notice of completed review.

1.14 REVIEW OF SUBMITTALS

- A. Items submitted for review will be reviewed for compliance with the Contract Documents, based upon the information submitted. The items will be acted upon with the following dispositions:
 1. Approved:
Where the submittal is marked "Approved", the work covered by the submittal may proceed provided it complies with the Contract Documents. Final acceptance will depend on that compliance.
 2. Approved as Noted:
Where the submittal is marked "Approved as Noted", the work covered by the submittal may proceed provided it complies with the review

- comments noted on the submittal and the Contract Documents. Final acceptance will depend on that compliance.
3. **Disapproved:**
Where the submittal is marked “Disapproved”, do not proceed with the work covered by the submittal, including purchasing, fabrication, delivery or other activity for the item submitted. Prepare a new submittal according to the review comments noted on the submittal and meeting the Contract Documents.
 4. **Returned for Correction:**
Where the submittal is marked “Returned for Correction”, do not proceed with the work covered by the submittal, including purchasing, fabrication, delivery or other activity for the item submitted. Revise or prepare a new submittal according to the review comments noted on the submittal and meeting the Contract Documents.
 5. **Acknowledged:**
Where the submittal is marked “Acknowledged”, receipt of the submittal is acknowledged and has been recorded.
 6. **No Action:**
Where the submittal is marked “No Action” or “No Action Taken”, no review was made of this item, see comments noted on submittal and take appropriate action.
 7. **Multi-Action:**
Where the submittal is marked “Multi-Action”, separate dispositions were made for the items submitted, see the review comments for the disposition of each item submitted.

1.15 SCHEDULES AND RECORDS

- A. Submit the following Schedules and Records information not later than 15 days after approval of the Contract unless the Contractor or the Director determines an earlier submission is required to properly schedule or progress the Work.
 1. **SCHEDULE OF SUBMITTALS (S.O.S.):**
 - a. Follow the Instructions to the Contractor in the S.O.S (cover page of the Microsoft Excel form supplied by the State).
 - b. Confirm submittal items listed and indicate in the spaces following each item, the date the item will be submitted (Projected Transmittal Date).
 - c. Confirm critical submittals and long lead items identified by the Architect / Engineer. Identify and mark with “X” additional submittals deemed as critical or having long lead times. In addition to the date each item will be submitted, include the date approval is required (allow at least 3 weeks), and the date delivery of the material or equipment is necessary for timely completion of the Work in accordance with the Project Schedule.
 - d. Notify the Director’s Representative of modifications and/or additional submittals necessary for the project prior to requesting revisions with Submittal Exchange®.
 2. **SUBMITTALS WEBSITE LOG:**
 - a. The submittal website log will be populated by Submittal Exchange® by means of the S.O.S.
 - b. Review the log and verify that all long lead items and critical

submittals are properly indicated according to the latest version of the S.O.S. For each item to be submitted indicate the following:

- i. In the "Date Expected" column insert the date the item will be submitted for review and approval (this is the same date as the S.O.S "Projected Transmittal Date").
- ii. In the "Date Requested on Site" column insert the date the item will be delivered to the project site (this is the same date as the S.O.S "Projected Delivery Date").
- c. The submission date that is entered shall provide sufficient time for the item to be reviewed, ordered, delivered and installed for timely completion of the Work in accordance with the Project Schedule. The date entered for submittal of each item is the last day a deviation will be considered.

1.16 TRANSMITTALS

- A. Submittal Transmittal (Form BDC 42) accessible from the OGS Web Site:
 1. Furnish separate Form BDC 42 for each submitted item sent to Submittal Exchange® for review.
 - a. Contractor may utilize their own Transmittal Form (or Transmittal Letter) in lieu of utilizing the Form BDC 42, contingent on the Contractor's Transmittal Form includes all information and certifications required by Form BDC 42.
 2. Clearly identify applicable specification section number of submitted item (product data, shop drawing, etc.) on the Form BDC 42.
- B. All Contracts:
 1. Transmit items designated in the Schedule of Submittals (and project Specifications) to the Submittal Exchange®.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 014100

REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 COMPLIANCE

- A. Comply with applicable regulatory requirements and various codes referenced in these specifications. Where conflicts exist between local, State, and/or Federal regulatory requirements, codes, or these specifications, advise the Director's Representative. The Director's Representative will assist in resolving the conflicts to the satisfaction of the regulatory agencies prior to commencing the Work.

1.02 UNIFORM CODE, ENERGY CODE, AND CONTRACTOR QUALIFICATIONS

- A. All Work shall comply with OSHA (including site-specific safety plans required on all projects), and the New York State Uniform Fire Prevention and Building Code (the "Uniform Code"), which includes the publications incorporated by reference in Title 19 NYCRR Part 1219 through 1228:
 - 1. 2020 Building Code of New York State (the "Building Code")
 - 2. 2020 Mechanical Code of New York State (the "Mechanical Code")
 - 3. 2020 Fire Code of New York State (the "Fire Code")
 - 4. 2020 Property Maintenance Code of New York State (the "Property Maintenance Code")
 - 5. 2020 Existing Building Code of New York State (the "Existing Building Code")
 - 6. All other standards referenced in 19 NYCRR Parts 1219 through 1228.
- B. The contractor shall be aware of, and comply with, contractor requirements identified in the above-referenced codes and standards; for example, but not limited to:
 - 1. OSHA (Occupational Safety and Health Administration).
 - 2. 2020 Building Code Chapter 33 Safeguards During Construction.
 - 3. 2020 Existing Building Code Chapter 15 Construction Safeguards.
 - 4. 2020 Fire Code Chapter 33 Fire Safety During Construction and Demolition
 - 5. 2020 Fire Code Chapter 35 Welding and Other Hot Work (which governs safety during construction).
- C. All Work shall comply with the 2020 Energy Conservation Construction Code of New York State ("Energy Code") promulgated pursuant to Article 11 of the New York State Energy Law. The Energy Code is contained in 19 NYCRR, Part 1240, and in the publications incorporated by reference in 19 NYCRR Part 1240. The publications incorporated by reference in 19 NYCRR Part 1240 include:
 - 1. The publication entitled "2020 Energy Conservation Construction Code" published by International Code Council, Inc.
 - 2. The publication entitled "ANSI / ASHRAE / IES Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings" published by American Society of Heating, Refrigeration and Air-Conditioning Engineers, Inc.

