SECTION 013100

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 SUMMARY

A. Without limitations, coordination will include Critical Path Method Scheduling (CPM), coordination of submittals, coordination of all elements of the Work, and coordination of contract closeout.

B. Description:

1. Coordinate scheduling, submittals, and work of the various Subcontractors and elements of the Work to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items to be installed later.
2. Coordinate sequence of the Work to accommodate Owner Partial (Beneficial) Occupancy.

C. Meetings:

1. In addition to progress meetings, hold coordination meetings and pre-installation conferences with personnel and Subcontractors to assure coordination of the Work.

D. Coordination of Submittals:

1. Schedule and coordinate submittals.
2. Coordinate work of various Subcontractors having interdependent responsibilities for installing, connecting to, and placing in service such equipment.
3. Coordinate requests for substitutions to assure compatibility of space, of operating elements, and effect on work of other Subcontractors,

E. Mechanical and Electrical Coordination

1. Provide a part-time General Contractor Coordinator to the project to provide mechanical and electrical coordination. The name of the coordinator, together with his/her qualifications, shall be submitted to the Owner's Project Manager and the Designer for approval.

1.3 NOT USED.

1.4 MECHANICAL AND ELECTRICAL COORDINATOR'S DUTIES

A. Coordinate the work of the Mechanical and Electrical Subcontractors:

1. For temporary utilities.
2. Among the work of the mechanical and electrical Subcontractors.
3. Among the work of all other Subcontractors, including the mechanical and electrical Subcontractors.

B. Coordinate the schedule of Mechanical and Electrical Subcontractors:

1. Verify timely deliveries of products for installation by other Subcontractors.
2. Verify that labor and materials are adequate to maintain schedules.

C. Conduct conferences among Mechanical and Electrical Subcontractors and other concerned parties, as necessary to:

1. Maintain coordination and schedules.
2. Resolve matters in dispute.

D. Participate in all project meetings:

1. Report progress of all mechanical and electrical work.
2. Recommend needed changes in schedules.
3. Transmit minutes of meetings to mechanical and electrical Subcontractors, as appropriate.
4. Commissioning meetings.

E. Temporary Utilities:

1. Coordinate installation, operation, and maintenance, to verify compliance with project requirements and with Contract Documents.

F. Shop Drawings, Product Data and Samples:

1. Prior to submittal, review for compliance with Contract Documents.
    a. Check field dimensions and clearance dimensions.
    b. Check relation to available space.
    c. Review the effect of any changes on the work of other contracts or other Subcontractors.
    d. Check anchor bolt settings.
    e. Check compatibility with equipment and work of other Subcontractors.
    f. Check motor voltages and control characteristics.
    g. Coordinate controls and interlocks:
        1) Voltages.
        2) Wiring of pneumatic and control diagrams.
    h. Coordinate wiring and control diagrams.

G. Coordination Drawings:

1. In addition to the coordination drawings submitted by the Mechanical and Electrical Contractors, prepare additional drawings as required to assure coordination of the work, or affected by, mechanical and electrical work, or to resolve conflicts.
2. Reproduce and distribute approved copies to all concerned parties.

H. Verify that Subcontractors maintain accurate Record Documents.

I. Substitutions and Changes:

1. Review proposals and requests.
   a. Check for compliance with Contract Documents.
   b. Verify compatibility with work and equipment of other Subcontractors.
2. Recommend action to General Contractor.
3. Test materials, assemblies and/or fabrications that are submitted as substitutions, when necessary to assure that they meet contractual design standards.

J. Observe mechanical and electrical work for compliance with requirements of the Contract Documents:

1. Maintain list of observed deficiencies and discrepancies.
2. Promptly report deficiencies and discrepancies to General Contractor.

K. Assemble documentation for handling of claims or disputes involving mechanical and electrical Subcontractors.

L. Equipment Commissioning:

1. The MEC shall coordinate all commissioning activities with the Owner's commissioning agent.

M. Inspection and acceptance of equipment:

1. Prior to inspection, check that equipment is clean, repainted as required, tested and operational.
2. Assist inspector; prepare list of items to be completed or corrected.
3. Should acceptance and operation of equipment constitute the beginning of the guarantee period, prepare, and transmit written notice to the General Contractor, for his/her transmittal to the Designer and the DCAMM Project Manager for concurrence.

N. Assemble As-built documents from Subcontractors, transfer Subcontractors' As-built documentation to electronic format, and transmit to Designer. All information shall be submitted on electronic media (CD). Drawings should be on AutoDesk AutoCAD ver. 2000 or later, word documents in .pdf format, baseline and subsequently approved schedules in Primavera format, schedule of values in Excel format, and approved shop drawing submittals scanned in showing model numbers, capacities, and all relevant information that can be automatically propagated to the DCAMM CAMIS system. (Refer to Section 017700 – CONTRACT CLOSEOUT for additional formatting requirements).

