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ORANGETOWN TOWN HALL
ADDITION AND ALTERATIONS

Orangetown Town Hall
26 West Orangeburg Road
Orangeburg, New York 10962

ADDENDUM NO. 2

Date: December 21, 2021

This Addendum forms part of the Contract Documents and amends the original Bidding Documents dated November 9, 2021, only in the following particulars. Original provisions of the Contract Documents shall remain in effect except as specifically amended by this Addendum.
Bidders shall consider amendments and the resulting cost differences shall be included in all bids.
Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so will subject the bidder to disqualification.

RFI RESPONSES

A. Questions raised by RFI via email:

1. Please provide electrical budget cost for this project, our bonding company is requesting it. (Architect's RFI #4E.02, Item 1)
   - **a. For bonding purposes only, we anticipate the electrical work for this project to be less than $4 million.**

2. Is the project open to alternative furniture pieces or is everything set in the current spec? (Architect's RFI #1G.04)
   - **a. The furniture specified for the project has been reviewed and approved by the Owner. If a substitution is proposed, submit a substitution request on the appropriate form with supporting documentation for review.**

3. There is no spray fireproofing spec. Is spray fireproofing required at steel? Is there spray fireproofing at the underside of the metal deck? (Architect's RFI #1G.05)
   - **a. See Addendum 1. A new specification section, Section 078100 - Applied Fire Protection has been added. New steel or metal deck construction is not required to be protected, except as indicated on the drawings. The new specification section for Applied Fire Protection is intended for use to patch/repair any damaged existing sprayed-on fireproofing in areas subject to damage by the work of these contracts. This may be required in areas such as the existing Mechanical, Electrical, or Generator Rooms.**

4. There are no hours of work list. Please advise. (Architect's RFI #1G.05)
   a. See Section 011000 - 2, Part 1.7 E. and Section 017000-3, Part 1.5 D.

5. There are two Alternate #1's. One is for bathroom rehab and the other is on drawing C101 for 1-1/2" milling and new asphalt overlay. Please advise. (Architect's RFI 1G.05)
   a. Refer to Addendum 1, which includes revised Sections 012300 - Alternates and revised Bid Forms Sections 004100.01 - 004100.04. Alternates are described and assigned to each of the prime contracts as appropriate. Alternate C-1 is now described as Alternate GC-06.

6. On the site drawing C102 at Alternate #5 - Is there any work for the GC on the 4 charging stations or is it all by the EC? (Architect's RFI #1G.05)
   a. Alternate #5 has been removed. Refer to Addendum 1, particularly revised Section 012300 - Alternates and Drawing E-201. Vehicle charging stations are part of Base Bid work for the Electrical Contractor, including conduit and wiring. Trenching for the conduit is by the General Contractor.

7. Who does the water pipe (under pressure) on drawing C104, the GC or the Plumber? Additionally, who excavates? Please advise. (Architect's RFI #1G.05)
   a. See Section 331000 - Water Utilities, Notes A1, A12, and B2.

8. Who does the light pole foundations and excavations? The GC or EC. Please advise. (Architect's RFI #1G.05)
   a. See detail 7/C-204 and specification Section 312000 - Earth Moving, Note A12.

9. Who does the 3" RPZ on drawing C-104, the GC or the Plumber? Please advise. (Architect's RFI #1G.05)
   a. See detail 9/C-203, Note 9.

10. Who does the DIP 4" pipe, the GC or Plumber? Please advise. (Architect's RFI #1G.05)
    a. See Section 331000 - Water Utilities, Notes A1, A11 and A12.

11. Who does the Hotbox on drawing C104, the Plumber or the GC? Please advise. (Architect's RFI #1G.05)
    a. See detail 9/C-203, Notes 7, 8, and 9.

12. There is a detail of 5' x 5' gravel surround at underground pipe on drawing C206. It is not shown on the plan where this is. Please advise. (Architect's RFI #1G.05)
    a. Detail 2/C-206 shows a 5' x 5' geotextile pipe boot. See also detail 3/C206 for geotextile boot installation locations.

13. There is a note on the site drawings to demolish the diesel fuel pipe at the generator. Who does this work, the EC, or the GC? Please advise. (Architect's RFI #1G.05)
    a. Refer to drawing M-101, work note #3.

14. On the interior demo drawings there are symbols with no key legend information. Please advise. (Architect's RFI #1G.05)
    a. See drawing A001 for Demolition Tag Legend.

15. On the architectural drawings there is an abbreviation for EP. Please clarify. (Architect's RFI #1G.05)
    a. See drawing A001 for Abbreviations Legend.

16. On drawing A403 there is wood trim at the window soffit. Is this at every window? Please advise. (Architect's RFI #1G.05)
    a. **No, the wood trim in this location is specific to this room. Refer to interior elevations for additional information.**

17. On drawing A505 there is a push button stanchion. Is this by GC or electrician? Please advise. (Architect's RFI #1G.05)
    a. **Refer to Specification Section 087100 – Door Hardware**

18. On several drawings there is 2" rigid insulation shown under the slab on grade. However, there is an indication that it's 4". Is it 2" or 4" thick? Please advise. (Architect's RFI #1G.05)
    a. **Under slab rigid insulation is 4" thick as noted.**

19. There is a canopy shown on drawing A550 and it says see details on structural drawings (i.e., size of columns, joists, etc.). No details for the canopy is shown on structural drawings. Please advise. (Architect's RFI #1G.05)
    a. **See drawings S-101 and S-505. Drawing S-900 column A.5/8.9 should be A.5**

20. There are a lot of drawings with missing details. This is most pronounced on interior elevations, i.e., 9/A601, 10/A610, 11/A610, 12/A610, additionally on drawing A611. (Architect's RFI #1G.05)
    a. **Additional detailing space has been provided for future use, if needed. Detail numbers without an associated drawing are "Not Used".**

21. There is no structural work shown to support folding partitions on alternate #3 drawing A905. Please advise. (Architect's RFI #1G.05)
    a. **The folding partition is to be hung from the main building structure directly above. The term "secondary" from note "secondary structural steel for support" on detail 6/A905 shall be stricken.**

22. Please confirm that the GC furnishes and installs furniture and chairs. The confusion is caused by "note included" items as discussed in addendum 1 on page 011000-2 item 1.4B. (Architect's RFI #1G.05)
    a. **Refer to drawing A001, Furniture and Equipment Tag Legend and Furniture Tag Legend (Alternates) for Base Bid and Alternate descriptions for furniture.**

23. The water motor gong is being shown to be relocated. Our past experience is that WMG's are historically unreliable. Birds and bees tend to nest in the bell rendering it useless. We recommend installing an electric bell wired to the fire alarm as a cost savings. (Architect's RFI #2P-01)
    a. **Gong shall be revised to an electronic gong activated from the fire alarm system.**

24. The sidewall sprinklers shown in the top of the atrium do not seem to provide appropriate coverage. NFPA indicates the sidewall sprinkler deflectors are installed parallel to the roof slope but not in an upward direction. Spray shall be in a downward direction. The current layout does not seem code compliant. (Architect's RFI #2P.01)

    a. **Revise sidewall heads to upright heads with piping extended along the mullions into the skylight area to comply with NFPA-13-10.2.6.**

25. We noticed that the specifications and the addendum indicate insurance limits to be $10,000,000./$20,000,000. for the referenced project. We sent this to our insurance company, and they believe that this may be a typographical error, since the Umbrella is only set to $5,000,000. He seems to believe that the single occurrence/aggregate amounts include an extra zero. Please confirm. (Architect's RFI #2P.02)
    a. **Please refer to this Addendum for revisions to insurance coverages. Umbrella Excess Liability is not required.**

SPECIFICATIONS

A. Section 005200 "Agreement Form-AIA A101": **Remove and replace with revised Section 005200 attached to this Addendum.**

B. Section 007200 "General Conditions-AIA A-201": **Remove and replace with revised Section 007200 attached to this Addendum.**

C. Section 007300 "Supplementary General Conditions": Article 11.1.1, Par. 'D' (Page 07300-4).

    1. **Replace words after Umbrella Excess Liability to read…: "Not Required".**

D. Section 011000 "Summary": **Delete this Section from Addendum #1 and replace with revised Section 011000 attached to this Addendum.**

E. **Add new Section 011200 "Multiple Contract Summary" attached to this Addendum.**

F. Section 012000 "Price and Payment Procedures": **Remove and replace with revised Section 012000 attached to this Addendum.**

G. Section 013000 "Administrative Requirements": **Remove and replace with revised Section 013000 attached to this Addendum.**

H. Section 014000 "Quality Requirements": **Remove and replace with revised Section 014000 attached to this Addendum.**

I. Section 014216 "Definitions": **Remove and replace with revised Section 014216 attached to this Addendum.**

J. Section 014219 "Reference Standards": **Remove and replace with revised Section 014219 attached to this Addendum.**

K. Section 015000 "Temporary Facilities and Services": **Remove and replace with revised Section 015000 attached to this Addendum.**

L. Section 015713: **Delete this Section in its entirety.**

M. Section 017000 "Execution and Closeout Requirements":
    1. Par. 1.2-B: Delete the words **… "Electronic document service".**
    2. Par. 1.2-F: **Delete line "F".**

3. Par. 1.6: Add line 'I' – **"Coordinate deliveries, storage and distribution of materials and sequencing of activities such that each Contractor has adequate space and areas to accomplish construction tasks".**

N. Section 019113 "General Commissioning Requirements"
1. Par. 1.1-D: **Change "is" to "shall be".**
2. Par. 3.1-B: **Add the word "each" in front of Contractor**.

O. Section 019114 "Commissioning Authority Responsibilities"
1. Par. 1.1-D: **Change "is" to "shall be".**
2. Par.3.5-A: **Change Construction Manager to "Project Coordinator".**

P. Section 081416 "Flush Wood Doors": Add the following to 2.1.

B. **Bullet Resistant Wood Doors:**
1. **Chicago Bullet Proof: Model WH (Bullet Resistant Woodhaven Door and Frame or an approved equal. www.chicagobulletproof.com**
2. **Substitutions: See Section 016000-Product Requirements.**

Q. Section 085653 "Security Windows": Add the following to 2.1 and revise numbering.
2. **Chicago Bullet Proof: Model SATW or an approved equal. www.chicagobulletproof.com**
3. **Substitutions: See Section 016000- Product Requirements.**

R. Section 211313 "Wet Pipe Sprinkler Systems": Add the following to Par. 2.7.

B. Exposed-Type, sidewalk type Fire-Department Connection:
1. **Manufacturers: Subject to compliance with requirements, provide products by one of the following:**
   a. **AFAC Inc.**
   b. **Elkhart Brass Mfg. Company, Inc.**
   c. **Fire-End & Croker Corporation.**
   d. **Fire Protection Products, Inc.**
   e. **GMR International Equipment Corporation.**
   f. **Guardian Fire Equipment, Inc.**
   g. **Tyco Fire & Building Products LP.**
   h. **Wilson & Cousins Inc.**

2. **Standard: UL listed; FM approved.**
3. **Type: Exposed, stanchion type for mounting on concrete base.**
4. **Pressure Rating: 175 psig minimum.**
5. **Body Material: Cast brass, Corrosion-resistant metal.**
6. **Inlets: Brass with threads according to NFPA 1963 and matching local fire-department Sizes and threads. Include extension pipe nipples, brass lugged swivel connections, and Check devices or clappers.**
7. **Caps: Brass, lugged type, with gasket and chain.**
8. **Outlet: Back, with pipe threads.**
9. **Number of Inlets: Three.**
10. **Escutcheon Plate Marking: Similar to " AUTO SPKR."**
11. **Finish: Bronze.**
12. **Outlet Size: NPS 4 inch.**

S. **Add new Section 221123 "Gas Piping" attached to this Addendum.**

T. Section 230923 "Direct Digital Control System for HVAC": **Remove and replace Page 230923- 1 with revised page 230923- 1 attached to this Addendum.**

DRAWINGS

A. Drawing M-101 is revised and attached to this Addendum.

B. Drawing M-301 is revised and attached to this Addendum.

ATTACHMENTS:

Section 005200 – AGREEMENT FORM AIA A-101(revised)

Section 007200 – GENERAL CONDITIONS AIA A-201 (revised)

Section 011000 – SUMMARY (revised)

Section 011200 – MULTIPLE CONTRACT SUMMARY (new)

Section 012000 – PRICE AND PAYMENT PROCEDURES (revised)

Section 013000 – ADMINISTRATIVE PROCEDURES (revised)

Section 014000 - QUALITY REQUIREMENTS (revised)

Section 014216 – DEFINITIONS (revised)

Section 014219 - REFERENCE STANDARDS (revised)

Section 015000 – TEMPORARY FACILITIES AND SERVICES (revised)

Section 221123 – GAS PIPING (new)

Section 230923 – Page 230923-1 (revised)

Drawing M-101 – BASEMENT DEMOLITION PLAN & NOTES (revised)

Drawing M-301 – SCHEDULES (revised)

END ADDENDUM NO. 2

SECTION 011000
SUMMARY

PART 1 GENERAL

1.1 PROJECT

A. Project Name: Orangetown Town Hall Addition and Alterations

B. Owner's Name: Town of Orangetown.

C. Architect's Name: Lothrop Associates LLP Architects.

D. Project contact information is specified in Section 000103 - Project Directory.

E. The Project consists of the construction of a new addition to, and interior alterations of, the existing Town Hall facility of the Town of Orangetown, New York.

F. The Project will also consist of the construction of a new Exit Stair (ST-3) and exterior building facade along the entire south end of the existing Town Hall facility, after the removal of the original 1959 Town Hall building by the Owner. This work is anticipated to be completed within a 6 month period following Substantial Completion of the new addition.

1.2 CONTRACT DESCRIPTION

A. Contract Type: Multiple prime contracts, each based on Stipulated Sum.

B. The work of each separate prime contract is identified in this section and on Drawings.

1.3 DESCRIPTION OF ADDITION AND ALTERATIONS WORK

A. Demolition and removal work is shown, but not limited to information on drawings and specified in Section 024100.

B. Scope of alterations work is indicated on drawings.

C. Plumbing: Alter existing system and add new construction, keeping existing in operation.

D. HVAC: Alter existing system and add new construction, keeping existing in operation.

E. Electrical Power and Lighting: Alter existing system and add new construction, keeping existing in operation.

F. Fire Suppression Sprinklers: Alter existing system and add new construction, keeping existing in operation.

G. Fire Alarm: Alter existing system and add new construction, keeping existing in operation.

H. Telephone: Alter existing system and add new construction, keeping existing in operation.

I. Security System: Alter existing system and add new construction, keeping existing in operation.

1.4 WORK BY OWNER

A. Existing Building Demolition: Owner will separately contract for demolition of the existing 1959 original Town Hall structure and removal of its foundations. The site will be backfilled at the removed foundations and filled to existing grade elevation. The time frame for this demolition work is yet to be determined, but is anticipated to occur within a 6 month period following Substantial Completion of this Work.