3. The other referenced standards mentioned and/or referred to in 19 NYCRR Part 1240.
- D. Electrical Work: Conform to the requirements of the National Electrical Code (NEC), as referenced in the Uniform Code, unless otherwise shown or specified. The Director will be the sole judge of the interpretation of these rules and requirements.

1.03 STATE-REQUIRED PERMITS AND INSPECTIONS

- A. No Work shall commence without a Construction Permit issued by the OGS Division of Codes and Construction Permitting. Contractors shall not file for and not pay for Construction Permits for Work located on New York State property.
- B. A New York Board of Fire Underwriters inspection or certificate is not required.

1.04 LISTINGS

- A. Equipment and materials for which Underwriters' Laboratories, Inc. (UL) provides product listing service, shall be listed and bear the listing mark.
 1. Alternately, any product listed and bearing the mark from one of the other Nationally Recognized Testing Laboratories (NRTL – as recognized by OSHA) shall be an acceptable alternative to being UL listed and marked, if the listed product has been tested to the applicable standard.

1.05 FIRE-RESISTANT CONSTRUCTION MATERIALS AND ASSEMBLIES

- A. Conform to the fire rating classifications based upon the test methods and acceptance criteria in the "Standard for Fire Tests of Building Construction and Materials" for which Underwriters' Laboratories, Inc. (UL) provides listings.
 1. Materials and assemblies shall comply with the acceptance criteria, detailed description of the assembly, its performance in the fire test, and other pertinent details such as specification of materials, Classification coverage, and alternate assembly details.
 2. Alternatively, fire resistance rating classifications by other issuing organizations listed in the New York State Uniform Fire Prevention and Building Code are acceptable.

1.06 MATERIALS WITH TRACE AMOUNTS OF ASBESTOS

- A. Perform Work required to remove, disturb, or repair any material that contains less than 1 percent by weight of asbestos (trace) in accordance with all applicable OSHA regulations (29 CFR Part 1926.1101).

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 014216

DEFINITIONS

PART 1 GENERAL

1.01 DEFINITIONS SPECIFIED ELSEWHERE

- A. Other definitions are included in Article 2 of the General Conditions and in various sections of the Specifications.

1.02 DEFINITIONS

- A. The following terms shall have the meanings ascribed to them in this Section, wherever they appear in the Contract Documents.
1. Air Handling Unit: Equipment in which air is heated, cooled, humidified, dehumidified, filtered, deodorized, sterilized, etc., and is moved by mechanical means either within the equipment or externally through ductwork.
 2. Cold Water Inlet: That part of distribution piping beginning with a connection to the service piping, and which contains the main shut-off valve, strainer, pressure regulators, gages and appurtenances required for control of the distribution water system for the building. The cold water inlet is part of the distribution system.
 3. Company Field Advisor: An employee of the Company which lists and markets the primary components of the system under their name who is certified in writing by the Company to be technically qualified in design, installation, and servicing of the required products or an employee of an organization certified by the foregoing Company to be technically qualified in design, installation and servicing of the required products. Personnel involved solely in sales do not qualify.
 4. Drains: Piping connections and valves used for purpose of (a) determining operating conditions of water columns, gage glasses, piping to feedwater heater and other regulators, and (b) piping connections and valves used for removal of contents or sludge and other forms of deposits from tanks, heaters, regulator bodies, and low points in piping systems.
 5. Drainage System: Piping and appurtenances required to convey sewage, storm water, and liquid waste from plumbing fixtures, equipment and drains to a point of discharge outside the building.
 6. Ductwork Exposed: Ductwork directly accessible by normal accesses without the removal of any construction Work or material.
 7. Headroom: Minimum clearance between the floor and the underside of the point of lowest installed mechanical construction above. In case of stairways and walkways, the minimum clearance between the step or surface of the walkway and lowest installed mechanical construction above the stairway or the walkway.
 8. Location, Dry: Location not normally subject to dampness or wetness.
 9. Location, Damp: Location subject to moderate degree of moisture, including:

- a. Installations in exterior walls.
 - b. Interior locations such as unheated basements, unheated barns, and cold-storage areas.
10. Location, Wet: Location subject to saturation with water or other liquids, including:
- a. Installations underground.
 - b. Locations exposed to the weather and unprotected.
 - c. Installations in concrete slabs on grade (with or without vapor barrier between slab and grade).
 - d. Installations under concrete slabs on grade.
 - e. Installations in concrete or masonry walls in contact with the earth (with or without membrane waterproofing between wall and earth).
11. Mechanical: General term applicable to HVAC, Plumbing, Sprinkler, and Refrigeration.
12. Piping: This term includes pipe, tube and appurtenant fittings, flanges, valves, traps, hangers and supports.
13. Piping, Concealed: Piping built into construction and not accessible without removal of construction Work such as masonry, plaster or other finishing material and piping installed in floors, furred spaces, suspended ceilings, non-walk-in tunnels, conduits, behind removable panels and cabinet doors.
14. Piping, Exposed: Piping directly accessible by normal accesses without the removal of construction Work or material.
15. Piping, Distribution: Domestic water supply piping, starting with a connection to service piping, and continuing throughout the building to point of connection to equipment and fixture supply piping.
16. Piping, Service: Underground domestic water supply piping starting with a connection to a water main or supply as noted, and continuing to and into a building and terminating with the first exposed fitting inside the building.
17. Space, Finished: A space which has a finishing material applied to walls or ceilings such as paint, plaster, ceramic tile, enamel glazing, face brick, vinyl wall covering, etc. to provide a finished appearance or which will have such finishes applied under a related Contract.
18. Space, Unfinished: A space which does not meet the definition of a finished space.
19. Water, Chilled: Water cooled by refrigeration.
20. Water, Cold: Water with a temperature between 33 degrees F. and 80 degrees F. and which is neither cooled nor heated mechanically.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 015000