1. As-built documents will be compiled on compact disks and will include, without limitation, the following:
   a. All Drawings, including title sheet, code analysis, geotechnical, civil, structural, architectural, fire protection, plumbing, mechanical, electrical, security, data/telecommunications.
   b. All Specifications in .pdf format with addenda.
   c. Shop drawings and product cuts, scanned in; approved sheets only.
   d. Project schedules, baseline and all updates.

1.5 MECHANICAL AND ELECTRICAL COORDINATOR'S COORDINATION DRAWINGS

A. Cause to be prepared and submit to the General Contractor, coordination drawings for site utilities and building(s), for Designer and the Owner's Project Manager's review.

B. Sequence of Coordination Drawings preparation shall be as follows:

1. Coordination Drawings: The General Contractor shall be fully responsible for coordinating all Subcontractors, coordinating construction sequences and schedules, and coordinating the actual installed location and interface of all work. Before materials are fabricated or the Work begun, the General Contractor shall supervise and direct the creation of one (1) complete set of Coordination Drawings showing the complete coordination and integration of all Work of this Project including, but not limited to, structural, architectural, mechanical, plumbing, fire protection, and electrical disciplines. Coordination Drawings are intended to assist the General Contractor during construction and shall not be used for "shop drawings", "record drawings", or any other required submittal.
   a. Base Sheets: The General Contractor shall prepare and provide one accurately scaled set of building coordination drawing "base sheets" on reproducible transparencies or electronic format showing all architectural and structural work. Base sheets shall be at 1/4-inch scale, except congested areas and sections through vertical shafts shall be at 3/8-inch scale.
   b. HVAC: The General Contractor shall circulate the coordination drawing base sheets to the HVAC Subcontractor and require the HVAC Subcontractor to accurately and neatly show the actual size and location of all HVAC equipment and work. Ductwork shall be drawn to scale with full dimensions indicated graphically. Single line diagrams are not acceptable. The HVAC Subcontractor shall note any apparent conflicts, suggest alternate solutions, and return the coordination drawings to the General Contractor.
   c. Plumbing: The General Contractor shall circulate the coordination drawings to the Plumbing Subcontractor and require the Plumbing Subcontractor to accurately and neatly show the actual size and location of all plumbing equipment and work. The Plumbing Subcontractor shall note any apparent conflicts, suggest alternate solutions, and return the coordination drawings to the General Contractor. Sloped plumbing lines have right of way.
   d. Electrical: The General Contractor shall circulate the coordination drawings to the Electrical Subcontractor and require the Electrical Subcontractor to accurately and neatly show the actual size and location of all electrical equipment and work. The Electrical Subcontractor shall note any apparent conflicts, suggest alternate solutions, and return the coordination drawings to the General Contractor.

e. Fire Protection: The General Contractor shall circulate the coordination drawings to the Fire Protection Subcontractor and require the Fire Protection Subcontractor to accurately and neatly show the actual size and location of all electrical equipment and work. The Fire Protection Subcontractor shall note any apparent conflicts, suggest alternate solutions, and return the coordination drawings to the General Contractor.

f. Other Subcontractors: The General Contractor shall circulate the coordination drawings to other Subcontractors whose work might conflict with other work and require these Subcontractors to accurately and neatly show the actual size and location of all their equipment and work. These Subcontractors shall note any apparent conflicts, suggest alternate solutions, and return the coordination drawings to the General Contractor.

g. After each Subcontractor completes its drawings, a meeting will be held to resolve conflicts between the Subcontractors.
   1) Coordination drawings shall be prepared at not less than 1/4-inch scale, and electronic AutoCAD files of same.
   2) Submit drawings to the General Contractor for Designer's review prior to starting any installations.
   3) Items of impossibility or request for variance shall be called to the General Contractor's attention for the Designer's resolution.

h. General Contractor Review and Submission: The General Contractor shall carefully review, modify and approve coordination drawings in cooperation with the Subcontractors to assure that conflicts, if any, are resolved before work in the field is begun and to ensure that the location of work exposed to view is as indicated or as approved by the Designer and the Owner's Project Manager.
   1) Prior to submittal of the coordination drawings, the Subcontractors shall affix their signatures to the drawings.
   2) Clearly indicate conflicts requiring modification to the general appearance or the function of the project for Designer and Owner's Project Manager's reviews, and approvals.
   3) The General Contractor shall stamp, sign and submit the coordination drawing originals to the Designer for review and approval, with one (1) paper copy and one (1) additional electronic copy on compact disk to the Owner's Project Manager, following the specified procedures and policies outlined in Section 013300 – SUBMITTAL REQUIREMENTS. In no case shall acceptance of coordination drawings be interpreted as a release of General Contractor of responsibility to fulfill all of the requirements of the Contract Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION