

SECTION 01010

SUMMARY OF WORK

1.01 INCLUDES

- A. Scope includes select demolition and new construction.
 - 1. Construction of:
 - a. Fire Station, including truck bays, offices, living quarters.
 - b. Separate meeting room constructed as a Safe Room.
 - c. Select demolition includes parts of existing slab and site work.
 - 2. The entire project will consist of complete site work, structural, mechanical, and electrical systems required for fully operable facilities as described above and as required in all applicable codes
- B. Smoking within the building structure will not be permitted.

1.02 PROTECTION AND/OR REPLACEMENT CONTIGUOUS ITEMS

- A. All contiguous items and other items which are disturbed, broken, removed or otherwise damaged during the execution of this Contract shall be replaced with materials, methods, and design of the original construction.

1.03 CONTRACTOR USES OF PREMISES

- A. Confine operations at site to areas permitted by Law, Ordinances, and Permits and Contract Documents.
- B. Do not unreasonably encumber site with materials or equipment. Store materials and equipment in areas designated.
- C. Do not load structure with weight that will endanger structure.
- D. Assume full responsibility for protection and safe keeping of products stored on premises.
- E. Move any stored products which interfere with construction operations.
- F. Coordinate activities and use of roads, staging areas, etc., with Owner and Architect or Engineer.
- G. Obtain and pay for use of additional storage or work area for needed operations.

1.04 LOCATING AND PROTECTION OF EXISTING UTILITIES

- A. Make a personal inspection of all existing records showing locations of buried and underground utilities. Conduct a walking examination to physically verify locations of existing utilities and any conflicts with the proposed construction and the location of existing utilities.
 - 1. Prior to performing any excavation and /or trenching operations, notify Arkansas 811 (arkansas811.com) to schedule location of existing utilities and services.

1.05 GRADES, LINES, LEVELS, AND SURVEYS

- A. All grades, lines, levels, and benchmarks for the building shall be established and maintained by the General Contractor who shall be responsible for same.
- B. Verify all grades, lines, levels, and dimensions as shown on the Drawings, and report any errors or inconsistencies discovered in the above to the Architect before commencing work. Provide and maintain established benchmarks in not less than two widely separated places.

1.06 FIELD MEASUREMENTS

- A. The General Contractor shall take measurements in the field to verify or supplement dimensions indicated on Drawings and shall be responsible for accurate fit of specified work. Any discrepancy between the Drawings and the actual conditions shall be reported immediately to the Architect.
- B. Tolerances: The General Contractor shall be responsible to maintain dimensions for spaces requiring close tolerances for such items as equipment or fixtures by "grounding" such locations. Uneven surfaces and joints will not be accepted which prevent the installation of units whose dimensions are shown in the documents.
- C. The General Contractor shall appoint one of his personnel who is continually employed on the job site (such as the Superintendent) whose additional duty it will be to act as fire warden for the project. The fire warden shall institute and vigorously enforce a program of fire safety for the project.

1.07 ITEMS FURNISHED AND INSTALLED BY THE OWNER

- A. Such items will be unloaded by the Owner at the job site. The Owner will provide temporary storage for all such items. Once such items are inside the building, the Contractor's insurance shall be extended to cover these items. The Owner will schedule and coordinate delivery and installation with the Contractor.
 - 1. Coffee makers for the Kitchen and Coffee Area.

1.08 OWNER FURNISHED, OWNER INSTALLED ITEMS AND EQUIPMENT RESPONSIBILITIES OF EACH PARTY (OFOI)

- A. The Contractor shall cooperate with the Owner regarding delivery, storage and installation, coordination to minimize the inconvenience of each to the other. The Contractor will be required to provide conduit, cables, electrical wiring, outlets, panel boxes, water and gas lines, etc., as required to "hook up" equipment and render it operational. Owner's activities include final "plug-in" type connections only unless otherwise noted.
- B. OFOI items will be unloaded by the Owner at the project site. The Owner will provide temporary storage for the items. Once items are on the project site, Contractor's insurance shall be extended to cover such items.

1.09 ITEMS PROVIDED BY THE OWNER AND INSTALLED BY THE CONTRACTOR (OFCI)

- A. Such items will be unloaded by the Contractor at the job site. The Contractor will provide temporary storage for all such items. Once such items are inside the building, the Contractor's insurance shall be extended to cover these items. The Owner will schedule and coordinate delivery and installation with the Contractor.
 - 1. Turnout Washer
 - 2. Turnout Dryer
 - 3. Gear Lockers
 - 4. Kitchen Wall and Base Cabinets (counter tops are part of the base bid)
- B. Contractor to provide support structure, exhaust duct, fan, and weatherproof termination cap for OFCI items.

1.10 OWNER FURNISHED, CONTRACTOR INSTALLED ITEMS AND EQUIPMENT RESPONSIBILITIES OF EACH PARTY

- A. Owner's Responsibilities
 - 1. Arrange for and deliver necessary shop drawings, product data and samples to the Contractor.
 - 2. Arrange and pay for product delivery to the site.
 - 3. Deliver supplier's bill of materials to Contractor, when required.
 - 4. Inspect deliveries jointly with Contractor.
 - 5. Submit claims for transportation damage.
 - 6. Arrange for replacement of damaged, defective, or missing items.
 - 7. Arrange for manufacturer's warranties, bonds, service, inspections, as required.

B. Contractor's Responsibilities

1. Designate delivery date for each Product in the Construction Schedule.
2. Review shop drawings, product data and samples. Return such submittals to the Architect.
 - a. Submit to Architect notification of any discrepancies or problems anticipated in the use of the product.
3. Handle products at the site, including unloading, uncrating, storage and protection of the delivered items from damage. Contractor agrees to assume full responsibility for and insure all such items upon delivery.
4. Assemble, install, connect, adjust and finish products, as stipulated in the respective Section of the Specifications.
5. Repair or replace items damaged by Contractor or because of Contractor neglect.

END OF SECTION

SECTION 01020

ALLOWANCES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Includes furnishing materials and installation of materials as defined herein under "Cost Allowances".
- B. Related Work: The following items of related work are specified in other Sections.
 - 1. The Section of the Specifications listed under the respective Allowances.

1.02 ALLOWANCES FOR PRODUCTS

- A. All allowances for products shall be in the amounts stated under the respective allowances.
- B. Purchase such products under each allowance as directed by the Architect.
- C. The amount of each allowance shall include the following:
 - 1. Net cost of the product.
 - 2. Delivery and unloading at the site.
 - 3. All applicable taxes.
 - 4. Labor, installation and finishing as required by the allowance, unless otherwise specified.
 - 5. Handling at the project site, including uncrating and storage.
 - 6. Protection at the project site from elements, damage, and theft.
 - 7. Other expenses required to complete the installation, such as any necessary testing, adjusting, and balancing.
 - 8. Contractor's overhead and profit.

1.03 SELECTION OF PRODUCTS UNDER ALLOWANCES

- A. The Architect will furnish to the Contractor all necessary drawings, finishes, colors, etc.
- B. Obtain the required proposals in writing from the suppliers.
- C. Notify the Architect of any adverse effects anticipated by the selections of a particular product or supplier, such as: Construction Schedule and Contract Sum.
- D. Furnish completion dates for services under each allowance.
- E. Once the product has been approved in writing by the Architect, the Contractor shall enter into a purchase agreement with the supplier.

1.04 VERIFICATION AND ADJUSTMENT OF COSTS

- A. Verify, by invoices or other data, all expenditures of monies for services purchased under each allowance.
- B. Do not exceed any allowance without first obtaining written approval from the Architect and Owner.
- C. Should the actual cost of any service covered under any allowance be more or less than the specified amount of the allowance, the Contract sum will be adjusted by a change order equal to the amount of the difference. Such change order shall include a percentage to cover the Contractor's additional overhead and profit in such amounts as outlined in the General Conditions of the Contract for Construction.