B. Items noted NIC (Not in Contract) will be supplied and installed by Owner before Substantial Completion. Items include, but are not limited to:
   1. Movable cabinets.
   2. Furnishings.
   3. Small equipment.

1.5 FUTURE WORK

A. Provide for all material and labor for the future installation of work along the south end of the existing Town Hall facility, following demolition of the original 1959 Town Hall building by the Owner.

1.6 OWNER OCCUPANCY

A. Owner intends to continue to occupy adjacent portions of the existing building during the entire construction period.

B. Owner intends to occupy the new addition and altered existing areaect upon Substantial Completion.

C. Coordinate and cooperate with Owner to minimize conflict and to facilitate Owner's operations.

D. Schedule the Work to accommodate Owner occupancy.

1.7 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas indicated on drawings.

B. Arrange use of site and premises to allow:
   1. Owner occupancy.
   2. Work by Others.
   3. Use of site and premises by the public.

C. Provide access to and from site as required by law and by Owner:
   1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
   2. Do not obstruct roadways, sidewalks, or other public ways without permit.

D. Existing building spaces may not be used for storage.

E. Time Restrictions:
   1. Limit all noisy exterior work to the hours of 6:00 pm to 6:00 am. Coordinate off-hour work with Owner's after hours activities.

F. Utility Outages and Shutdown:
   1. Limit disruption of utility services to hours the building is unoccupied.

2. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers, fire alarm and security systems. Provide 7 days notice to Owner and authorities having jurisdiction.
3. Prevent accidental disruption of utility services to other facilities.

1.8 WORK SEQUENCE

A. Construct Work in sequenced stages as indicated on the drawings during the construction period. The project is anticipated to be sequenced in (4) sequential stages to allow for continuous Owner occupancy of the existing buildings during construction of this work, and subsequent Owner occupancy of the new work when complete.

B. Coordinate construction schedule and operations with Owner.

1.9 SPECIFICATION SECTIONS APPLICABLE TO ALL CONTRACTS

A. Unless otherwise noted, all provisions of Divisions 00 and 01 apply to all Contracts.

1.10 CONTRACT NO. 1G - GENERAL CONSTRUCTION

A. Divisions 00 and 01.

B. Provide all Work in Divisions 02 through 14,and 31, 32, and 33, as listed in Table of Contents- Section 000100.

1.11 CONTRACT NO. 2P – PLUMBING & FIRE SUPRESSION

A. Divisions 00 and 01.

B. Division 21 – Fire Supression: Provide all Work in Sections 210500 through 211316 as listed in Table of Contacts- Section 000100.

C. Division 22 - Plumbing: Provide all Work in Sections 220500 through 224000 as listed in Table of Contents.

1.12 CONTRACT NO. 3H - HEATING, VENTILATING, AND AIR CONDITIONING

A. Divisions 00 and 01.

B. Division 23 - Heating, Ventilating, and Air Conditioning: Provide all Work in Sections 230500 through 238239 as listed in the Table of Contents-Section 000100.

1.13 CONTRACT NO. 4E - ELECTRICAL

A. Division 00 and 01.

B. Division 26 - Electrical: Provide all Work in Sections 260100 through 265600 as listed in Table of Contents-Section 000100.

C. Division 28 – Electronic Safety and Security: Provide all Work in Sections 283111 as listed in Table of Contents-Section 000100.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 011200 - MULTIPLE CONTRACT SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes a summary of each contract, including responsibilities for coordination and temporary facilities and controls.

B. Specific requirements for Work of each contract are also indicated in individual Specification Sections and on Drawings.

C. Related Requirements:

1. Section 011000 "Summary" for the Work covered by the Contract Documents, restrictions on use of Project site, phased construction, coordination with occupants, and work restrictions.

2. Section 013000 “Administrative Requirements” for the Work required for Construction Schedules and Submittals.

3. Section 015000 “Temporary Facilities and Services” for the division of responsibilities for temporary facilities and services.

1.2 DEFINITIONS

A. Permanent Enclosure: As determined by Architect, the condition at which roofing is insulated and weathertight; exterior walls are insulated and weathertight; and openings are closed with permanent construction or substantial temporary closures equivalent in weather protection to permanent construction.

1.3 PROJECT COORDINATOR

A. Project coordinator shall be responsible for coordination between the General Construction Contract, Plumbing & Fire Protection Contract, HVAC Contract, and Electrical Contract.

1.4 PROJECT COORDINATOR RESPONSIBILITIES

A. Project coordinator shall perform Project coordination activities for the multiple contracts, including, but not limited to, the following:

1. Provide typical overall coordination of the Work.
2. Coordinate shared access to workspaces.
3. Coordinate product selections for compatibility.
4. Provide overall coordination of temporary facilities and controls.

5. Coordinate, schedule, and approve interruptions of permanent and temporary utilities, including those necessary to make connections for temporary services.
6. Coordinate construction and operations of the Work with work performed by each Contract and Owner's construction forces.
7. Manage coordination drawings in collaboration with each contractor to coordinate work by more than one contract.
8. Coordinate sequencing and scheduling of the Work. Include the following:

    a. Initial Coordination Meeting: At earliest possible date, arrange and conduct a meeting with contractors for sequencing and coordinating the Work; negotiate reasonable adjustments to schedules.
    b. Review combined Contractors' Construction Schedule for entire Project prepared by the General Construction Contractor. Base schedule on preliminary construction schedules. Secure time commitments for performing critical construction activities from contractors. Show activities of each contract on a separate sheet. Prepare a simplified summary sheet indicating combined construction activities of contracts.

        1) Submit schedules for approval.
        2) Distribute copies of approved schedules to contractors.

9. Provide quality-assurance and quality-control services specified in Section 014000 "Quality Requirements."
10. Coordinate sequence of activities to accommodate tests and inspections, and coordinate schedule of tests and inspections.
11. Provide information necessary to adjust, move, or relocate existing utility structures affected by construction.
12. Assist in locating existing permanent benchmarks, control points, and similar reference points, and establish permanent benchmarks on Project site.
13. Review field surveys of in-progress construction and site work and final property survey.
14. Direct and coordinate progress cleaning of common areas and coordinate progress cleaning of areas or pieces of equipment where more than one contractor has worked.
15. Coordinate cutting and patching.
16. Coordinate protection of the Work.
17. Coordinate firestopping.
18. Coordinate completion of interrelated punch list items.
19. Coordinate preparation of Project Record Documents if information from more than one contractor is to be integrated with information from other contractors to form one combined record.
20. Print and submit Record Documents if installations by more than one contractor are indicated on the same Contract Drawing or Shop Drawing.
21. Collect record Specification Sections from contractors, collate Sections into numeric order, and submit complete set.
22. Coordinate preparation of operation and maintenance manuals if information from more than one contractor is to be integrated with information from other contractors to form one combined record.

B. Responsibilities of Project coordinator for temporary facilities and controls include, but are not limited to, the following:

    1. Coordinate locations for field offices for all Contracts.

2. Coordinate utility services for field offices for all contracts.

1.5 GENERAL REQUIREMENTS OF CONTRACTS

A. Extent of Contract: Unless the Agreement contains a more specific description of the Work of each Contract, requirements indicated on Drawings and in Specification Sections determine which contract includes a specific element of Project.

1. Unless otherwise indicated, the work described in this Section for each contract shall be complete systems and assemblies, including products, components, accessories, and installation required by the Contract Documents.
2. Trenches and other excavation for the work of each contract shall be the work of the General Construction Contract.
3. Blocking, backing panels, sleeves, and metal fabrication supports for the work of each contract shall be the work of each contract for its own work.
4. Furnishing of access panels for the work of each contract shall be the work of each contract for its own work. Installation of access panels shall be the work of the General Construction Contract.
5. Equipment pads for the work of each contract shall be the work of the General Construction Contract.
6. Roof-mounted equipment curbs for the work of each contract shall be the work of each contract for its own work.
7. Painting for the work of each contract shall be the work of the General Construction Contract.
8. Cutting and Patching: Each contract shall perform its own cutting; patching shall be under the General Construction Contract.
9. Through-penetration firestopping for the work of each contract shall be provided by each contract for its own work.
10. Contractors' Construction Schedule: In accordance with Section 013000 “Administrative Requirements”.

B. Substitutions: Each contractor shall cooperate with other contractors involved to coordinate approved substitutions with remainder of the work.
1. Refer to Section 012500 “Substitution Procedures” for related information.

C. Temporary Facilities and Controls: In addition to specific responsibilities for temporary facilities and controls indicated in this Section and in Section 015000 "Temporary Facilities and Controls," each contractor is responsible for the following:

1. Installation, operation, maintenance, and removal of each temporary facility necessary for its own normal construction activity, and costs and use charges associated with each facility, except as otherwise provided for in this Section.
2. Plug-in electric power cords and extension cords, supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.
3. Its own field office, complete with necessary furniture, utilities, and telephone service.
4. Its own storage and fabrication sheds.
5. Temporary enclosures for its own construction activities.
6. Staging and scaffolding for its own construction activities.
7. General hoisting facilities for its own construction activities, up to 2 tons.

8. Waste disposal facilities, including collection and legal disposal of its own hazardous, dangerous, unsanitary, or other harmful waste materials.
9. Progress cleaning of work areas affected by its operations on a daily basis.
10. Secure lockup of its own tools, materials, and equipment.
11. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.

D. Temporary Heating, Cooling, and Ventilation: The General Construction Contract is responsible for temporary heating, cooling, and ventilation, including utility-use charges, temporary meters, and temporary connections for the duration of the Project.

E. Use Charges: Comply with the following:
1. Water Service: Include the cost for temporary water service usage, whether metered or otherwise, for water used by all entities engaged in construction activities at Project site in the General Construction Contract.
2. Electric Power Service: Include the cost for temporary electric power service usage, whether metered or otherwise, for electricity used by all entities engaged in construction activities at Project site in the General Construction Contract.

1.6 GENERAL CONSTRUCTION CONTRACT

A. Work of the General Construction Contract includes, but is not limited to, the following:

1. Remaining work not identified as work under other contracts.
2. Site preparation, including clearing, building demolition and relocations, and earthwork.
3. Site improvements, including roadways, parking lots, pedestrian paving, curbing, site development furnishings and equipment, and landscaping.
4. Trenching for site utilities.
5. Selective demolition.
6. Foundations, including footings, foundation walls.
7. Slabs-on-grade, including earthwork, subdrainage systems, and insulation.
8. Below-grade building construction, including excavation, backfill, and insulation and waterproofing/dampproofing.
9. Superstructure, including floor and roof construction and sprayed fire-resistive materials and board fire protection.
10. Exterior closure, including walls, parapets, doors, windows, and architectural louvers.
11. Roofing, including roof insulation, coverings, flashings roof specialties, roof accessories and glazed openings.
12. Interior construction, including partitions, doors, interior glazed openings, and fittings.
13. Fire-protection specialties.
14. Stairs, including guards, railings and finishes.
15. Interior finishes finish carpentry, architectural woodwork, interior specialties, and floor and ceiling finishes.
16. Miscellaneous items, including concrete equipment bases, and painting of mechanical and electrical work.
17. Conveying systems, including elevators.
18. Equipment, including the following:
    a. Residential appliances.
19. Furnishings, including window treatments and furniture.

20. Site Water Utilities.
21. Site Sanitary Sewerage Utilities.
22. Storm drainage Utilities.
23. Concrete Site Light Pole bases.

B. Temporary facilities and controls in the General Construction Contract include, but are not limited to, the following:

1. Temporary facilities and controls that are not otherwise specifically assigned to the Plumbing Contract, HVAC Contract, Electrical Contract.
2. Sediment and erosion control.
3. Unpiped sewers and drainage, including drainage ditches, dry wells, stabilization ponds, and containers.
4. Stormwater control.
5. Unpiped portable toilet facilities, wash facilities, and drinking water facilities, including disposable supplies.
6. Temporary enclosure for building exterior, except as indicated.
7. Temporary roads and paved areas.
8. Dewatering facilities and drains.
9. Excavation support and protection, unless required solely for the Work of another contract.
10. Special or unusual hoisting requirements for construction activities, including hoisting loads in excess of 2 tons, hoisting material or equipment into spaces below grade, and hoisting requirements outside building enclosure.
11. Project identification and temporary signs.
12. General waste disposal facilities.
13. Pest control.
14. Temporary stairs.
15. Temporary fire-protection facilities.
16. Barricades, warning signs, and lights.
17. Site enclosure fence.
18. Covered walkways.
19. Security enclosure and lockup.
20. Environmental protection.
21. Maintenance and restoration of Owner's existing facilities used as temporary facilities.

1.7 PLUMBING AND FIRE SUPPRESSION CONTRACT

A. Work of the Plumbing Contract includes, but is not limited to, the following:
1. Site fuel (gas) distribution.
2. Site special plumbing systems.
3. Site Backflow Preventor enclosures.
4. Plumbing fixtures.
5. Domestic water distribution.
6. Sanitary waste.
7. Stormwater drainage.
8. Special plumbing systems, including the following:
   a. Natural gas.

9. Fire-suppression systems.

10. Plumbing connections to equipment furnished by the General Construction Contract, HVAC Contract, Electrical Contract.

B. Temporary facilities and controls in the Plumbing Contract include, but are not limited to, the following:
1. Piped temporary water service.
2. Plumbing connections to existing systems and temporary facilities and controls furnished by the General Construction Contract, HVAC Contract and Electrical Contract.

1.8 HVAC CONTRACT

A. Work of the HVAC Contract includes, but is not limited to, the following:
1. Energy supply, including hot- and chilled-water supply systems.
2. HVAC systems and equipment.
3. HVAC instrumentation and controls.
4. HVAC testing, adjusting, and balancing.
5. Building automation system.
6. Mechanical connections to equipment furnished by the General Construction Contract, Plumbing Contract and Electrical Contract.
7. Rigging and Hoisting HVAC equipment to final locations, including roof tops.

B. Temporary facilities and controls in the HVAC Contract include, but are not limited to, the following:

1. Temporary use of permanent HVAC equipment during construction for temporary heat, cooling and ventilation only with Owner's written permission.

1.9 ELECTRICAL CONTRACT

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

1. Site electrical distribution.
2. Site lighting.
3. Site communications and security.
4. Electrical service and distribution.
5. Exterior and interior lighting.
6. Communication and security.
7. Special electrical systems, including the following:
   a. Packaged engine generator systems.
8. Removal of existing generator from existing building lower level.
9. Electrical connections to equipment furnished by the General Construction Contract, Plumbing Contract and HVAC Contract.

B. Temporary facilities and controls in the Electrical Contract include, but are not limited to, the following:

1. Electric power service and distribution.

2. Lighting, including site lighting.
3. Electrical connections to existing systems and temporary facilities and controls furnished by the General Construction Contract, Plumbing Contract and HVAC Contract.
4. Electrical and telecommunications connections to temporary field offices for all contracts.
5. Electrical connections to dewatering system.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011200

SECTION 012000
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

B. Modifications procedures.

1.2 RELATED REQUIREMENTS

A. Section 005000 - Contracting Forms and Supplements: Forms to be used.

B. Section 013329.02 - Sustainable Design Reporting - LEED v4: Projects seeking sustainability certification.

1.3 SCHEDULE OF VALUES

A. Use Schedule of Values Form: AIA G703, edition stipulated in the Agreement. Submit draft to Architect for approval.

B. Forms filled out by hand will not be accepted.

C. Format: As a basis for Schedule of Values, utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification section. Identify separately, mobilization, general conditions, submittals, bonds and insurance, punch list, and closeout .

D. Each trade line item shall be broken down inot labor and material components

E. Update Schedule of Values to list approved Change Orders, with each Application For Payment.

1.4 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Use Form AIA G702 and Form AIA G703, edition stipulated in the Agreement.

C. Forms filled out by hand will not be accepted.

D. Execute certification by signature of authorized officer.

E. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.

F. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.

G. Sujbmit draft Application For Payment for Owner and Architect review.

H. After receiving comments from Owner and Architect, submit one PDF electronic and three hard copy originals of each Application for Payment.

I. Include the following with the application:
   1. Transmittal letter as specified for submittals in Section 013000.
   2. Partial release of liens from the contractor.
   3. Sustainable design documentation applicable to work for which application is being made; see Section 013329.02 for projects seeking LEED v4 certification.
   4. Affidavits attesting to off-site stored products, as applicable.
   5. Monthly progress photos as specified in Section 013000.
   6. Certified payrolls for all labor performed during Application for Payment period.

J. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.5 MODIFICATION PROCEDURES

A. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Architect will issue instructions directly to Contractor.

B. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
   1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
   2. Promptly execute the change.

C. For changes for which advance pricing is desired, Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 7 days.

D. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
   1. For change requested by Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
   2. For change ordered by Architect without a quotation from Contractor, the amount will be determined by Architect based on the Contractor's substantiation of costs as specified for Time and Material work.

E. Substantiation of Costs: Provide full information required for evaluation.
   1. On request, provide the following data:
      a. Quantities of products, labor, and equipment.
      b. Taxes, insurance, and bonds.
      c. Overhead and profit.
      d. Justification for any change in Contract Time.
      e. Credit for deletions from Contract, similarly documented.
   2. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.

F. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

G. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

H. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

I. Promptly enter changes in Project Record Documents.

1.6 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:
   1. All closeout procedures specified in Section 017000.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 013000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Preconstruction meeting.

B. Site mobilization meeting.

C. Progress meetings.

D. Construction progress schedule.

E. Contractor's daily reports.

F. Progress photographs.

G. Coordination drawings.

H. Submittals for review, information, and project closeout.

I. Requests for Interpretation (RFI) procedures.

J. Submittal procedures.

1.2 RELATED REQUIREMENTS

A. Section 007200 - General Conditions: Duties of the Construction Manager.

B. Section 013329.02 - Sustainable Design Reporting - LEED v4: Reporting related to sustainability certification project procedures.

C. Section 016000 - Product Requirements: General product requirements.

D. Section 017000 - Execution and Closeout Requirements: Additional coordination requirements.

E. Section 017800 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.3 REFERENCE STANDARDS

A. AIA G716 - Request for Information 2004.

B. AIA G810 - Transmittal Letter 2001.

1.4 PROJECT COORDINATOR

A. Project Coordinator: To Be Determined.

B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for vehicular and equipment access, traffic, and parking facilities.

C. During construction, coordinate use of site and facilities through the Project Coordinator.

D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.

E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities. Responsibility for providing temporary utilities and construction facilities is identified in Section 011000 - Summary.

F. Coordinate field engineering and layout work under instructions of the Project Coordinator.

G. Project Coordinator shall be solely responsible for distributing all necessary project information to each applicable Prime Contractor including, but not limited to, documents, drawings, specifications, sketches, schedules, etc.

H. Make the following types of submittals to Architect through the Project Coordinator:
1. Requests for Interpretation.
2. Requests for substitution.
3. Shop drawings, product data, and samples.
4. Test and inspection reports.
5. Design data.
6. Manufacturer's instructions and field reports.
7. Applications for payment and change order requests.
8. Progress schedules.
9. Coordination drawings.
10. Correction Punch List and Final Correction Punch List for Substantial Completion.
11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PRECONSTRUCTION MEETING

A. Schedule meeting after Notice of Award.

B. Attendance Required:
1. Owner.
2. Project Coordinator
3. Architect.
4. Contractor.

C. Agenda:
1. Execution of Owner-Contractor Agreement.
2. Submission of executed bonds and insurance certificates.
3. Distribution of Contract Documents.
4. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
5. Submission of initial Submittal schedule.
6. Designation of personnel representing the parties to Contract, Owner and Architect.
7. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
8. Scheduling.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.2 SITE MOBILIZATION MEETING

A. Project Coordinator will schedule meeting at the Project site prior to Contractor occupancy.

B. Attendance Required:
1. Contractor.
2. Owner.
3. Architect.
4. Contractor's superintendent.
5. Major subcontractors.

C. Agenda:
1. Use of premises by Owner and Contractor.
2. Owner's requirements.
3. Construction facilities and controls provided by Owner.
4. Temporary utilities provided by Owner.
5. Survey and building layout.
6. Security and housekeeping procedures.
7. Schedules.
8. Application for payment procedures.
9. Procedures for testing.
10. Procedures for maintaining record documents.
11. Requirements for start-up of equipment.
12. Inspection and acceptance of equipment put into service during construction period.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.3 PROGRESS MEETINGS

A. Project Coordinator will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings, prepare meeting minutes.

B. Attendance Required:
1. Contractor.
2. Owner.
3. Architect.
4. Special consultants.
5. Contractor's superintendent.
6. Major subcontractors.

C. Agenda:
1. Review minutes of previous meetings.
2. Review of work progress.
3. Field observations, problems, and decisions.
4. Identification of problems that impede, or will impede, planned progress.
5. Review of submittals schedule and status of submittals.
6. Review of RFIs log and status of responses.
7. Review of off-site fabrication and delivery schedules.
8. Maintenance of progress schedule.
9. Corrective measures to regain projected schedules.

10. Planned progress during succeeding work period.
11. Coordination of projected progress.
12. Maintenance of quality and work standards.
13. Effect of proposed changes on progress schedule and coordination.
14. Other business relating to work.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.4 CONSTRUCTION PROGRESS SCHEDULES

A. Within 10 days after date of the Agreement, the Contractors shall submit their preliminary schedules defining planned operations for the first 60 days of work, with a general outline for remainder of work.

B. If preliminary schedules requires revision after review, submit revised schedule within 10 days.

C. Submit preliminary schedules to the General Construction Contractor, who in turn will prepare a Master Schedule, coordinating and including the schedules of all Contracts.

D. Within 20 days after review of preliminary schedules, the General Construction Contractor shall submit draft of proposed complete Master Schedules schedule for review.
1. Include written certification that major contractors have reviewed and accepted proposed schedule.

E. Within 10 days after joint review, submit complete schedule.

F. Submit updated schedule with each Application for Payment.

3.5 DAILY CONSTRUCTION REPORTS

A. Include only factual information. Do not include personal remarks or opinions regarding operations and/or personnel.

B. In addition to transmitting electronically a copy to Project Coordinator, Owner and Architect, submit two printed copies at weekly intervals.

C. Prepare a daily construction report recording the following information concerning events at Project site and project progress:
1. Date.
2. High and low temperatures, and general weather conditions.
3. Safety, environmental, or industrial relations incidents.
4. Meetings and significant decisions.
5. Stoppages, delays, shortages, and losses. Include comparison between scheduled work activities (in Contractor's most recently updated and published schedule) and actual activities. Explain differences, if any. Note days or periods when no work was in progress and explain the reasons why.
6. Testing and/or inspections performed.
7. Signature of Contractor's authorized representative.

3.6 PROGRESS PHOTOGRAPHS

A. Submit photographs with each application for payment, taken not more than 3 days prior to submission of application for payment.

B. Photography Type: Digital; electronic files.

C. Provide photographs of site and construction throughout progress of work produced by an experienced photographer, acceptable to Architect.

D. In addition to periodic, recurring views, take photographs of each of the following events:
   1. Excavations in progress.
   2. Foundations in progress and upon completion.
   3. Structural framing in progress and upon completion.
   4. Enclosure of building, upon completion.
   5. Final completion, minimum of ten (10) photos.

E. Views:
   1. Provide non-aerial photographs from four cardinal views at each specified time, until date of Substantial Completion.
   2. Consult with Architect for instructions on views required.
   3. Provide factual presentation.
   4. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.
   5. Point of View Sketch: Provide sketch identifying point of view of each photograph.

F. Digital Photographs: 24 bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software. Each JPG photo original shall be date and time stamped.
   1. Delivery Medium: Via email.
   2. File Naming: Include project identification, date and time of view, and view identification.
   3. Point of View Sketch: Include digital copy of point of view sketch with each electronic submittal; include point of view identification in each photo file name.
   4. PDF File: Assemble all photos into printable pages in PDF format, with 4 photos per page, each photo labeled with file name; one PDF file per submittal.

3.7 COORDINATION DRAWINGS

A. Provide information required by Project Coordinator for preparation of coordination drawings.

B. Review drawings prior to submission to Architect.

3.8 REQUESTS FOR INTERPRETATION (RFI)

A. Definition: A request seeking one of the following:
   1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
   2. A resolution to an issue which has arisen due to field conditions and affects design intent.

B. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit an RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
   1. Prepare a separate RFI for each specific item.

a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
b. Do not forward requests which solely require internal coordination between subcontractors.

2. Prepare in a format and with content acceptable to Owner.
   a. Use AIA G716 - Request for Information or other form acceptable to the Architect.
3. Combine RFI and its attachments into a single electronic file in PDF format.

C. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
2. Unacceptable Uses for RFIs: Do not use RFIs to request the following::
   a. Approval of submittals (use procedures specified elsewhere in this section).
   b. Approval of substitutions (see Section - 016000 - Product Requirements)
   c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
   d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
3. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.
   a. The Owner reserves the right to assess the Contractor for the costs (on time-and-materials basis) incurred by the Architect, and any of its consultants, due to processing of such RFIs.

D. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
1. Official Project name and number, and any additional required identifiers established in Contract Documents.
2. Owner's, Architect's, and Contractor's names.
3. Discrete and consecutive RFI number, and descriptive subject/title.
4. Issue date, and requested reply date.
5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

E. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

F. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
1. Indicate current status of every RFI. Update log promptly and on a regular basis.

2. Note dates of when each request is made, and when a response is received.
3. Highlight items requiring priority or expedited response.
4. Highlight items for which a timely response has not been received to date.

G. Review Time: Architect will respond and return RFIs to Contractor within ten business days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.
1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.

H. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.
1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
4. Notify Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.9 SUBMITTAL SCHEDULE

A. Submit to Architect for review a schedule for submittals in tabular format.
1. Submit submittal schedule with preliminary construction schedule.
2. Coordinate with Contractor's construction schedule and schedule of values.
3. Format schedule to allow tracking of status of submittals throughout duration of construction.
4. Arrange information to include scheduled date for initial submittal, specification number and title, submittal category (for review or for information), description of item of work covered, and role and name of subcontractor, vendor or supplier.
5. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.
a. For assemblies, equipment, systems comprised of multiple components and/or requiring detailed coordination with other work, allow for additional time to make corrections or revisions to initial submittals, and time for their review.

3.10 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
1. Product data.
2. Shop drawings.
3. Samples for selection.
4. Samples for verification.

B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.

C. Samples will be reviewed for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 017800 - Closeout Submittals.

3.11 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Sustainability design submittals and reports.
   3. Certificates.
   4. Test reports.
   5. Inspection reports.
   6. Manufacturer's instructions.
   7. Manufacturer's field reports.
   8. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.12 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 017800 - Closeout Submittals:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Bonds.
   5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.13 SUBMITTAL PROCEDURES

A. General Requirements:
   1. Use a separate transmittal and cover sheet for each item.
   2. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
   3. Transmit using approved form.
      a. Use Form AIA G810 or other form acceptable to the Architect.
   4. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
   5. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
   6. Apply Contractor's stamp on cover sheet signed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
      a. Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.

7. Deliver each submittal on date noted in submittal schedule, unless an earlier date has been agreed to by all affected parties, and is of the benefit to the project.
   a. Deliver submittals to Architect at business address.
8. Schedule submittals to expedite the Project, and coordinate submission of related items.
   a. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
   b. For sequential reviews involving Architect's consultants, Owner, or another affected party, allow an additional 7 days.
   c. For sequential reviews involving approval from authorities having jurisdiction (AHJ), in addition to Architect's approval, allow an additional 30 days.
9. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
10. Provide space for Contractor and Architect review stamps.
11. When revised for resubmission, identify all changes made since previous submission.
12. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
13. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.
14. Submittals not requested will not be recognized or processed.
15. Do not use copies or digital reproductions of contract drawings as shop drawings or parts of shop drawings.

B. Product Data Procedures:
   1. Submit only information required by individual specification sections.
   2. Collect required information into a single submittal.
   3. Submit concurrently with related shop drawing submittal.
   4. Do not submit (Material) Safety Data Sheets for materials or products.

C. Shop Drawing Procedures:
   1. Prepare accurate, drawn-to-scale, original shop drawing documentation prepared by professional drafter or drafting service by interpreting Contract Documents and coordinating related work.
   2. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.
   3. Where applicable, shop drawings shall include field verified measurements and conditions.

D. Samples Procedures:
   1. Transmit related items together as single package.
   2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.

3.14 SUBMITTAL REVIEW

A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.

B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.

C. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
   1. Notations may be made directly on submitted items and/or listed on appended Submittal Review cover sheet.

D. Architect's and consultants' actions on items submitted for review:

1. NO EXCEPTIONS TAKEN: Submittals may be released for fabrication, erection, construction and incorporation in the work without further checking, approval or submission of shop drawings, catalog cuts, etc.

2. MAKE CORRECTIONS NOTED: Submittals may be released for fabrication, erection, construction and incorporation in the work subject to notes, corrections shown thereon which have been made by the architect or his consultants. Do not resubmit submittals marked make corrections noted.

3. AMEND AND RESUBMIT: Submittals so marked must be corrected or changed, and sent to the Architect for final approval, in the number and forms required by the Architect.

4. REJECTED-SEE REMARKS: The items shown in the submittal are rejected for fabrication and their incorporation into the work is not permitted. submittals so marked will be returned to the contractor for corrections and/or the addition of more details, and resubmission will be required

E. Architect's and Consultants' actions on items submitted for information:
1. Items for which no action was taken:
   a. "Received" - to notify the Contractor that the submittal has been received for record only.
2. Items for which action was taken:
   a. "Reviewed" - no further action is required from Contractor.

F. The Architect’s review and action taken of a separate item:

1. Shall not indicate he has reviewed and acted upon the assembly in which the item functions. The Architect’s review and action does not relieve the Contractor from responsibility for errors or omissions in the Shop Drawings.
2. In the event of returns for correction and re-submissions, all alterations, changes and additions of new information beyond the scope of the Architect’s corrective notations, shall be suitably marked on the shop drawing or drawings and noted in the accompanying transmittal or resubmission.
3. Record Submittals: See other sections for requirements, if any, to submit complete set of shop drawings, product data and samples of in-place work for Owner‘s records.
4. The Architect shall review each submittal a maximum of two (2) times. The Architect shall not review submittals in excess of two (2) times, which have not been properly corrected, or which have been resubmitted unnecessarily by the Contractor without authorization from the Owner as an Additional Service.

G. Electronic Submittals: Shop drawings may be submitted in electronic format, subject to all requirements of this section. Procedures for electronic submittals shall be established with the Project Coordinator and Architect prior to commencement of construction.

H. Electronic copies of construction documents: the contractor may request from the architect electronic files (cad files) for use in preparing shop drawings. the contractor shall make requests in writing together with a specific list of drawings and shall execute a release form provided by the Architect.

END OF SECTION

SECTION 014000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Submittals.

B. Quality assurance.

C. Testing and inspection agencies and services.

D. Contractor's construction-related professional design services.

E. Contractor's delegated design-related professional design services.

F. Control of installation.

G. Mock-ups.

H. Tolerances.

I. Manufacturers' field services.

J. Defect Assessment.

1.2 RELATED REQUIREMENTS

A. Section 014216 - Definitions.

1.3 REFERENCE STANDARDS

A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants 2008 (Reapproved 2019).

B. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation 2017.

C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry 2019.

D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction 2019.

E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection 2021.

F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing 2021.

G. ASTM E699 - Standard Specification for Agencies Involved in Testing, Quality Assurance, and Evaluating of Manufactured Building Components 2016.

H. IAS AC89 - Accreditation Criteria for Testing Laboratories 2018.

1.4 DEFINITIONS

A. Contractor's Quality Control Plan: Contractor's management plan for executing the Contract for Construction.

B. Contractor's Professional Design Services: Design of some aspect or portion of the project by party other than the design professional of record. Provide these services as part of the Contract for Construction.
   1. Design Services Types Required:
      a. Construction-Related: Services Contractor needs to provide in order to carry out the Contractor's sole responsibilities for construction means, methods, techniques, sequences, and procedures.
      b. Design-Related: Delegated design services explicitly required to be performed by another design professional due to highly-technical and/or specialized nature of a portion of the project. Services primarily involve engineering analysis, calculations, and design, and are not intended to alter the aesthetic aspects of the design.

C. Design Data: Design-related, signed and sealed drawings, calculations, specifications, certifications, shop drawings and other submittals provided by Contractor, and prepared directly by, or under direct supervision of, appropriately licensed design professional.

1.5 CONTRACTOR'S CONSTRUCTION-RELATED PROFESSIONAL DESIGN SERVICES

A. Coordination: Contractor's professional design services are subject to requirements of project's General Conditions.

B. Provide such engineering design services as may be necessary to plan and safely conduct certain construction operations, pertaining to, but not limited to the following:
   1. Temporary sheeting, shoring, or supports.
   2. Temporary scaffolding.
   3. Temporary bracing.
   4. Temporary stairs or steps required for construction access only.
   5. Temporary hoist(s) and rigging.

1.6 CONTRACTOR'S DESIGN-RELATED PROFESSIONAL DESIGN SERVICES

A. Coordination: Contractor's professional design services are subject to requirements of project's General Conditions.

B. Base design on performance and/or design criteria indicated in individual specification sections.
   1. Submit a Request for Interpretation to Architect if the criteria indicated are not sufficient to perform required design services.

C. Scope of Contractor's Professional Design Services: Provide for the following items of work:
   1. Concrete Mix Design: As described in Section 033000 - Cast-in-Place Concrete. No specific designer qualifications are required.
   2. Structural Design of Steel Connections: As described in Section 051200 - Structural Steel Framing.
   3. Structural Design of Steel Connections: As described in Section 052100 - Steel Joist Framing.
   4. Structural Design of Steel Decking: As described in Section 053100 - Steel Decking.

5. Structural Design of Metal Framing: As described in Section 054000 - Cold-Formed Metal Framing.
6. Structural Design of Metal Fabrications: As described in Section 055000 - Metal Fabrications.
7. Structural Design of Stairs: As described in Section 055100 - Metal Stairs.
8. Structural Design of Railings: As described in Section 055213 - Pipe and Tube Railings.
9. Structural Design: Include calculations for resisting wind loads, physical characteristics, resulting dimensional limitations as described in Section 086300 - Metal-Framed Skylights.
10. Sprinkler Layout: Coordinate with ceiling installation, detailed pipe layout, and hydraulic calculations as described in Section 211313 and 211316 - Fire-Suppression Sprinkler Systems.
11. Structural Calculations and Design: As described in Section 323223 - Segmental Retaining Walls

1.7 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Designer's Qualification Statement: Submit for Architect's knowledge as contract administrator, or for Owner's information.
1. Include information for each individual professional responsible for producing, or supervising production of, design-related professional services provided by Contractor.
    a. Full name.
    b. Professional licensure information.
    c. Statement addressing extent and depth of experience specifically relevant to design of items assigned to Contractor.

C. Design Data: Submit for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.
1. Include calculations that have been used to demonstrate compliance to performance and regulatory criteria provided, and to determine design solutions.
2. Include required product data and shop drawings.
3. Include a statement or certification attesting that design data complies with criteria indicated, such as building codes, loads, functional, and similar engineering requirements.
4. Include signature and seal of design professional responsible for allocated design services on calculations and drawings.

D. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.
1. Include:
    a. Date issued.
    b. Project title and number.
    c. Name of inspector.
    d. Date and time of sampling or inspection.
    e. Identification of product and specifications section.
    f. Location in the Project.
    g. Type of test/inspection.
    h. Date of test/inspection.
    i. Results of test/inspection.

j. Compliance with Contract Documents.
k. When requested by Architect, provide interpretation of results.

2. Test report submittals are for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.

E. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

F. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.
1. Submit report in duplicate within 30 days of observation to Architect for information.
2. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

1.8 Quality Assurance

A. Designer Qualifications: Where professional engineering design services and design data submittals are specifically required of Contractor by Contract Documents, provide services of a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.

B. Contractor's Quality Control (CQC) Plan:
1. Prior to start of work, submit a comprehensive plan describing how contract deliverables will be produced. Tailor CQC plan to specific requirements of the project. Include the following information:
a. Management Structure: Identify personnel responsible for quality. Include a chart showing lines of authority.
1) Include qualifications (in resume form), duties, responsibilities of each person assigned to CQC function.
b. Management Approach: Define, describe, and include in the plan specific methodologies used in executing the work.
1) Management and control of documents and records relating to quality.
2) Communications.
3) Coordination procedures.
4) Resource management.
5) Process control.
6) Inspection and testing procedures and scheduling.
7) Control of noncomplying work.
8) Tracking deficiencies from identification, through acceptable corrective action, and verification.
9) Control of testing and measuring equipment.
10) Project materials certification.
11) Managerial continuity and flexibility.
c. Owner will not make a separate payment for providing and maintaining a Quality Control Plan. Include associated costs in Bid price.
d. Acceptance of the plan is required prior to start of construction activities not including mobilization work. Owner's acceptance of the plan will be conditional and predicated on continuing satisfactory adherence to the plan. Owner reserves the right to require Contractor to make changes to the

plan and operations, including removal of personnel, as necessary, to obtain specified quality of work results.

C. Quality-Control Personnel Qualifications. Engage a person with requisite training and experience to implement and manage quality assurance (QA) and quality control (QC) for the project.

1.9 REFERENCES AND STANDARDS

A. Obtain copies of standards where required by product specification sections.

B. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

1.10 Testing and Inspection Agencies and Services

A. Owner will employ services of an independent testing agency to perform certain specified testing.

B. Contractor shall employ and pay for services of an independent testing agency to perform other specified testing only where specified.

C. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

D. Contractor Employed Agency:
1. Testing agency: Comply with requirements of ASTM E329, ASTM E543, ASTM E699, ASTM C1021, ASTM C1077, ASTM C1093, and ASTM D3740.
2. Inspection agency: Comply with requirements of ASTM D3740 and ASTM E329.
3. Laboratory Qualifications: Accredited by IAS according to IAS AC89.
4. Laboratory: Authorized to operate in the State in which the Project is located.
5. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.
6. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality assurance program.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.2 MOCK-UPS

A. Before installing portions of the Work where mock-ups are required, construct mock-ups in location and size indicated for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work. The purpose of mock-up is to demonstrate the proposed range of aesthetic effects and workmanship.

B. Accepted mock-ups establish the standard of quality the Architect will use to judge the Work.

C. Notify Architect fifteen (15) working days in advance of dates and times when mock-ups will be constructed.

D. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.

E. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

F. Architect will use accepted mock-ups as a comparison standard for the remaining Work.

G. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Architect.

3.3 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

3.4 TESTING AND INSPECTION

A. See individual specification sections for testing and inspection required.

B. Testing Agency Duties:
   1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
   2. Perform specified sampling and testing of products in accordance with specified standards.
   3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
   4. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
   5. Perform additional tests and inspections required by Architect.
   6. Submit reports of all tests/inspections specified.

C. Limits on Testing/Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
   2. Agency may not approve or accept any portion of the Work.
   3. Agency may not assume any duties of Contractor.
   4. Agency has no authority to stop the Work.

D. Contractor Responsibilities:
   1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
   2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
   3. Provide incidental labor and facilities:
      a. To provide access to Work to be tested/inspected.
      b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
      c. To facilitate tests/inspections.
      d. To provide storage and curing of test samples.
   4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
   5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
   6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

E. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.

F. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.5 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance equipment as applicable, and to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.6 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

END OF SECTION

SECTION 014216
DEFINITIONS

PART 1 GENERAL

1.1 SUMMARY

A. This section supplements the definitions contained in the General Conditions.

B. Other definitions are included in individual specification sections.

1.2 DEFINITIONS

1. **"Approved":** When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
2. **“Architect/Engineer”:** means the entity identified as the “Architect” in Division 00 “General Conditions”.
3. **"Contract":** means the Contract Documents. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a written Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Architect/Engineer and a Contractor or a Subcontractor of any tier, (2) between the Owner and a Subcontractor of any tier or (3) between any persons or entities other than the Owner and Contractor. The Architect/Engineer shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect/Engineer 's duties.
4. **"Contractor":** means the entity holding a Public Improvement Contract with the Owner for this Project.
5. **“Contract Documents”:** means all Documents including, but not limited to, all Drawings and Specifications; the Contractor's Bid, Addenda issued prior to execution of the Contract; other documents listed in the foregoing documents (unless otherwise excluded); and Modifications issued after execution of the Contract. “Contract Sum” means the total not-to-exceed cost specified in the Contract Documents.
6. **“Day”:** means calendar day, including weekends and holidays, unless otherwise specified in the Contract Documents.
7. **"Directed"**: A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
8. **“Drawings”:** means the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.
9. **Experienced,"**: means, when used with the term "installer," to have successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with the special requirements indicated; and having complied with requirements of authorities having jurisdiction.
10. **"Furnish":** means to supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations
11. **"Indicated":** Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms

including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

12. **"Install":** means operations at the Project site including the actual unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
13. **"Installer":** means the Contractor or another entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier, to perform a particular construction activity, including installation, erection, application, or similar operations. Installers are required to be experienced in the operations they are engaged to perform.
14. "**Owner":** means the entity designated as "Owner" in Division 00, Section 007000 "General Conditions"
15. **"Product":** Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.
16. **"Project":** means the total construction project including the Work performed under all Contractor's Contracts and which may include goods or services provided by the Owner or by separate contractors, vendors or consultants.
17. **"Project Manual":** The book-sized volume that includes the procurement requirements (if any), the contracting requirements, and the specifications.
18. **"Project Site":** means the space available to the Contractor for performing construction activities, either exclusively or in conjunction with others performing other work as part of the Project. The extent of the Project site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.
19. **"Provide":** means to furnish and install, complete and ready for the intended use.
20. **"Regulations":** Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
21. **"Site":** means the specific location of the "Project Identification" provided in Division 01 Section 011000 - Summary of Work.
22. **"Specifications":** mean that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.
23. **"Subcontractor":** means subcontractors, of every tier, performing Work which is the responsibility of Contractor.
24. **"Supplier":** means entities, of every tier, supplying materials or services to Contractor to complete its Work for this Project.
25. **"Testing Agency":** means a testing agency which is an independent entity engaged to perform specific inspections or tests, either at the Project site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.
26. **"Work"**: means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the ProjecT.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 014219
REFERENCE STANDARDS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Requirements relating to referenced standards.

B. Reference standards full title and edition date.

1.2 RELATED REQUIREMENTS

A. Document 007200 - General Conditions: Reference standards.

1.3 QUALITY ASSURANCE

A. For products or workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Comply with the reference standard of date of issue specified in this section, except where a specific date is established by applicable code.

C. Should specified reference standards conflict with Contract Documents, request clarification from the Architect before proceeding.

D. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Architect shall be altered by Contract Documents by mention or inference otherwise in any reference document.

PART 2 CONSTRUCTION INDUSTRY ORGANIZATION DOCUMENTS

2.1 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

2.2 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. AABC - Associated Air Balance Council; www.aabc.com.
2. AAMA - American Architectural Manufacturers Association; www.aamanet.org.
3. AAPFCO - Association of American Plant Food Control Officials; www.aapfco.org.
4. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
5. AATCC - American Association of Textile Chemists and Colorists; www.aatcc.org.
6. ABMA - American Bearing Manufacturers Association; www.americanbearings.org.
7. ABMA - American Boiler Manufacturers Association; www.abma.com.
8. ACI - American Concrete Institute; (Formerly: ACI International); www.concrete.org
9. ACPA - American Concrete Pipe Association; www.concrete-pipe.org.
10. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
11. AF&PA - American Forest & Paper Association; www.afandpa.org.
12. AGA - American Gas Association; www.aga.org.
13. AHAM - Association of Home Appliance Manufacturers; www.aham.org.
14. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
15. AI - Asphalt Institute; www.asphaltinstitute.org.
16. AIA - American Institute of Architects (The); www.aia.org.
17. AISC - American Institute of Steel Construction; www.aisc.org.
18. AISI - American Iron and Steel Institute; www.steel.org.
19. AITC - American Institute of Timber Construction; www.aitc-glulam.org.
20. AMCA - Air Movement and Control Association International, Inc.; www.amca.org.
21. ANSI - American National Standards Institute; www.ansi.org.
22. AOSA - Association of Official Seed Analysts, Inc.; www.aosaseed.com.
23. APA - APA - The Engineered Wood Association; www.apawood.org.
24. APA - Architectural Precast Association; www.archprecast.org.
25. API - American Petroleum Institute; www.api.org.
26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
27. ARI - American Refrigeration Institute; (See AHRI).
28. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.
29. ASCE - American Society of Civil Engineers; www.asce.org.
30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
31. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
32. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
33. ASSE - American Society of Safety Engineers (The); www.asse.org.
34. ASSE - American Society of Sanitary Engineering; www.asse-plumbing.org.
35. ASTM - ASTM International; www.astm.org.
36. ATIS - Alliance for Telecommunications Industry Solutions; www.atis.org.
37. AWEA - American Wind Energy Association; www.awea.org.
38. AWI - Architectural Woodwork Institute; www.awinet.org.
39. AWMAC - Architectural Woodwork Manufacturers Association of Canada; www.awmac.com.
40. AWPA - American Wood Protection Association; www.awpa.com.
41. AWS - American Welding Society; www.aws.org.
42. AWWA - American Water Works Association; www.awwa.org.
43. BHMA -Builders Hardware Manufacturers Association; www.buildershardware.com.

44. BIA - Brick Industry Association (The); www.gobrick.com.
45. BICSI - BICSI, Inc.; www.bicsi.org.
46. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); www.bifma.org.
47. BISSC - Baking Industry Sanitation Standards Committee; www.bissc.org.
48. BWF - Badminton World Federation; (Formerly: International Badminton Federation); www.bissc.org.
49. CDA - Copper Development Association; www.copper.org.
50. CE - Conformite Europeenne; http://ec.europa.eu/growth/single-market/ce-marking/
51. CEA - Canadian Electricity Association; www.electricity.ca.
52. CEA - Consumer Electronics Association; www.ce.org.
53. CFFA - Chemical Fabrics and Film Association, Inc.; www.chemicalfabricsandfilm.com.
54. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
55. CGA - Compressed Gas Association; www.cganet.com.
56. CIMA - Cellulose Insulation Manufacturers Association; www.cellulose.org.
57. CISCA - Ceilings & Interior Systems Construction Association; www.cisca.org.
58. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
59. CLFMI - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
60. CPA - Composite Panel Association; www.pbmdf.com.
61. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
62. CRRC - Cool Roof Rating Council; www.coolroofs.org.
63. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
64. CSA - CSA Group; www.csa.ca.
65. CSA - CSA International; (Formerly: IAS - International Approval Services); www.csa-international.org.
66. CSI - Construction Specifications Institute (The); www.csinet.org.
67. CSSB - Cedar Shake & Shingle Bureau; www.cedarbureau.org.
68. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.cti.org.
69. CWC - Composite Wood Council; (See CPA).
70. DASMA - Door and Access Systems Manufacturers Association; www.dasma.com.
71. DHI - Door and Hardware Institute; www.dhi.org.
72. ECA - Electronic Components Association; (See ECIA).
73. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
74. ECIA - Electronic Components Industry Association; www.eciaonline.org.
75. EIA - Electronic Industries Alliance; (See TIA).
76. EIMA - EIFS Industry Members Association; www.eima.com.
77. EJMA - Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
78. ESD - ESD Association; (Electrostatic Discharge Association); www.esda.org .
79. ESTA - Entertainment Services and Technology Association; (See PLASA).
80. ETL - Intertek (See Intertek); www.intertek.com.
81. EVO - Efficiency Valuation Organization; www.evo-world.org.
82. FCI - Fluid Controls Institute; www.fluidcontrolsinstitute.org.
83. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); www.fiba.com.
84. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); www.fivb.org.
85. FM Approvals - FM Approvals LLC; www.fmglobal.com.
86. FM Global - FM Global; (Formerly: FMG - FM Global); www.fmglobal.com.
87. FRSA - Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.; www.floridaroof.com.
88. FSA - Fluid Sealing Association; www.fluidsealing.com.
89. FSC - Forest Stewardship Council U.S.; www.fscus.org.
90. GA - Gypsum Association; www.gypsum.org.

91. GANA - Glass Association of North America; www.glasswebsite.com.
92. GS - Green Seal; www.greenseal.org.
93. HI - Hydraulic Institute; www.pumps.org.
94. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
95. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
96. HPVA - Hardwood Plywood & Veneer Association; www.hpva.org.
97. HPW - H. P. White Laboratory, Inc.; www.hpwhite.com.
98. IAPSC - International Association of Professional Security Consultants; www.iapsc.org.
99. IAS - International Accreditation Service; www.iasonline.org.
100. IAS - International Approval Services; (See CSA).
101. ICBO - International Conference of Building Officials; (See ICC).
102. ICC - International Code Council; www.iccsafe.org.
103. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
104. ICPA - International Cast Polymer Alliance; www.icpa-hq.org.
105. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
106. IEC - International Electrotechnical Commission; www.iec.ch.
107. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
108. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); www.ies.org.
109. IESNA - Illuminating Engineering Society of North America; (See IES).
110. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
111. IGMA - Insulating Glass Manufacturers Alliance; www.igmaonline.org.
112. IGSHPA - International Ground Source Heat Pump Association; www.igshpa.okstate.edu.
113. ILI - Indiana Limestone Institute of America, Inc.; www.iliai.com.
114. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
115. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); www.isa.org.
116. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).
117. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); www.isfanow.org.
118. ISO - International Organization for Standardization; www.iso.org.
119. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
120. ITU - International Telecommunication Union; www.itu.int/home.
121. KCMA - Kitchen Cabinet Manufacturers Association; www.kcma.org.
122. LMA - Laminating Materials Association; (See CPA).
123. LPI - Lightning Protection Institute; www.lightning.org.
124. MBMA - Metal Building Manufacturers Association; www.mbma.com.
125. MCA - Metal Construction Association; www.metalconstruction.org.
126. MFMA - Maple Flooring Manufacturers Association, Inc.; www.maplefloor.org.
127. MFMA - Metal Framing Manufacturers Association, Inc.; www.metalframingmfg.org.
128. MHIA - Material Handling Industry of America; www.mhia.org.
129. MIA - Marble Institute of America; www.marble-institute.com.
130. MMPA - Moulding & Millwork Producers Association; www.wmmpa.com.
131. MPI - Master Painters Institute; www.paintinfo.com.
132. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; www.mss-hq.org.
133. NAAMM - National Association of Architectural Metal Manufacturers; www.naamm.org.
134. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.

135. NADCA - National Air Duct Cleaners Association; www.nadca.com.
136. NAIMA - North American Insulation Manufacturers Association; www.naima.org.
137. NBGQA - National Building Granite Quarries Association, Inc.; www.nbgqa.com.
138. NBI - New Buildings Institute; www.newbuildings.org.
139. NCAA - National Collegiate Athletic Association (The); www.ncaa.org.
140. NCMA - National Concrete Masonry Association; www.ncma.org.
141. NEBB - National Environmental Balancing Bureau; www.nebb.org.
142. NECA - National Electrical Contractors Association; www.necanet.org.
143. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
144. NEMA - National Electrical Manufacturers Association; www.nema.org.
145. NETA - InterNational Electrical Testing Association; www.netaworld.org.
146. NFHS - National Federation of State High School Associations; www.nfhs.org.
147. NFPA - National Fire Protection Association; www.nfpa.org.
148. NFPA - NFPA International; (See NFPA).
149. NFRC - National Fenestration Rating Council; www.nfrc.org.
150. NHLA - National Hardwood Lumber Association; www.nhla.com.
151. NLGA - National Lumber Grades Authority; www.nlga.org.
152. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
153. NOMMA - National Ornamental & Miscellaneous Metals Association; www.nomma.org.
154. NRCA - National Roofing Contractors Association; www.nrca.net.
155. NRMCA - National Ready Mixed Concrete Association; www.nrmca.org.
156. NSF - NSF International; www.nsf.org.
157. NSPE - National Society of Professional Engineers; www.nspe.org.
158. NSSGA - National Stone, Sand & Gravel Association; www.nssga.org.
159. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
160. NWFA - National Wood Flooring Association; www.nwfa.org.
161. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
162. PDI - Plumbing & Drainage Institute; www.pdionline.org.
163. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); http://www.plasa.org.
164. RCSC - Research Council on Structural Connections; www.boltcouncil.org.
165. RFCI - Resilient Floor Covering Institute; www.rfci.com.
166. RIS - Redwood Inspection Service; www.redwoodinspection.com.
167. SAE - SAE International; www.sae.org.
168. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
169. SDI - Steel Deck Institute; www.sdi.org.
170. SDI - Steel Door Institute; www.steeldoor.org.
171. SEFA - Scientific Equipment and Furniture Association (The); www.sefalabs.com.
172. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
173. SIA - Security Industry Association; www.siaonline.org.
174. SJI - Steel Joist Institute; www.steeljoist.org.
175. SMA - Screen Manufacturers Association; www.smainfo.org.
176. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
177. SMPTE - Society of Motion Picture and Television Engineers; www.smpte.org.
178. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
179. SPIB - Southern Pine Inspection Bureau; www.spib.org.
180. SPRI - Single Ply Roofing Industry; www.spri.org.
181. SRCC - Solar Rating & Certification Corporation; www.solar-rating.org.
182. SSINA - Specialty Steel Industry of North America; www.ssina.com.
183. SSPC - SSPC: The Society for Protective Coatings; www.sspc.org.
184. STI - Steel Tank Institute; www.steeltank.com.
185. SWI - Steel Window Institute; www.steelwindows.com.

186. SWPA - Submersible Wastewater Pump Association; www.swpa.org.
187. TCA - Tilt-Up Concrete Association; www.tilt-up.org.
188. TCNA - Tile Council of North America, Inc.; www.tileusa.com.
189. TEMA - Tubular Exchanger Manufacturers Association, Inc.; www.tema.org.
190. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); www.tiaonline.org.
191. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
192. TMS - The Masonry Society; www.masonrysociety.org.
193. TPI - Truss Plate Institute; www.tpinst.org.
194. TPI - Turfgrass Producers International; www.turfgrasssod.org.
195. TRI - Tile Roofing Institute; www.tileroofing.org.
196. UL - Underwriters Laboratories Inc.; http://www.ul.com.
197. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
198. USAV - USA Volleyball; www.usavolleyball.org.
199. USGBC - U.S. Green Building Council; www.usgbc.org.
200. USITT - United States Institute for Theatre Technology, Inc.; www.usitt.org.
201. WA - Wallcoverings Association; www.wallcoverings.org
202. WASTEC - Waste Equipment Technology Association; www.wastec.org.
203. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
204. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
205. WDMA - Window & Door Manufacturers Association; www.wdma.com.
206. WI - Woodwork Institute; www.wicnet.org.
207. WSRCA - Western States Roofing Contractors Association; www.wsrca.com.
208. WWPA - Western Wood Products Association; www.wwpa.org.

2.3 Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.

1. DIN - Deutsches Institut fur Normung e.V.; www.din.de.
2. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.
3. ICC - International Code Council; www.iccsafe.org.
4. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.

2.4 Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.

1. COE - Army Corps of Engineers; www.usace.army.mil.
2. CPSC - Consumer Product Safety Commission; www.cpsc.gov.
3. DOC - Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
4. DOD - Department of Defense; www.quicksearch.dla.mil.
5. DOE - Department of Energy; www.energy.gov.
6. EPA - Environmental Protection Agency; www.epa.gov.
7. FAA - Federal Aviation Administration; www.faa.gov.
8. FG - Federal Government Publications; www.gpo.gov/fdsys.
9. GSA - General Services Administration; www.gsa.gov.
10. HUD - Department of Housing and Urban Development; www.hud.gov.

11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; www.eetd.lbl.gov.
12. OSHA - Occupational Safety & Health Administration; www.osha.gov.
13. SD - Department of State; www.state.gov.
14. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; www.trb.org.
15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
16. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.
17. USDOJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.
18. USP - U.S. Pharmacopeial Convention; www.usp.org.
19. USPS - United States Postal Service; www.usps.com.

2.5 State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CBHF; State of California; Department of Consumer Affairs; Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation; www.bearhfti.ca.gov.
2. CCR; California Code of Regulations; Office of Administrative Law; California Title 24 Energy Code; www.calregs.com.
3. CDHS; California Department of Health Services; (See CDPH).
4. CDPH; California Department of Public Health; Indoor Air Quality Program; www.cal-iaq.org.
5. CPUC; California Public Utilities Commission; www.cpuc.ca.gov.
6. SCAQMD; South Coast Air Quality Management District; www.aqmd.gov.
7. TFS; Texas A&M Forest Service; Sustainable Forestry and Economic Development; www.txforestservice.tamu.edu.

PART 3 – EXECUTION- NOT USED

END OF SECTION

SECTION 015000 - TEMPORARY FACILITIES AND SERVICES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies administrative and procedural requirements for temporary facilities and services, including such items as temporary utility services, temporary construction and support facilities, project security and protection.

B. The work of this Section shall apply to all Prime Contractors unless otherwise noted herein.

C. Refer to Section 007000 “GENERAL CONDITIONS” for related information.

1.2 QUALITY ASSURANCE

A. Comply with requirements of local laws and regulations governing construction and local industry standards in the installation and maintenance of temporary services and facilities.