CONSTRUCTION FACILITIES & TEMPORARY CONTROLS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Provide the construction facilities and temporary controls necessary for the Work, unless otherwise indicated.
 - 1. The construction facilities and temporary controls specified to be provided by a particular Contract shall be kept operational by that Contractor for the Work of all related Contracts at all times Work is being performed by a Contractor.
 - 2. The construction facilities and temporary controls specified to be provided by a particular Contractor shall be installed as soon after award of the Contract as necessary to enable the Work of each Contract to proceed on schedule, and maintained until completion of the Work of all related contracts unless otherwise directed in writing.
 - 3. Any Contractor who requires additions to the construction facilities and temporary controls specified to be provided by another Contractor, shall provide and maintain them.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Disposal of Asbestos-Containing Materials: Section 028213-H.

1.03 TEMPORARY LIGHT AND POWER

- A. Electrical energy for temporary light and power will be made available without charge.
- B. All Contracts:
 - 1. Any Contractor requiring additional lighting shall provide additional fluorescent fixtures or incandescent lampholders (with lamps), but in no case shall the load on any branch circuit or feeder exceed its rated capacity.
 - 2. Install materials for temporary light and power in conformance with the National Electrical Code.
 - 3. Materials for temporary light and power need not be new if they are in satisfactory operating condition.
 - 4. Provide ground-fault protection for personnel (such as portable plug-in type ground-fault circuit-interrupters) on single phase 15 and 20 ampere receptacle outlets which are in use.
 - 5. Receptacle outlets, portable cord connectors and attachment plugs shall have standard NEMA configurations.
 - 6. As the progress of the Work allows, and as approved, completed portions of the permanent wiring and electrical service may be utilized for temporary light and power.

1.04 TEMPORARY WATER

- A. Water will be made available for the Work without charge at source or sources directed within the limits of the existing supply and usage.
- B. All Contracts: Prevent waste of water.

1.05 TEMPORARY TOILETS

- A. HVAC Work Contract: Provide toilet facilities for Contractor's and subcontractors employees engaged on the Project, including employees of other contractors. Locate toilets where directed, and maintain them in a sanitary condition.

NUMBER OF EMPLOYEES	MINIMUM NUMBER OF FACILITIES
20 or less	1 toilet
20 or more	1 toilet and 1 urinal per 40 employees
200 or more	1 toilet and 1 urinal per 50 employees

*Toilet/Urinal Combinations shall count as only one facility.

- 1. Provide approved chemical or electric toilets.
- 2. Inside buildings, locate toilet facilities no more than 500 feet travel on the same level from the work location of any person.

1.06 PROTECTION OF WORK AND EXISTING PROPERTY

- A. Protect installed Work and existing property during performance of the Work.
- B. Maintain the building in a watertight condition during performance of the Work.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at wall projections, jambs, sills, and soffit of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, and movement of heavy objects by covering them with durable sheet materials.
- F. Protect smoke detectors from airborne dust and debris.
 - 1. At the beginning of each work day, provide protective coverings over smoke detectors in areas where airborne dust and debris will be generated by the Work.
 - 2. At the end of the work day, clean the areas in which the smoke detectors are located by whatever means necessary to assure that airborne dust and debris will not contaminate the smoke detectors, then remove protective coverings.

3. Provide signs, instructions and alternate methods for reporting a fire during the periods that the smoke detectors are covered.
 4. Notify the Director's Representative and have procedures approved.
- G. Prohibit traffic or storage upon waterproofed and roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- H. Protect existing trees and plants during performance of the Work unless otherwise indicated. Box trees and plants within the grading limit lines. Do not deposit excavated materials or store building materials around trees or plants. Do not attach guy wires to trees.
- I. Prohibit traffic from landscaped areas.
- J. Cleaning tools of cementitious and other insoluble materials:
1. Do not wash tools in sinks or other sanitary drainage systems. Protect all drainage systems from debris that can clog or damage piping and fixtures.
 2. Take all precautions necessary to prevent cementitious and other insoluble materials from flowing into floor drains.
 3. Dispose of excess cementitious and other insoluble debris with the other rubbish.

1.07 BARRIERS AND ENCLOSURES

- A. All Contracts: Provide barriers during performance of the Work to:
1. Prevent unauthorized entry to work areas.
 2. Allow for State's occupancy of Site.
 3. Protect existing facilities and adjacent properties from damage.
 4. Protect vehicular and pedestrian traffic.

1.08 SECURITY

- A. Key Deposits: A \$25 deposit will be required for each key issued by the Facility. Deposits will be refunded upon return of the keys.
- B. Facility Key Regulations:
1. Sign Facility keys out and in on a daily basis unless otherwise directed.
 2. Keep keys on person at all times while on the premises. Do not loan or give keys to other persons.
 3. Do not remove keys from the premises without written permission from the Director's Representative.
 4. Report lost, missing, or stolen keys immediately to the Facility Safety/Security Department. Assume responsibility for cost of necessary key and lock replacement as a result of lost, missing, or stolen keys.
- C. Identification Cards: Contactors and Sub-Contractors shall have valid State License.

- D. Promptly relock doors and security screens located in access routes, storage areas, and work areas after use.
- E. Restore, by the end of each work day, existing in place safety/security items such as doors, screens, alarm systems components, that required removal, replacement, or adjustment to perform the Work, unless otherwise authorized in writing by the Director's Representative.
- F. Remove all tools and materials from patient occupied work areas when the work areas are not attended by employees and at the end of each work day. Store tools in a locked tool box, cabinet, or shed. Store materials where directed, in a location secure from access by patients and clients.

1.09 WATER CONTROLS

- A. Provide and maintain pumping equipment necessary to keep the work areas free from water. Discharge water into existing storm drainage systems or otherwise disperse as directed.

1.10 FIRE PREVENTION

- A. Take precautions necessary to prevent fires.
- B. Fuel for cutting and heating torches shall be acetylene or LP-gas only, and shall be contained in Underwriters Laboratory or Federal Department of Transportation approved containers.
- C. Furnish and maintain a currently inspected 20 pound capacity multi-class A:B:C fire extinguisher in the immediate vicinity where welding tools or torches are in use.
- D. Furnish and maintain a currently inspected fire extinguisher of the appropriate class and size whenever the temporary storage of materials changes that areas classification of fire load or life safety.
- E. Do not use flammable liquids, other than those specified, within a building without the written approval from the Director's Representative.
- F. Tarpaulins shall be flameproof and shall be securely anchored when attached to scaffolding or when used to enclose any portion of a building.
- G. If required by the nature of the work and facility regulations, the Contractor shall obtain from the facility and pay all costs associated with "Hot Work Permits" including fire watches to execute the work of its contract. Perform hot work in accordance with the Fire Code of New York State and the Hot Work Program approved for the work. Prior to, during and after performing hot work, inspect the hot work area for compliance with the requirements of the permitted Hot Work Program.
 - 1. Post signage "Caution: Hot Work In Progress - Stay Clear" in conspicuous locations warning others before they enter a hot work area

where the area is accessible to persons other than the operator of the hot work equipment.

1.11 TEMPORARY FIRE PROTECTION

- A. All existing exits, fire walls, fire barriers and fire protection systems shall be continuously maintained in the occupied phases in compliance with the Fire Code of New York State. Comply with NFPA 241 for items not specifically addressed in the Fire Code of New York State.
- B. Those portions occupied by the facility must be available for their use 24 hours a day, seven days a week during the contract period unless otherwise scheduled in these documents.
- C. The cost of all labor, fire watches, variances, materials, installations, maintenance and removal of such temporary fire protection systems or modifications to the existing systems are the responsibility of the Contractor. Install permanent fire walls, fire barriers and fire protection systems, if provided as part of the work, as soon as practical.

1.12 ACCESS ROADS

- A. Routes of ingress and egress on the premises to the location of the Work shall be as directed.
- B. Keep designated access roads clear of dirt and debris resulting from the Work.
- C. Provide means of removing mud from vehicle wheels before entering paved roads.

1.13 PARKING

- A. All Contracts:
 - 1. Park vehicles in areas where directed.
 - 2. Keep designated parking areas clear of dirt and debris resulting from the Work.
 - 3. If requested, register vehicles which are to be parked at the Facility with the Facility Safety/Security Department.
 - 4. Remove ignition key from unattended vehicles and lock doors.
- B. HVAC Work Contract: Remove snow from parking areas allocated to all Contractors.

1.14 RUBBISH REMOVAL

- A. Clean up and containerize the rubbish (refuse, debris, waste materials, and removed materials and equipment) resulting from the Work at least once a day and more often if the rubbish interferes with the work of others or presents a hazard. Leave work areas broom clean, except where more stringent cleaning is specified, at the end of each day. Locate containerized rubbish on the Site where directed. Provide a portable dump truck to remove large rubbish from the site as

necessary. While on site (if not actively being loaded) the portable dump truck shall be parked in the site designated contractor dump truck parking area during facility working hours, refer to the "site staging and keyplan" on drawing G-003 for contractor dump truck parking area. Coordinate portable dump truck loading times with the director's representative minimum 72 hours prior.

- B. Remove rubbish from State property at least once a week and more often if the rubbish presents a hazard. Properly dispose of rubbish.
- C. Burning of rubbish will not be permitted.

1.15 RELOCATION AND REMOVALS

- A. Should a change in location of any construction facilities and temporary controls be necessary in order to progress the Work properly, remove and relocate such items as directed.
- B. Remove the construction facilities and temporary controls when they are no longer required. Restore permanent facilities used for or connected to temporary facilities to their original condition or better.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 016500

MATERIALS AND EQUIPMENT

PART 1 GENERAL

1.01 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Specific requirements pertaining to materials and equipment specified elsewhere are additional to the provisions of this Section.

1.02 PRODUCT LABELS

- A. When materials or equipment are specified to conform to ASTM, Federal or other reference specifications, the materials delivered to the site shall bear the manufacturer's printed labels stating that the materials meet the requirements of such referenced specifications.

1.03 TRANSPORTATION AND HANDLING

- A. Deliver factory packaged materials and equipment in the manufacturer's original containers.
- B. Transport and handle materials and equipment in such a manner as to prevent their damage.
- C. Arrange for delivery of materials and equipment during the hours of the day established by the Director's Representative.
- D. Have workers available to receive and unload materials and equipment delivered to the site. Do not deliver, or have delivered, any materials and equipment to the site unless such forces are available.
- E. Facility personnel are not authorized to sign for receipt of Contractor's material or equipment.

1.04 STORAGE AND PROTECTION

- A. Neatly pile, store, protect, and secure materials and equipment in locations where directed.
- B. Protect materials and equipment subject to damage by temperature or other weather conditions.
- C. Do not store volatile liquids in a State building.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 017329

REMOVALS, CUTTING, AND PATCHING

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Rubbish Removal: Section 015000.
- B. Asbestos Abatement: Section 028213.

1.02 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to remain the Property of the State.