1.3 WORK OF THE CONTRACT

A. In addition to all other equipment, plant, labor and materials specified elsewhere in the Specifications or necessary to complete the work, the Contractors shall furnish, maintain and operate the following temporary facilities and services for the common use of all parties engaged in the construction work of this project unless otherwise specifically noted or as otherwise determined by the Project Coordinator.

1. Layout and coordination. (General Construction Contractor)
2. Parking, and staging areas. (General Construction Contractor)
3. Safety and protection. (All Contractors)
4. Temporary barricades, fences and railings. (General Construction Contractor)
5. Dust partitions. (General Construction Contractor)
6. Field offices for Contractor and/or his subcontractors for their own uses. (All Contractors)
7. Telephone and computer for Contractor’s use. (All Contractors)
8. Security. (All Contractors)
9. Temporary fire extinguishers. (General Construction Contractor)
10. Stockpiling and storage areas. (All Contractors)
11. Temporary toilets. (General Construction Contractor)
12. Cleaning up and rubbish removal. (All Contractors)
13. Progress photographs. (All Contractors)
14. Stair and Elevator use. (All Contractors)
15. Snow Removal (General Construction Contractor)
16. Pest Control (General Construction Contractor)
17. Temporary water. (Plumbing-Fire Protection Contractor)
18. Temporary heat and ventilation.(General Construction Contractor)
19. Temporary electric light and power. (Electrical Contractor)

B. Temporary facilities and services shall be discontinued as directed by the Project Coordinator when their use is no longer required or they impede the progress of the work. The Contractors shall thereafter provide, at no increase in the contract amount, any and all temporary facilities and services required to complete the work of the contract. Should a change in the location of any temporary facilities or services be necessary to progress the work properly, the Contractors shall remove and relocate them as directed by the Project Coordinator, all at no increase in the contract amount. When directed by the Project Coordinator and no longer required, all temporary facilities shall be removed.

1.4 LAYOUT AND COORDINATION

A. All principal lines, levels, corners, and grades shall be established by the General Construction Contractor with utmost accuracy, with reference points set and recorded for the common use of all.

B. Reference points shall remain and be maintained as long as required for any part of the work for all contracts for the project.

C. Each Contractor shall cooperate and coordinate its work with the General Construction Contractor with respect to required layout and locations of work items.

1.5 PARKING, AND STAGING AREAS

A. Parking: On site parking for construction personnel is limited. Parking areas shall be designated by the Project Coordinator.

B. All other maintenance required to keep staging and delivery areas clear and clean from construction rubbish shall be the responsibility of the General Construction Contractor.

C. Staging: The General Construction Contractor shall maintain the designated staging area free from debris, obstructions, snow, ice, standing water, etc.

1.6 GENERAL SAFETY AND PROTECTION

A. Each Contractor and each Subcontractor shall take adequate precautions to protect from damage or deterioration, and to safeguard from theft or pilferage all materials, tools, and equipment pertaining to its work which are on the site of the project, whether stored or incorporated into the Work. Where permanent construction is installed in place of temporary types, such as for door, window or other openings, such permanent construction shall be suitably maintained, protected from damage, and in first class condition when delivered to the Owner.

B. Each Contractor shall continuously maintain adequate protection of all work from damage including flood or other water damage and shall protect the Owner’s property and adjacent property from injury or loss arising in connection with the Contract. Each Contractor shall perform its work in such manner as to insure against injury or damage to the Owner’s property or to adjacent property. Each Contractor shall make good any damage, injury or loss which results or which is contributed to by its failure to comply with these requirements.

C. At the end of each day's work, all new work subject to damage by the elements and all points where water or frost may enter any part of the structure shall be covered.

D. In addition to the requirements included in this Section, the Contractors' attention is specifically directed to applicable safety regulations and the requirements of OSHA.

1.7 BARRICADES FENCES AND RAILINGS

A. Barricades and Fences:

1. Temporary barricades and fences shall be provided by the General Construction Contractor as indicated on the drawings and where necessary or directed by the Project Coordinator to restrict or protect construction personnel and the public from construction operations.
3. Removal and replacement of temporary barricades and fences during the course of the work shall be performed by the General Construction Contractor.
4. Barricades and fences damaged by any Contractor due to its operations, including damage caused by its subcontractors, suppliers or truckers, shall be repaired by the responsible Contractor at its own expense.

B. Railings:

1. The General Construction Contractor shall be responsible for providing all safety railings required to perform or protect his work and those engaged in its performance.

C. Codes: The above mentioned does not preclude the safety requirements of OSHA, which shall continue to be the responsibility of each Contractor.

1.8 DUST PARTITIONS

A. The General Construction Contractor shall provide and maintain temporary dust protection and partitions at the juncture of the work areas and existing occupied areas adjacent to the work areas on each floor as indicated on the drawings and as directed by the Project Coordinator.

B. Partitions to be constructed using steel studs with 1/2" Type X gypsum board both sides for dust partitions and sheathing grade composition board with building paper (15 #) for any exterior partitions.

1. Partitions shall be provided with hinged flush metal doors, each provided with spring-type hinge-closers, and exit hardware panic devices which will permit emergency exiting from the work areas. Doors leading into the work areas are to be taped shut where possible or locked if not part of a required exit way.
2. Suitable markings on partitions and doors shall be as directed by the Project Coordinator.
3. In addition to the foregoing and when dust or weather tight partitions are not feasible, other approved means of protection shall be provided as directed by the Project Coordinator and at no increase in the contract amount.

C. Upon completion of the work all temporary protection and partitions shall be removed and affected or damaged surfaces patched to match the existing surface or finish.

1.9 FIELD OFFICES

A. Each Contractor and his subcontractors shall be responsible for providing and maintaining their own temporary field office facilities within the construction site.

B. Each Contractor shall make provisions for security, electricity and other services required for its field facilities.

C. The General Construction Contractor shall provide a field office on the construction site for use by the Project Coordinator, Architect and Owner, equipped with at least the following:

1. Telephone/ cellular telephone
2. Computer with high speed internet connection for receiving and sending e-mail messages and digital photographs, including keyboard, mouse, other necessary peripherals.
3. Printer-copier with 11” x 17” paper capacity
4. Plan table and rack
5. File cabinets
6. Conference table with ten chairs
7. Minimum 54” large screen monitor for virtual meetings.
8. Under counter refrigerator.

D. Electrical power and telecommunications services for exterior field office trailers, if used shall be arranged and paid for by the Prime Contractor or subcontractor requiring same.

E. Electrical power and telecommunications services for Project Coordinators field office shall be paid for by the General Construction Contractor.

F. When required by the construction and/or directed by the Project Coordinator, the field offices and their adjunct facilities shall be removed completely and/or relocated to new locations at each Contractor’s own expense.

1.10 TELEPHONES AND COMPUTERS

A. Provision for installation of telephone and computer facilities shall be the responsibility of the Contractor and Subcontractors requiring them. Each Contractor shall be responsible for the cost of temporary telephone and computer services and connections.

1.11 SECURITY

A. The General Construction Contractor shall be responsible for securing the project areas at all times.

B. Each Contractor shall be responsible for protecting and securing its own work, materials, tools and equipment, etc., against damage or theft from any cause. All work is at the risk

of each Contractor until it is finally accepted by the Owner.

1.12 TEMPORARY FIRE EXTINGUISHERS

A. The General Construction Contractor shall provide fire extinguishers in the work areas for the duration of the construction operations.

1. The fire extinguishers shall be of such types, number, and in locations required under the terms of the fire insurance policy or policies covering the project or required by the agency having jurisdiction.

2. Temporary fire extinguishers shall be removed from the work areas when so directed by the Project Coordinator.

B. Each Contractor and subcontractors shall be responsible for providing the necessary fire extinguishers in their own field offices, trailers, sheds, etc., required under the terms of the fire insurance policy or policies covering the project or required by the agency having jurisdiction.

1.13 STOCKPILING AND STORAGE

A. Stockpiling and storage of equipment and materials will be permitted in limited areas of the building and site where directed by the Project Coordinator. Each Contractor and subcontractor shall confine their storage activities to the designated areas.

1.14 TEMPORARY TOILETS

A. The General Construction Contractor shall provide temporary toilets, wash facilities, and drinking water for use of all construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities. Temporary toilets shall be located in the designated staging area.

B. The General Construction Contractor shall keep the temporary toilet facilities clean and maintained at all times.

1.15 CLEANING UP AND RUBBISH REMOVAL

A. Each Contractor shall be responsible for clean up and controlling dust and debris caused by their work at all times.

B. Each Contractor shall keep the premises cleared of scrap waste, empty containers and rubbish resulting directly from its operations. This is to be performed at least once per week or more often if the rubbish interferes with the work of others, presents a fire or safety hazard, or as directed by the Project Coordinator.

C. The General Construction Contractor shall provide suitable debris containers in the designated staging area for disposal of construction debris.

D. Should the Contractors fail to perform cleanup for which it is responsible, cleanup will be performed by others and the responsible Contractor assessed for the cost accordingly.

E. Discarded and debris materials shall be removed to debris containers in the staging area by each Contractor.

F. The General Construction Contractor shall provide debris chutes in each work area to facilitate the removal of rubbish. Chutes shall be of wooden, composite or steel construction, enclosed, and terminating in a hopper. Chutes shall be properly fastened to the building or staging with weathertight openings. Upon completion of the project or sooner if their use is no longer required, the debris chutes shall be removed from the site and affected surfaces restored and cleaned.

1.16 PROGRESS PHOTOGRAPHS

A. Refer to Section 013000 “Administrative Requirements” for progress photo requirements.

1.17. STAIR AND ELEVATOR USE

A. Use of Owner’s existing elevator and stairs during construction will not be permitted.

1.18 SNOW REMOVAL

A. The General Construction Contractor shall remove ice and snow whenever the snow fall totals one inch (1") or more. Provide sand and/or salt in icy areas, and remove, by pumping or other acceptable means, any areas of standing water caused by melting snow which interfere with operations or access to Work locations.

1. Remove ice and snow from premises and work access areas. Stockpile ice and snow in areas where it will not interfere with construction operations, site access, or access to work areas.

1.19 PEST CONTROL

A. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using materials approved by authorities having jurisdiction.

1.20 TEMPORARY WATER

A. The Plumbing-Fire Protection Contractor (PC) shall provide all necessary additional temporary piping distribution lines and connections to the source of supply. PC shall turn on water one hour before regular working hours and turn off water 15 minutes after regular working hours.

B. Contractors requiring same shall provide any hose or other extensions to the above lines required by its work and shall also provide all necessary labor, containers, etc., required to deliver water necessary for his work.

C. Each Contractor shall use the precautions necessary to prevent water being wasted and to prevent flooding or damage in the existing building.

D. The cost of water required for the construction work shall be the responsibility of the Owner.

1.21 TEMPORARY HEAT AND VENTILATION

A. Temporary heat and ventilation shall be provided by the General Construction Contractor using portable equipment.

B. Temporary heat and ventilation shall be provided as required to protect the work from cold and excessive humidity.

C. In general, heat and ventilation shall be provided during finishing operations to insure proper temperature and humidity, for installing all finishing materials. Temperatures within the work areas in the enclosed building shall be maintained at not less than 60 degrees F. (or greater when recommended by material manufacturers) and excessive humidity prevented 24 hours a day and 7 days a week until the work is completed and accepted.

1.22 TEMPORARY ELECTRIC LIGHT AND POWER

A. The Electrical Contractor shall be responsible for furnishing, installing, maintaining, and upon completion removing, a system of temporary light and power for the use of all construction trades and contracts.

B. The Electrical Contractor shall provide temporary electric lines for lighting and for taps for electric tools and other temporary equipment. Light bulbs shall be provided in sufficient quantity to light the construction areas for safety purposes. Extension cords shall be provided as may be essential to the proper execution of the work. Electric lines shall be extended to power tools which cannot be located within reach of extension cords.

C. The Electrical Contractor shall provide temporary lighting at locations where needed for safety and for the proper execution of the work. The Electrical Contractor shall maintain temporary lighting and power systems in good working condition, including the relocation and reinstallation when required to avoid interference with the progress of construction.

D. The Electrical Contractor shall provide for each Prime Contractor, temporary lighting, switches, power receptacles and telecommunication services for temporary field offices.

E. The Electrical Contractor shall provide labor to operate the temporary electric system for a period of time, 15 minutes before the established starting time of that trade which starts earliest in the morning, to 15 minutes after established quitting time of that trade which stops latest in the evening. This applies to every working day in the week which is established as a regular working day for any trade working on the project until final completion and acceptance of the work of the various contracts for the project, or until the services are terminated by instruction from the Project Coordinator. This applies to weekdays, Monday through Friday inclusive, which are established as regular work days for any trade on the project, including such days which are a holiday for the electricians, but are a regular work day for any other trade.

F. The cost of all electric energy consumed by the work shall be the responsibility of the General Construction Contractor.

G. The Electrical Contractor shall coordinate shutdowns for service changes to permanent power. A minimum of 7 days notice shall be given.

H. The Electrical Contractor shall arrange for a 3 phase, 120/208 volt, 4 wire electrical service of adequate capacity for the needs of all the work during the construction period. The temporary electrical service shall be provided from a utility service pole and not from the existing building.

1.23 USE CHARGES

A. Installation, removal, and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Owner's facilities and construction forces, Architect, Project Coordinator, testing agencies, and authorities having jurisdiction.

B. Water Service: Owner will pay water-service use charges for water used by all entities for construction operations.

C. Electric Power Service: General Construction Contractor shall pay electric-power-service use charges for electricity used by all entities for construction operations. General Construction Contractor shall pay Utility Co. charges for providing temporary electrical service to the site.

1.24 DEWATERING

A. The dewatering system shall be designed by a New York State Licensed Professional Engineer, engaged and paid for by the General Construction Contractor and designed to ensure that dewatering does not result in any loss of soil.

B. Provide temporary means and methods for dewatering all temporary facilities and services, including temporary electric power and throughout construction as needed to divert runoff from the proposed construction limits.

C. Provide dewatering measures to prevent loosening or migration of the subgrade soils. Perform dewatering measures to maintain the water level at least one foot below the deepest excavation.

D. Provide sump pits and pumps as may be required for dewatering measures. The operation of sumps directly in the footing excavations is not permitted. Sump pits shall be placed at least one foot outside of foundation excavations for every one foot below the foundation subgrade elevation that is excavated.