1.03 PROJECT CONDITIONS

- A. Existing Conditions: Do not disturb existing structures, construction, materials or equipment unless required by the Contract.
 - 1. Do not cut, drill or remove structural members such as joists, beams or columns supporting construction that is to remain unless expressly required by the Contract Documents.
- B. Existing Paint: A lead survey was performed on existing surfaces for the presence of lead based paints. A list of the surfaces tested and the results of the survey are in Document 003126. Take precautions as required to prevent the spread of lead containing particles and dust.
 - 1. Assume existing painted surfaces that have not been tested to contain lead based paint. Take precautions as required to prevent spread of lead containing particles and dust.
- C. Items to Remain the Property of the State: The following items shall remain the property of the State and shall be stored at the site where directed:
 - 1. Construction Work Contract:
 - 2. HVAC Work Contract: (2) 6" Chilled Water Valve Actuators and (2) 2-1/2" Chilled Water By-Pass Valve Actuators.

PART 2 PRODUCTS

2.01 MATERIALS

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

PART 3 EXECUTION

3.01 EXAMINATION

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

3.02 PREPARATION

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

3.03 REMOVALS, CUTTING, AND ALTERING

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

3.04 PATCHING

- A. Patch existing construction and finishes defaced, damaged, or left incomplete due to alterations and removals. Patching, except as otherwise indicated, shall be limited to the areas which have been cut or altered. Finish patched surfaces to match existing adjacent surfaces as closely as practicable.
- B. Perform patching around items penetrating existing construction in a manner that will maintain the water and fire resistive capability of the existing construction.
- C. Paint patched areas to match existing adjacent surfaces as closely as practicable using same type of paint. Painting, except as otherwise indicated, shall be limited to the areas which have been patched.

- D. Where surfaces exposed by removals are to remain as exposed surfaces, paint such areas to match existing adjacent surfaces as closely as practicable using same type of paint.

3.05 REINSTALLATION

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

END OF SECTION

SECTION 017716

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Other provisions pertaining to this Section are included in Article 9 of the General Conditions.

1.02 CONTRACT CLOSEOUT INSPECTIONS

- A. The following 3 inspections will be made in addition to the normal inspections to ensure that all Contract requirements are met and that the Work is complete and acceptable. The purpose of each of these inspections is to furnish the Contractor a written list of Contract exceptions, omissions, and incompletions so that the Work can be progressed to timely completion in accordance with the Contract Documents.
 - 1. Detailed Inspection: The “Detailed Inspection” will be made when the Work is substantially complete. A copy of the detailed inspection list will be furnished to the Contractor. When this inspection progresses over any length of time, copies of the list will be furnished as the inspection progresses so that the Contractor may proceed with the required Work without delay.
 - 2. Final Inspection: The Contractor will be advised by letter of the date and time of final inspection. A copy of the final inspection list containing all incomplete or unsatisfactory items and the time allowed to complete the Work will be furnished to the Contractor.
 - 3. Joint Inspection for Physical Completion: The joint inspection for physical completion may be made to verify completion of the exception items listed on the final inspection list so that the physical completion date (defined in the General Conditions) may be established.

1.03 FINAL CLEANING

- A. Perform final cleaning prior to joint inspection for physical completion. Leave the premises in a neat, unobstructed condition, the work areas broom clean (except where more thorough cleaning is specified), and everything in perfect repair and adjustment.
- B. Clean site; sweep paved areas, rake clean landscaped surfaces.
- C. Remove tools, equipment, waste and surplus materials, rubbish, and construction facilities from the premises as soon as possible upon completion of the Work.

1.04 PROJECT RECORD DOCUMENTS

- A. Maintain on site, 2 sets of the following record documents; record actual revisions to the Work:
 - 1. Contract Drawings.
 - 2. Project Manual.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed shop drawings, product data, and samples.
- B. Store record documents separate from documents used for construction.
- C. Record information concurrent with construction progress.
- D. Record Documents and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Measured depths of foundations in relation to finish (first) (main) floor datum.
 - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - 4. Field changes of dimension and detail.
 - 5. Details not on original Contract Drawings.
- E. Construction Work Contract, Protected EPDM Roofing System Work, Section 075553: Maintain, at the site, 2 sets of the membrane manufacturer's sheet layout drawings for recording joint locations. Mark up the drawings in red as follows:
 - 1. Show the actual size of membrane sheets.
 - 2. Dimension the location of end and edge joints, and factory and field fabricated patches in the membrane. Show dimensions taken from fixed locations such as parapet walls, gravel stops, etc. Dimensions shall be accurate to within one foot.
 - 3. Show the type and location of penetrations through the roof.
- F. Upon completion of the work, create electronic versions of the project record documents. Black and white documents are to be scanned into TIFF format using CCIT Group 4 compression. Documents with color, which include black line documents with color notations, are to be scanned into TIFF format using a minimum of 8 colors and "packbit" compression.
 - 1. The scanned images are to be put on a compact disc (CD) using ISO 9660 format. Name the electronic files with the same name as the drawing. Create a folder on the CD for each trade and one for Shop Drawings.
 - 2. Label the CD with the project number, name, and title as it appears on the project manual cover. If there is more than one CD include notation to that effect on the label; i.e., 1 of 3, 2 of 3, 3 of 3. The project record documents and CD(s) are to be turned over to the Director's Representative.

- G. Applications for progress payments will not be approved if the record documents are not kept current. Application for final payment will not be approved until the project record documents are delivered to the Director's Representative.

1.05 OPERATION AND MAINTENANCE DATA

- A. Prepare 2 sets comprised of 8-1/2 x 11 inch text pages bound in capacity expansion binders with durable plastic covers identified with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required. Prepare a printed Table of Contents for each volume, with each product or system description identified. Internally subdivide the binder contents with permanent page dividers, logically organized as described below, with tab titles clearly printed under reinforced laminated plastic tabs:

Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, subcontractors, and major equipment suppliers.

Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of subcontractors and suppliers. Identify the following:

1. Significant design criteria.
2. List of equipment.
3. Parts list for each component.
4. Operating instructions.
5. Maintenance instructions for equipment and systems.
6. Maintenance instructions for finishes, including recommended cleaning methods and materials and special precautions identifying detrimental agents.

Part 3: Project documents and certificates, including the following:

1. Shop drawings and product data.
2. Air and water balance reports.
3. Certificates.
4. Photocopies of warranties.

- B. Submit one copy of completed volumes in final form 15 days prior to final inspection. This copy will be returned after final inspection, with the Director's comments. Revise content of documents as required prior to final submittal.
- C. Submit 2 volumes prior to final Application for Payment.

1.06 WARRANTIES

- A. Furnish warranty certification and copies of warranties that extend beyond the one year period required by the General Conditions. Warranties submitted without warranty certification will not be accepted.
 - 1. Warranty Certification: Written certification from the warrantor that invoices for installation, service, supplies, and warranty fees have been paid in full to persons or firms due payment, and that the warranty is in effect and non-retractable due to any of the specified conditions.
- B. Prepare printed Table of Contents and assemble warranty certifications and warranty copies in a binder with a durable plastic cover.
- C. Deliver the binder to the Director's Representative prior to final Application for Payment.
- D. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within 10 days after acceptance, indicating date of acceptance as start of warranty period.
- E. Applications for final payment will not be approved until the warranty certification and warranty documents are delivered to the Director's Representative.

1.07 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Label and deliver spare parts, maintenance items, and extra materials to the Site. Place in locations as directed.
 - 1. Include "NOT FOR WARRANTY REPAIRS" on the labels.
 - 2. Obtain receipt prior to final payment.
- B. Do not use the spare parts and maintenance materials required by the Contract Documents to remedy defects during the one-year period described in Paragraph 9.8 of the General Conditions except when approved otherwise by authorized Facility Representative. In such cases, replace items used.
- C. Furnish the names, business addresses, and telephone numbers of fully equipped authorized service organizations to the Director's Representative.
- D. Applications for final payment will not be approved until these items are delivered to the Director's Representative.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 019113

GENERAL COMMISSIONING REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section specifies the Contractor's responsibilities in the commissioning process. Commissioning requires the participation of the Contractor to ensure that all systems are operating in a manner consistent with the Contract Documents.
- B. The commissioning process integrates the traditionally separate functions of system documentation, equipment startup, performance testing and training. Commissioning during the construction phase is intended to achieve the following specific objectives in accordance with the Contract Documents:
 - 1. Verify and document that applicable equipment and systems are installed according to the manufacturer's recommendations, contract requirements, and industry standards and that they receive adequate operational checkout by installing contractors.
 - 2. Verify and document proper performance of equipment and systems.
 - 3. Verify and document that O&M documentation is complete.
 - 4. Verify and document that the Facility operating personnel are properly trained.
- C. The systems and equipment to be commissioned are listed in this Section. The Contractor's general commissioning requirements and coordination are detailed in this Section. Specific requirements for commissioning of each system or piece of equipment are detailed in the specification Section for the individual systems or pieces of equipment. A detailed description of the overall commissioning process is included in the appendix.
- D. The commissioning process does not reduce the responsibility of the Contractor to provide finished and fully functional systems and equipment.

1.02 SYSTEMS TO BE COMMISSIONED

- A. The following systems will be commissioned in this project. Specific requirements for the commissioning of each system are included in the related specification Section.
 - 1. HVAC Work Contract:
 - a. Air-Cooled Chiller
 - b. Modification to Direct Digital Building Control System
 - c. HVAC Piping
 - d. Pumps
 - e. Variable Speed Drives
 - f. Testing and Balancing
 - 2. Electrical Work Contract:
 - a. Electrical Power to HVAC Equipment

- B. Commissioning Documents: Equipment and system specific Pre-Functional Checklists and Functional Test procedures will be developed by the Commissioning Authority based on approved submittals, and then will be provided to the Contractors.

1.03 DEFINITIONS

- A. Acceptance Phase: Phase of construction after startup and initial checkout when functional performance tests, O&M documentation review and training occurs.
- B. Approval: Acceptance that a piece of equipment or system has been properly installed and is functioning in the tested modes in accordance with the Contract Documents.
- C. Commissioning authority (CA): An independent agent responsible for the direction and coordination of the commissioning activities. The CA responsible to the Director's Representative.
- D. Commissioning Plan: An overall plan that provides the structure, schedule and coordination planning for the commissioning process.
- E. Commissioning Team: The members of the commissioning team consist of the Commissioning Authority, the Director's Representative, the Contractor, the architect and design engineers. The owner and the building or plant operator/engineer also may be members of the commissioning team.
- F. Deferred Functional Tests: Functional tests that are performed after substantial completion, due to partial occupancy, seasonal requirements, design or other site conditions that prevent the test from being performed prior to substantial completion.
- G. Deficiency: A condition in the installation or function of a component, piece of equipment or system that is not in compliance with the Contract Documents.
- H. Factory Testing: Testing of equipment on-site or at the factory by factory personnel.
- I. Functional Performance Test (FT): Test of the dynamic function and operation of equipment and systems using manual (direct observation) or monitoring methods. Functional testing is the dynamic testing of systems (rather than just components) under full operation. Systems are tested under various modes, such as during low cooling or heating loads, high loads, component failures, unoccupied, varying outside air temperatures, fire alarm, power failure, etc. The CA develops the functional test procedures in sequential written form. The CA coordinates, oversees and documents the actual testing. The Contractor performs the functional tests. FTs are performed after prefunctional checklists and startup are complete.
- J. Phased Commissioning: Commissioning that is completed in phases (by floors, for example) due to the size of the structure or other scheduling issues, in order to minimize the total construction time. Commissioning shall be provided for each phase according to the schedule for that phase. Some repetition and/or remobilization may be required.
- K. Prefunctional Checklist (PC): A list of items to inspect and component tests to conduct to verify proper installation of equipment prior to initiating functional testing.
- L. Startup: The initial starting or activating of dynamic equipment, including executing prefunctional checklists.