E. Maintain temporary facilities in operable condition.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not used)

END OF SECTION

SECTION 221123 – GAS PIPING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Fuel gas systems, including piping, equipment and all necessary accessories as designated in this section.

1.2 RELATED WORK

A. Penetrations in rated enclosures:
B. Preparation and finish painting and identification of piping systems: Section 09 91 00, PAINTING.
C. Section 220500, COMMON WORK RESULTS FOR PLUMBING.
D. Pipe Insulation: Section 220700 PLUMBING, INSULATION.

1.3 SUBMITTALS

A. Submit in accordance with Section 013323, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
B. Manufacturer's Literature and Data:
   1. Piping.
   2. Strainers.
   3. All items listed in Part 2 - Products.
C. Detailed shop drawing of clamping device and extensions when required in connection with the waterproofing membrane or the floor drain.

1.4 APPLICABLE PUBLICATIONS

A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
B. Federal Specifications (Fed. Spec.):

   A-A-59617 ..... Unions, Brass or Bronze Threaded, Pipe Connections and Solder-Joint Tube Connections

C. American National Standards Institute (ANSI):

   American Society of Mechanical Engineers (ASME): (Copyrighted Society)

   A13.1-96 ..... Scheme for Identification of Piping Systems

B16.3-98 ..... Malleable Iron Threaded Fittings ANSI/ASME
B16.9-01 ..... Factory-Made Wrought Steel Buttwelding Fittings ANSI/ASME
B16.11-01 ..... Forged Steel Fittings, Socket-Welding and Threaded ANSI/ASME
B16.15-85(R 1994) ..... Cast Bronze Threaded Fittings ANSI/ASME
B31.8-01 ..... Gas Transmission and Distribution Piping Systems ANSI/ASME

D. American Society for Testing and Materials (ASTM):
A47-99 ..... Ferritic Malleable Iron Castings Revision 1989
A53-02 ..... Pipe, Steel, Black And Hot-Dipped, Zinc-coated Welded and Seamless
A183-83(R1998) ..... Carbon Steel Track Bolts and Nuts
A536-84(R1999) E1 ..... Ductile Iron Castings
A733-03 ..... Welded and Seamless Carbon Steel and Austenitic Stainless Steel Pipe Nipples
B687-99 ..... Brass, Copper, and Chromium-Plated Pipe Nipples

E. National Fire Protection Association (NFPA):
54-92 ..... National Fuel Gas Code

F. National Association of Plumbing - Heating - Cooling Contractors (PHCC):
National Standard Plumbing Code - 1996

G. International Association of Plumbing and Mechanical Officials (IAPMO):
Uniform Plumbing Code - 2000
IS6-93 ..... Installation Standard

H. Manufacturers Standardization Society of the Valve and Fittings Industry, Inc. (MSS):
SP-72-99 ..... Ball Valves With Flanged or Butt Welding For General Purpose
SP-110-96 ..... Ball Valve Threaded, Socket Welding, Solder Joint, Grooved and Flared Ends

PART 2 - PRODUCTS

2.1 FUEL GAS SERVICE CONNECTIONS TO BUILDING

A. From inside face of exterior wall to a distance of approximately 5 feet outside of building, use coated piping.

B. Pipe: Black steel, ASTM A53, Schedule 40. Shop-applied pipe coating shall be one of the following types:

1. Coal Tar Enamel Coating: Exterior of pipe and fittings shall be cleaned, primed with Type B primer and coated with hot-applied coal tar enamel with bonded layer of felt wrap in accordance with AWWA C203. Asbestos felt shall not be used; felt material shall be fibrous glass mat as specified in Appendix Section A2.1 of AWWA C203.
2. Adhesive-thermoplastic Resin Coating: Fed. Spec. L-C-530, Type I.
3. Thermosetting Epoxy Coating: Fed. Spec. L-C-530, Type II.
4. Field-applied plastic tape material used on pipe joints and for repairing damaged areas of shop-applied coatings, Fed. Spec. L-T-1512, Type I, 10 mils nominal thickness for pipe joints, and Type II, 20 mils nominal thickness for coating repairs.

C. Fittings:
1. Butt weld fittings, wrought steel, ANSI B16.9.
2. Socket weld and threaded fittings forged steel, ANSI B16.11.
3. Grooved End: Ductile iron (ASTM A536, Grade 65-45-12), malleable iron (ASTM A47, Grade 32510), or steel (ASTM A53, Type F or Type E or S, Grade B).

D. Joints: Welded, ANSI B31.8.

E. Earthquake Valve:
1. Valve: Cast from aluminum, ANSI Z21.70.
2. Valve actuator: Actuated by one stainless steel ball, incorporated with a bubble level, vertically mounted and have a single step manual reset level.
3. Operating ambient temperature range: minus 40°F to 150°F
4. Maximum allowable pressure: 60 psi.

2.2 FUEL GAS PIPING

A. Pipe: Black steel, ASTM A53, Schedule 40.

B. Nipples: Steel, ASTM A733, Schedule 40.

C. Fittings:
1. Steel Welded: Schedule 40
   a. Up to 4 inch, ANSI B16.11, Socket welded.
   b. Over 4 inch, ANSI B16.9, Butt welded.
2. Schedule 40 steel with screwed fittings
   a. Up to 3 inch per table 403.9.2 in 2020 NYS Fuel Gas Code.

D. Joints: Provide welded joints or screwed fittings as noted.

2.3 EXPOSED FUEL GAS PIPING

A. Finished Room: Use full iron pipe size chrome plated brass piping for exposed fuel gas piping connecting fixtures, and equipment when not concealed.
   1. Pipe: Fed. Spec. WW-P-351, standard weight.
   2. Fittings: ANSI B16.15 cast bronze threaded fittings with chrome finish, (125 and 250).
   3. Nipples: ASTM B 687, Chromium-plated.
   4. Unions: Mss SP-72, SP-110, Brass or Bronze with chrome finish. Unions 2-1/2 inches and larger shall be flange type with approved gaskets.
   5. Valves: Mss SP-72, SP-110, Brass or bronze with chrome finish.
B. Unfinished Rooms, Mechanical Rooms and Kitchens: Chrome-plated brass piping is not required. Paint piping systems as specified in Section 099100, PAINTING.

2.4 WATERPROOFING

A. Provide at points where pipes pass through membrane waterproofed floors or walls in contact with earth.
B. Floors: Provide cast iron stack sleeve with flashing device and a underdeck clamp. After stack is passed through sleeve, provide a waterproofed caulked joint at top hub.
C. Walls: See detail shown on drawings.

2.5 STRAINERS

A. Provide on high pressure side of pressure reducing valves, on suction side of pumps, on inlet side of indicating and control instruments and equipment subject to sediment damage and where shown on drawings. Strainer element shall be removable without disconnection of piping.
B. Gas Lines: "Y" type with removable mesh lined brass strainer sleeve.
C. Body: Smaller than 3 inches, brass or bronze; 3 inches and larger, cast iron or semi-steel.

2.6 DIELECTRIC FITTINGS

Provide dielectric couplings or unions between ferrous and non-ferrous pipe.

2.7 GAS EQUIPMENT CONNECTORS

Flexible connectors with teflon core, interlocked galvanized steel protective casing, AGA certified design.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Comply with the New York State Plumbing Code, utility requirements and the following:

1. Install branch piping for fuel gas and connect to all fixtures, valves, cocks, outlets, and equipment, including those specified in other sections.
2. Pipe shall be round and straight. Cutting shall be done with proper tools. Pipe, except for plastic and glass, shall be reamed to full size after cutting.
3. All pipe runs shall be laid out to avoid interference with other work.
4. Install valves with stem in horizontal position whenever possible. All valves shall be easily accessible.
5. Install union and shut-off valve on pressure piping at connections to equipment. Provide automatic shutoff valve for gas piping in kitchen. Valve shall close on a fire condition.
6. Pipe Hangers, Supports And Accessories:
   a. All piping shall be supported per the New York State Plumbing Code.
   b. Shop Painting and Plating: Hangers, supports, rods, inserts and accessories used for Pipe supports shall be shop coated with red lead or zinc Chromate primer paint. Electroplated copper hanger rods, hangers and accessories may be used with copper tubing.
   c. Floor, Wall and Ceiling Plates, Supports, Hangers:
      1) Solid or split unplated cast iron.
      2) All plates shall be provided with set screws.
      3) Pipe Hangers: Height adjustable clevis type.
      4) Adjustable Floor Rests and Base Flanges:Steel.
      5) Concrete Inserts: "Universal" or continuous slotted type.
      6) Hanger Rods: Mild, low carbon steel, fully threaded or Threaded at each end with two removable nuts at each end for positioning rod and hanger and locking each in place.
      7) Riser Clamps: Malleable iron or steel.
      8) Rollers: Cast iron.
      9) Self-drilling type expansion shields shall be "Phillips" type, with case hardened steel expander plugs.

10) Hangers and supports utilized with insulated pipe and tubing shall have 180 degree (min.) metal protection shield Centered on and welded to the hanger and support. The shield shall be 4 inches in length and be 16 gauge steel. The shield shall be sized for the insulation.

11) Miscellaneous Materials: As specified, required, directed or as noted on the drawings for proper installation of hangers, supports and accessories. If the vertical distance exceeds 20 feet for cast iron pipe additional support shall be provided in the center of that span. Provide all necessary auxiliary steel to provide that support.

7. Install cast escutcheon with set screw at each wall, floor and ceiling penetration in exposed finished locations and within cabinets and millwork.

8. Penetrations:

a. Fire Stopping: Where pipes pass through fire partitions, fire walls, smoke partitions, or floors, install a fire stop that provides an effective barrier against the spread of fire, smoke and gases as specified in Section 07 84 00, FIRESTOPPING. Completely fill and seal clearances between raceways and openings with the fire stopping materials.

b. Waterproofing: At floor penetrations, completely seal clearances around the pipe and make watertight with sealant as specified in Section 079200, JOINT SEALANTS.

B. Piping shall conform to the following:

1. Fuel Gas:

a. Entire fuel gas piping installation shall be in accordance with requirements of NFPA 54.

b. Install fuel gas piping with plugged drip pockets at low points.

c. Install automatic shutoff valve (earthquake valve) on medical center side of meter. Valve shall positively shut off supply of gas in case of pressure failure, remain shut off until manually reopened, and be provided with outside adjustment for reset.

3.2 TESTS

A General: Test system either in its entirety or in sections.

B Fuel Gas System: NFPA 54.

3.3 BUILDING REGULATOR INSTALLATION

A Install service regulator adjacent to building wall as shown on drawings.

B Install service regulator and riser pipe in such manner as to prevent undue stress upon service pipe. For plastic service pipe, use steel pipe riser from below ground to regulator.

C Ensure regulator vent has rain and insect proof opening and terminates away from building openings.

3.4 PIPE LAYING, GENERALLY

A Provide recesses on trench bottom for couplings, fittings and valves to ensure bearing will occur along barrel of pipe.

B In roads, streets, driveways, and parking areas, provide steel pipe sleeve of diameter 50 mm greater than gas pipe diameter. Install gas pipe in pipe sleeve in accordance with CSA Z662-96.

C Lay service line pipe on proper grade to drain from building to gas main.

D Lay gas pipe on properly graded trench bottom to prevent sags and low points in piping.

E Ensure minimum of 40 inches between gas pipe and any underground structure that runs parallel to gas pipe.

F Ensure minimum of 4 inches between gas pipe and any underground structure that crosses gas pipe.

3.6 LAYING STEEL PIPE

A Lay pipe on 2 inches cushion of compacted clay fill or on flat, undisturbed trench bottom. Backfill excavated material thoroughly tamped in place.

B Lower pipe carefully into trench to prevent damage to coating.

C Wrap couplings and fittings with polyethylene tape and heat shrink over pipe.

END OF SECTION 231123

SECTION 230923 - DIRECT DIGITAL CONTROL SYSTEM FOR HVAC

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Building Management System (BMS), utilizing direct digital controls. (WEBsN4)

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Products Supplied but Not Installed Under This Section (Installed by Mechanical Contractor):
   1. Control valves.
   2. Flow switches.
   3. Wells, sockets and other inline hardware for water sensors (temperature, pressure, flow).
   4. Automatic control dampers, where not supplied with equipment.
   5. Airflow measuring stations.
   6. Terminal unit controllers and actuators, when installed by terminal unit manufacturer.
   7. Variable frequency drives.
   8. Motor starters.

B. Products Installed but Not Supplied Under This Section:
   1. None.

C. Products Integrated with the Work of This Section (Work by Mechanical Contractor):
   1. Chiller control systems.
   2. Boiler control systems.
   3. Pump control packages.
   4. In-line meters (gas, water, power).
   5. Refrigerant monitors.
   6. Chemical water treatment.
   7. Smoke detectors (through alarm relay contacts).