1.04 COORDINATION

- A. The CA is hired by, and works for, the Director. The CA directs and coordinates the commissioning activities. All members of the commissioning team shall work together to fulfill their contractual responsibilities and meet the objectives of the Contract Documents.
- B. The CA will work with the Contractor according to established protocols to schedule the commissioning activities. The Contractor shall integrate all commissioning activities into the approved progress schedule. All parties will address scheduling problems and make necessary notifications and changes in a timely manner in order to expedite the commissioning process and maintain the approved progress schedule.

1.05 COMMISSIONING PROCESS

- A. Commissioning Plan. The commissioning plan provides guidance in the execution of the commissioning process. Following the initial commissioning scoping meeting the CA will update the plan which is then considered the “final” plan, although it may be revised as the project progresses.
- B. Commissioning Process. The following narrative provides a brief overview of the typical commissioning tasks during construction and the general order in which they occur. A more detailed description of the commissioning process can be found in the Appendix.
 - 1. Commissioning during construction begins with a scoping meeting conducted by the CA where the commissioning process is reviewed with the Commissioning Team.
 - 2. Additional meetings will be required throughout construction, scheduled by the Director’s Representative, to plan, scope, coordinate, and schedule future activities and to resolve problems. When possible, commissioning meetings will be scheduled immediately following construction meetings.
 - 3. Equipment documentation is submitted to the CA during the submittal process, including detailed start-up procedures.
 - 4. The CA works with the Contractor to develop startup activity lists and startup documentation. The CA provides prefunctional checklists to be completed by the Contractor during the startup process.
 - 5. In general, the checkout and performance verification proceeds from simple to complex; from component level to equipment to systems and intersystem levels. In each case prefunctional checklists are completed, submitted, and approved before functional testing begins.
 - 6. The Contractor executes and documents the prefunctional checklists, and provides notification to the Director’s Representative and the CA. The Contractor performs startup and initial checkout. The CA documents that the checklists and startup were completed according to the approved plans.
 - 7. The CA develops specific equipment and system functional performance test procedures. The Contractor reviews the procedures and submits suggestions or comments. Procedures are finalized by the CA.
 - 8. The procedures are executed by the Contractor, under the direction of the CA.
 - 9. Items of non-compliance in material, workmanship, or setup are corrected and retested at the Contractor’s expense. The Contractor is responsible for providing all resources, manpower, and materials necessary to rectify deficiencies as per requirements of the approved schedule.

10. The O&M documentation prepared by the Contractor is reviewed for completeness by the CA.
11. Commissioning is completed before Substantial Completion.
12. The CA reviews, pre-approves and coordinates the training provided by the Contractor and verifies that it was completed.
13. Deferred testing is conducted, as specified or required.

1.06 CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor's commissioning responsibilities are as follows (all references apply to commissioned systems and equipment only):
 1. Construction and Acceptance Phase:
 - a. Attend the commissioning scoping meeting and other necessary meetings scheduled by the Director's Representative to facilitate the commissioning process.
 - b. Facilitate the coordination of the commissioning work by the CA, and with the CA ensure that commissioning activities are being scheduled into the approved progress schedule.
 - c. Provide detailed manufacturer installation and start-up, operating, troubleshooting and maintenance procedures, factory test reports, and full warranty information, including all responsibilities of the Director to keep the warranty in force. The installation, start-up and checkout materials that are actually shipped with the equipment and the actual field checkout sheet forms to be used by the factory or field technicians shall be submitted to the CA. The CA may request further documentation necessary for the commissioning process.
 - d. In each purchase order or subcontract written, include requirements for submittal data, O&M data, commissioning tasks and training.
 - e. Ensure that all subcontractors execute their commissioning responsibilities according to the Contract Documents and approved progress schedule.
 - f. Assist in the process of writing detailed test procedures by clarifying the operation and control of commissioned equipment.
 - g. Review test procedures to ensure feasibility, safety and equipment protection and provide necessary written alarm limits to be used during the tests.
 - h. Develop a full start-up and testing plan using manufacturer's start-up procedures and the prefunctional checklists from the CA for all commissioned equipment. Submit to the CA for review and approval prior to startup.
 - i. During the startup and initial checkout process, execute all portions of the prefunctional checklists for all commissioned systems and equipment. Verify that system installations include all ports, gages, thermometers, access doors, valves, etc., required for specified functional performance testing.
 - j. Provide all special tools and instruments (only available from vendor, specific to a piece of equipment) required for testing equipment.
 - k. Perform and clearly document all completed startup and system operational checkout procedures, providing a copy to the CA.
 - l. Address incomplete Work before functional performance testing.
 - m. Provide skilled technicians to execute startup of equipment and to execute the functional performance tests. Ensure that they are available and present during the agreed upon schedules and for sufficient duration to complete the necessary tests, adjustments and problem-solving.

- n. Provide skilled technicians to perform functional performance testing under the direction of the CA for specified equipment. Provide Manufacturer's Representative as required and as specified in the Specification. Assist the CA in interpreting the monitoring data, as necessary.
 - o. Correct deficiencies (differences between specified and observed performance) as directed by the Director's Representative.
 - p. Prepare O&M manuals according to the Contract Documents, including clarifying and updating the original sequences of operation to as-built conditions. Provide a copy of the O&M manuals and submittals of commissioned equipment to the CA for review and approval.
 - q. Provide training as specified.
 - r. Coordinate with equipment manufacturers to determine specific requirements to maintain the validity of the warranty.
2. Warranty Period:
- a. Execute seasonal or deferred functional performance testing in accordance with the specifications
 - b. Correct deficiencies and make necessary adjustments to O&M manuals and as-built drawings for applicable issues identified in any seasonal testing.