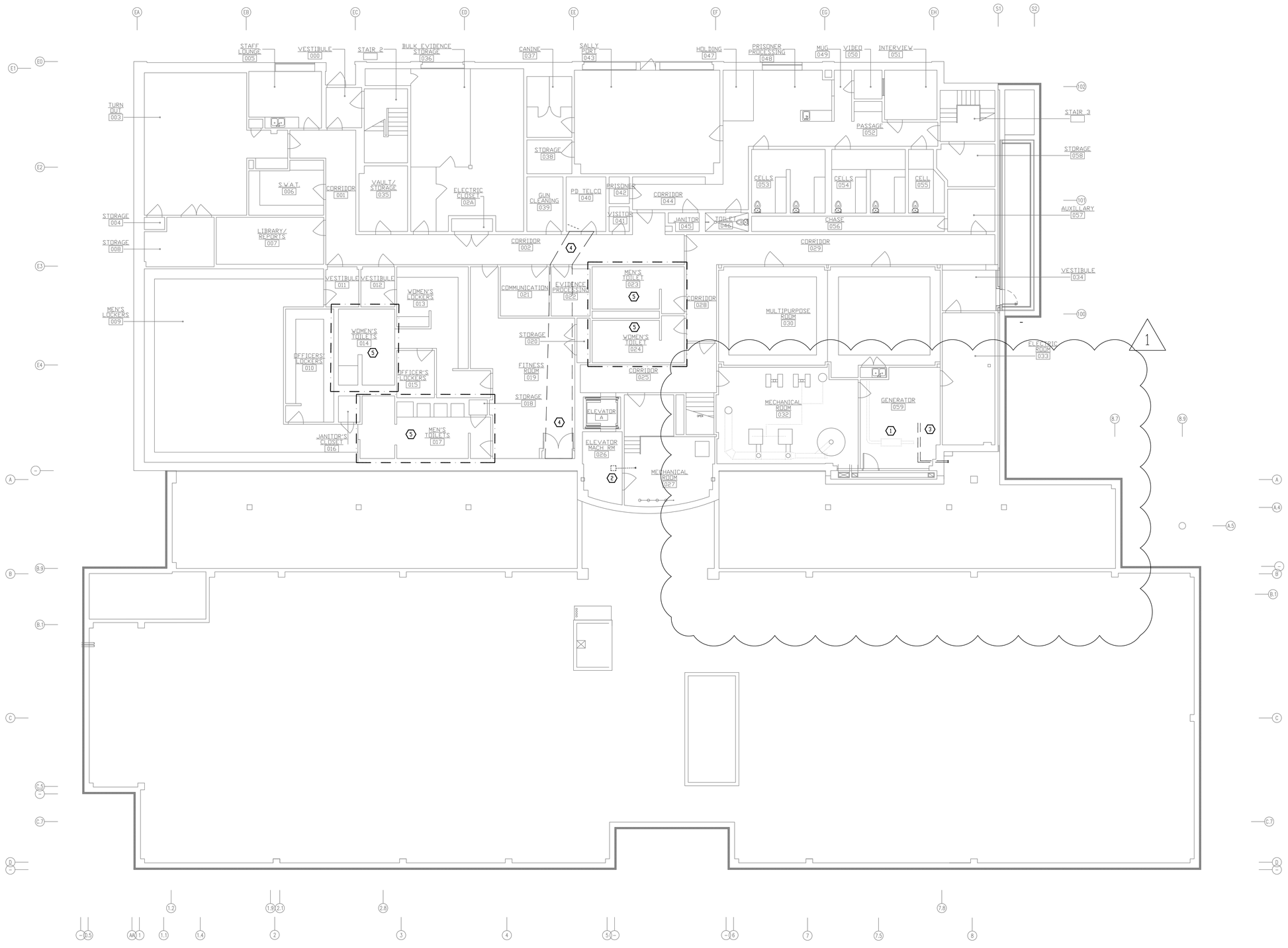
D. Work Required Under Other Divisions Related to This Section:
   1. Power wiring to line side of motor starters, disconnects or variable frequency drives.
   2. Provision and wiring of smoke detectors and other devices relating to fire alarm system.

1.3 RELATED SECTIONS

A. Section 23 05 00 - Common Work Results for HVAC.

1.4 SYSTEM DESCRIPTION

Scope: Furnish all labor, materials and equipment necessary for a complete and operating Building Management System (BMS), utilizing Direct Digital Controls as shown on the drawings and as described herein. Drawings are diagrammatic only. All controllers furnished in this section shall communicate on a peer-to-peer bus over an open protocol bus (Examples: LonTalk, BACnet, MODBUS). The BMS system for the new addition shall be interconnected with the existing



1 BASEMENT MECHANICAL ROOM DEMOLITION PART PLAN

SCALE: 1/8"=1'-0"

DEMOLITION NOTES

1. REMOVE GENERATOR FLUE, SHEET METAL CONNECTIONS TO LOUVER AND LOUVER.
2. REMOVE EXISTING ELEVATOR MACHINE ROOM EXHAUST FAN.
3. REMOVE EXISTING FUEL OIL FILL AND VENT PIPING FROM TANK TO EXTERIOR.
4. RELOCATE AND REINSTALL DUCTWORK, GRILLES, DIFFUSERS, ETC. TO COORDINATE WITH NEW IT CONDUITS.
5. WORK IN THIS AREA UNDER ALTERNATE #1. SEE DWGS. M-030 AND M-031

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CBK PROJECT NO. 21030

ISSUE NO.	ISSUE DATE	DESCRIPTION
2	12/21/2021	ADDENDUM 2 ⚠1
1	11/9/2021	RELEASE FOR BID

TOWN OF ORANGETOWN — RICH IN HISTORY

ORANGETOWN TOWN HALL

ADDITION AND ALTERATIONS

26 ORANGEBURG RD
ORANGEBURG, NEW YORK 10962

BASEMENT DEMOLITION PLAN AND NOTES

PROJECT NO.: 2219-05

DRAWING NO.:

M-101

SPLIT SYSTEM AIR CONDITIONING UNIT SCHEDULE

UNIT NO.	LOCATION	CFM	AIR HANDLER: EXT. SP.	FAN RPM	BHP	HP	MBH TOT.	MBH SEN.	MBH HTG	VOLT	PH	M.C.A.	MAX FUSE	AIR HANDLER MANUFACTURER & MODEL NO.	A.C.C.U.: VOLT	PH	M.C.A.	MAX FUSE	OPERATING WEIGHT (LBS)	UNIT NO.	A.C.C.U. MANUFACTURER & MODEL NO.	REMARKS
AC-1	IT ROOM	1306	0.1	–	–	–	36	–	40	208	1	.6	20	HITACHI HIC4036B21S	208	1	31	40	249	ACCU-1	HITACHI HVAHP036B21S	
AC-2	VIDEO ROOM	1306	0.1	–	–	–	36	–	40	208	1	.6	20	HITACHI HIC4036B21S	208	1	31	40	249	ACCU-2	HITACHI HVAHP036B21S	

REMARKS: PROVIDE CONDENSATE PUMP WITH UNIT PREWIRED.
PUMP ALL CONDENSATE TO INDIRECT DRAIN.
SHALL PROVIDE FULL HEATING TO 0 DEGREES OUTDOOR TEMPERATURE.
PROVIDE THERMOSTAT WITH DDC INTERFACE FOR ALARMS.

EXHAUST AND RETURN FAN SCHEDULE

FAN No.	SYSTEM SERVICED	CFM	TOTAL S.P. IN. WAT.	RPM	O.V. FPM	MOTOR: BHP	HP	VOLT	PH	HZ	FAN: DRIVE	TYPE	CLASS	ARR.	ROTATION	MANUFACTURER AND MODEL No.
EF-1,7,8,9,12,13,15,16 EFX-3,4	–	70	.25	950	–	–	52 WATTS	120	1	60	DIRECT	CEILING	–	–	–	GREENHECK CSP-A125
RF-1	HVAC-1	2000	.5	1959	–	.61	1	208	3	60	BELT	IN LINE	–	–	–	GREENHECK BSQ-130-10
EF-2,3,4,5,6,10,11,14	–	140	.25	1400	–	–	51 WATTS	120	1	60	DIRECT	CEILING	–	–	–	GREENHECK CSP-A190
RF-2	HVAC-2	8000	1.0	700	–	2.57	3	208	3	60	BELT	IN-LINE	–	–	–	GREENHECK BSQ-300-30
RF-3	HVAC-3	8000	1.0	700	–	2.57	3	208	3	60	BELT	IN-LINE	–	–	–	GREENHECK BSQ-300-30
CAF-1	BOILERS, WATER HEATER	815	.25	999	–	.18	4.75 AMPS	115	1	60	DIRECT	IN-LINE	–	–	–	GREENHECK CSP-A1050-VG
EFX-1,2	EXISTING TOILET ROOM	70	.25	950	–	–	52 WATTS	120	1	60	DIRECT	CEILING	–	–	–	GREENHECK CSP-A125
EFX-9	ELEVATOR MACHINE ROOM	400	.5	1246	–	.14	2.45 AMPS	115	1	60	DIRECT	IN-LINE	–	–	–	GREENHECK CSP-A510-VG

REMARKS:
1. ALL EXHAUST FANS SHALL BE INSTALLED WITH BACK DRAFT DAMPER.
2. ALL EXHAUST FANS SHALL OPERATE ON AN OCCUPANCY SENSOR.
3. ALL RETURN FANS SHALL BE INTERLOCKED WITH THEIR SEPARATE HVAC UNIT.
4. EFX-1 AND 2 SHALL BE PRICED UNDER ALTERNATE 1.
5. PROVIDE 'SOFT START' STARTER FOR ALL FANS.
6. RECONNECT THERMOSTATIC CONTROL TO NEW FAN EXF-9.
7. CAF-1 SHALL BE INTERLOCKED TO START WHEN EITHER BOILER OR WATER HEATER TURNS ON.
8. ALL RETURN FANS SHALL BE PROVIDED WITH AFD.

REFRIGERATION MACHINE SCHEDULE

UNIT NO.	TOTAL CAP. (TONS)	VOLT	PH	HZ	COMPRESSOR: TYPE	INPUT KW	MCA	FUSE	MIN. CAP. (TONS.)	REFRIGERANT	CONDENSER: GPM	EWT (°F)	LWT (°F)	WPD FT H2O	COOLER: GPM	EWT (°F)	LWT (°F)	WPD FT H2O	UNIT WEIGHT	MANUFACTURER & MODEL NO.
RM-1, 2	32.9	208	3	60	SCROLL	23.5	96	125	–	–	210	85	95	17.1	168	55	45	15.3	1480	CLIMA COOL UCW030AHADACB05

REMARKS: PROVIDE TWO 15 TON COMPRESSORS IN EACH MODULE.

PUMP SCHEDULE

UNIT NO.	GPM	HD FT H2O	RPM	MOTOR HP.	ELECTRICAL DATA	CONNECTIONS: SUCT.	DISCH.	TYPE	MANUFACTURER AND MODEL NO.
HWP-1, 2	85	40	3500	1.5	208V-3PH-60HZ	3"	3"	IN LINE	BELL & GOSSETT SERIES e-90 STOCK 2AAC
HWP-3, 4	85	80	3600	5	208V-3PH-60HZ	1-1/2"	1-1/4"	END SUCTION	BELL & GOSSETT SERIES e-1535 1.25AAC
CWP-1	210	60	–	7.5	208V-3PH	2"	2"	END SUCTION	BELL & GOSSETT SERIES e-1510 2BD
CHWP-3	168	80	1800	7.5	208V-3PH	2"	2"	END SUCTION	BELL & GOSSETT SERIES e-1510 2BD
CHWP/CWP-2	210	60	1750	7.5	208V-3PH-60HZ	2"	2"	END SUCTION	BELL & GOSSETT SERIES e-1510 2BD

REMARKS: 1. HWP-3,4, CWP-1, CHWP/CWP-2 AND CHWP-3 SHALL HAVE AFD.
2. PROVIDE 'SOFT START' STARTERS FOR HWP-1 AND 2 WITH H-O-A.

COOLING TOWER SCHEDULE

UNIT NO.	CAPACITY TONS	GPM	EWT °F	LWT °F	EWB °F	HD (FT)	FAN MOTOR (HP)	VOLTS	PH	HZ	OPERATING WEIGHT (LBS)	MANUFACTURER AND MODEL NO.
CT-1	35	105	95	85	78	10.3	10	208	3	60	7970	BALTIMORE AIRCOIL VFL-036-22K
CT-2	35	105	95	85	78	10.3	10	208	3	60	7970	BALTIMORE AIRCOIL VFL-036-22K

REMARKS:
1. EACH TOWER PROVIDED WITH 4KW, 208V, THREE PHASE BASIN HEATER.
2. EACH TOWER HAS 1 HP, 208 VOLT, 3 PHASE SPRAY PUMP.
3. PROVIDE 'VFD' STARTERS FOR COOLING TOWERS.

HVAC UNIT SCHEDULE

UNIT NO.	LOCATION	CFM	OA CFM	FANS: EXT. SP.	FAN RPM	BHP	SUPPLY FAN HP	RETURN FAN HP	VOLT	PH	M.C.A.	MAX FUSE	HEATING COIL: GPM	EWT	MBH HTG	COOLING COIL: GPM	EWT	EAT (DB/WB)	SENS MBH	TOTAL MBH	MANUFACTURER & MODEL NO.	DIMENSIONS	WEIGHT	REMARKS
HVAC-1	PENTHOUSE	2000	125	1.5	–	–	1.5	–	208	3	–	–	6	180	60	12	45	80/67	50	61	TRANE UCCAG06A	88X47X32H	762	
HVAC-2	PENTHOUSE	8000	1000	1.5	–	–	10	–	208	3	–	–	12	180	120	45	45	80/67	162	224	TRANE UCCAG17K21A	94X79X48"H	1494	
HVAC-3	PENTHOUSE	8000	1100	1.5	–	–	10	–	208	3	–	–	12	180	120	45	45	80/67	90	160	TRANE UCCAG17K21A	94X79X48"H	1494	
HVAC-4	ROOF	8000	900	1.0	–	–	2@3	2@2	208	3	–	–	13	180	126	44	45	80/67	160	220	TRANE UCCAK21A	165X79X59H	3145	
HVAC-5	ROOF	1600	300	1.0	–	–	1.5	–	208	3	–	–	5	180	43	10	45	80/67	29	45	TRANE UCCAG06A	115X47X37H	1223	
HVAC-6	ROOF	1600	300	1.0	–	–	1.5	–	208	3	–	–	4	180	38	8	45	80/67	27	42	TRANE UCCAG06A	115X47X37H	1223	
AHU-4X	EXISTING ROOF	2055	100	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	EXISTING	–	–	

REMARKS:
1. HVAC-1,2,3,5 AND 6 SHALL BE PROVIDED WITH AFD'S
2. HVAC-4 AND ASSOCIATED RETURN FANS SHALL BE PROVIDED WITH 'SOFT START' STARTERS.
3. ALL FILTERS SHALL BE MERV 13.
4. NOTE DIMENSIONS FOR ROOFTOP UNITS DO NOT INCLUDE PIPE CHAMBERS OR AIR HOODS.
5. REBALANCE THE EXISTING UNIT AHU-4X TO THE TOTAL AND OA CFMS SHOWN.

EXHAUST/RELIEF HOOD SCHEDULE

UNIT No.	AREA SERVICED	CFM	DIMENSIONS: OPENING	CAP	MANUFACTURER	MODEL NO.
RH-1	HVAC-1 RELIEF	2000	20"ø	36"ø	GREENHECK	GRSR-20
RH-2,3	HVAC-2,3 RELIEF	8000	36"ø	57"ø	GREENHECK	GRSR-36
EH-1	TOILET EXHAUST	700	18.5"ø	29"ø	GREENHECK	GRSR-15
EH-2	TOILET EXHAUST	490	14.5"ø	29"ø	GREENHECK	GRSR-12
EH-3	TOILET EXHAUST	140	10.5"ø	20.5"ø	GREENHECK	GRSR-8

REMARKS:

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ORANGETOWN TOWN HALL
ADDITION AND ALTERATIONS

26 ORANGEBURG RD
ORANGEBURG, NEW YORK 10962

SCHEDULES

PROJECT NO.: 2219-05

DRAWING NO.: M-301