PART 2 - PRODUCTS

2.01 TEST EQUIPMENT

- A. All standard testing equipment required to perform startup and initial checkout and required functional performance testing shall be provided by the Contractor.
- B. Specified special equipment, tools and instruments (only available from vendor, specific to a piece of equipment) required for testing equipment shall be provided by the Contractor, and turned over to the facility at the completion of the Work.
- C. Datalogging equipment and software required to test equipment will be provided by the Contractor, but shall not become the property of the Director's Representative.
- D. All testing equipment shall be of sufficient quality and accuracy to test and/or measure system performance with the tolerances specified in the Specifications. All equipment shall be calibrated according to the manufacturer's recommended intervals. Calibration tags shall be affixed or certificates readily available.

PART 3 - EXECUTION

3.01 MEETINGS

- A. Scoping Meeting. Prior to the commencement of construction, the CA will schedule, plan and conduct a commissioning scoping meeting with the Commissioning Team.
- B. Miscellaneous Meetings. Other meetings will be planned and conducted by the CA as construction progresses. These meetings will cover coordination, deficiency resolution

and planning issues with the Contractor, appropriate sub-contractors and suppliers, the Owner's Representative, and the Director's Representative.

3.02 START-UP, PREFUNCTIONAL CHECKLISTS, AND INITIAL CHECKOUT

- A. Prefunctional checklists and initial checkout shall ensure that the equipment and systems are hooked up and operational. Each piece of equipment receives full prefunctional checkout. No sampling strategies are used. The prefunctional testing for a given system must be successfully completed prior to formal functional performance testing of systems or equipment.
- B. Start-up and Initial Checkout Plan. The CA shall assist the commissioning team members responsible for startup of any equipment in developing detailed start-up plans for all equipment. The primary role of the CA in this process is to ensure that there is written documentation that each of the manufacturer's recommended procedures have been completed.
- C. Execution of Prefunctional Checklists and Startup.
 - 1. Four weeks prior to startup, the Contractor shall schedule startup and checkout with the Director's Representative.
 - 2. The Contractor shall execute startup and provide the CA with a signed and dated copy of the completed start-up and prefunctional tests and checklists.

3.03 FUNCTIONAL PERFORMANCE TESTING

- A. Development of Test Procedures. Using the requirements in the specifications, the CA shall develop specific test procedures and forms to verify and document proper operation of each piece of equipment and system. The Contractor shall provide assistance to the CA in developing the procedures. Prior to testing, the CA shall provide a copy of the test procedures to the Contractor who shall review the tests for feasibility, safety, equipment and warranty protection.
- B. Functional performance testing shall document that each system is operating in accordance with the Contract Documents. During the testing process, areas of deficient performance shall be identified. Deficiencies shall be corrected by the Contractor and functional testing shall be re-scheduled. The Contractor shall be responsible for all costs associated with re-testing for functional performance.
- C. Each system shall be operated through all modes of operation. Proper responses to such modes and conditions as power failure, freeze condition, low oil pressure, no flow, equipment failure, etc. shall also be tested.
- D. Test Methods. Each function and test shall be performed under conditions that simulate actual conditions as closely as possible. The Contractor shall execute the test and shall provide all necessary materials, system modifications, etc. to produce the necessary flows, pressures, temperatures, etc. necessary to execute the test according to the specified conditions. At the completion of the test, the Contractor shall return all building equipment and systems affected by these temporary modifications to their pre-test condition.

3.04 OPERATION AND MAINTENANCE MANUALS

- A. Standard O&M Manuals. The specific content and format requirements for the standard O&M manuals are detailed in Section 017716.

- B. The Contractor shall compile and prepare commissioning documentation for all equipment and systems and include this information in the O&M manuals.

3.05 TRAINING

- A. The Contractor shall be responsible for coordinating, scheduling, and documenting that all required training has been completed successfully.
- B. The Contractor shall have the following training responsibilities:
 - 1. Provide a training plan two weeks before the planned training.
 - 2. Provide comprehensive orientation and training in the understanding of the systems and the operation and maintenance of each piece of equipment.
 - 3. Training shall normally start with classroom sessions followed by hands-on training on each piece of equipment.
 - 4. The training sessions shall follow the outline in the Table of Contents of the operation and maintenance manual and illustrate whenever possible the use of the O&M manuals for reference.
 - 5. Training shall include:
 - a. Use of the printed installation, operation and maintenance instruction material included in the O&M manuals.
 - b. A review of the written O&M instructions emphasizing safe and proper operating requirements, preventative maintenance, special tools needed and spare parts inventory suggestions. The training shall include start-up, operation in all modes possible, shut-down, and any emergency procedures.
 - c. Discussion of relevant health and safety issues and concerns.
 - d. Discussion of warranties and guarantees.
 - e. Common troubleshooting problems and solutions.
 - f. Explanatory information included in the O&M manuals and the location of all plans and manuals in the facility.
 - g. Discussion of any peculiarities of equipment installation or operation.

3.06 DEFERRED TESTING

- A. Unforeseen Deferred Tests. If any check or test cannot be completed due to project conditions, required occupancy condition or other deficiency, execution of checklists and functional testing may be delayed upon approval of the Director's Representative. These tests will be conducted in the same manner as the seasonal tests as soon as possible.
- B. Seasonal Testing. Seasonal testing (tests delayed until weather conditions are closer to the system's design conditions) shall be completed as part of this contract. Make any final adjustments to the O&M manuals and as-builts resulting from information gained during testing.

END OF SECTION