PART 2 - COST ALLOWANCES

2.01 LIST OF ALLOWANCES

- A. Allowance for Brick Masonry: Refer to Section 04210 for additional requirements.
 - 1. Allow the sum of Five Hundred Fifty Dollars (\$550.00) per 1,000 bricks for the brick masonry delivered to the job site and stacked in an area as directed. Erection of the brick masonry, mortar and masonry accessories and reinforcement are not to be considered to be a part of this Allowance.

- B. Allowances for Tile: Refer to Section 09300 for additional requirements.
 - 1. Allowance is for tile materials only; installation shall be under the Base Bid and is not to be considered to be a part of this Allowance.
 - 2. Floor and Wall Tile: Allow the sum of Four Dollars and Fifty Cents (\$4.50) per square foot.

- C. Allowance for Identifying Devices (Interior Signage): Refer to Section 10400 for additional requirements.
 - 1. Interior Signage and Identifying Devices: Allow the sum of Six Thousand Five Hundred Dollars (\$6,500.00) for the materials and installation of all interior signage and identifying devices. This includes one wall plaque for project information.

- D. Allowance for Finish Hardware: Includes the purchase and delivery of all finish hardware items to the job site. The installation of such finish hardware items shall be under the Base Bid and is not to be considered to be a part of this Allowance.
 - 1. Allow the sum of Five Hundred and Fifty Dollars (\$550.00) for each typical door leaf hardware without exit device.
 - 2. Allow the sum of One Thousand Five Hundred Dollars (\$1,500.00) for each door leaf hardware with exit device.

- E. Allowance for Appliances: Refer to section 11451 – Appliances, and the drawings for additional requirements.
 - 1. Allow the sum of Eleven Thousand Dollars (\$11,000.00) for appliances: Dishwasher, range/oven, microwave, refrigerator, clothes washer, and clothes dryer.
 - 2. Allowance includes equipment, taxes, deliver and unloading at job site.

END OF SECTION

SECTION 01030

ALTERNATES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Includes lump sum price for each alternate specified.
- B. The Owner shall have the right to accept the Alternates in the following order to determine the low Bidder on the basis of the sum of the Base Bid and Alternates accepted: 1, 2, 3, 4.

1.02 RELATED REQUIREMENTS

- A. Project Requirements
- B. Submittals
- C. Materials and Equipment
- D. Temporary Construction Facilities
- E. Contract Closeout

1.03 RELATED WORK

- A. Referenced Sections of the Project Manual stipulate pertinent requirements for products and methods to achieve the work stipulated under each Alternate.

1.04 REQUIREMENTS

- A. A lump sum price for each Alternate shall be submitted on the Bid Proposal Form. This amount shall be added to or deducted from the Base Bid if the Owner desires to accept the Alternates.
- B. Coordinate pertinent related work and modify surrounding work as required to properly integrate the work under each Alternate, and to provide the complete construction required by the Contract Documents.
- C. The Owner will have the prerogative to add any or all of the deducted work back into the Construction Contract within 90 days of the execution of the Agreement, provided the addition of deducted work back into the Construction Contract does not affect previously completed construction. If work under an Alternate is added back into the Construction Contract, the cost for each added item shall not exceed the cost added to the Base Bid for that item.
- D. All guarantees and bonds required in connection with the Alternates shall in every way conform to those required for the Base Bid items replaced by or supplemented by the Alternate. The amount stated in each Alternate proposal shall include the cost of all changes necessitated by acceptance of that alternate whether specifically mentioned or not. Work performed as a result of the Owner's acceptance of an Alternate proposal shall conform in every way to all sections of the specifications.

I.05 DEDUCTIVE ALTERNATES

- A. Deductive Alternate No. 1: State the amount to be deducted from the Base Bid for omitting the Safe Room and all associated building work. Site preparation, grading, and drainage shall be part of the base bid and remain in the contract.
- B. Deductive Alternate No. 2: State the amount to be deducted from the Base Bid for omitting the cleaning of the asphalt parking area and omitting the installation of the asphalt seal coat on the asphalt parking area.
- C. Deductive Alternate No. 3: State the amount to be deducted from the Base Bid for omitting Folding Door Type G and steel jamb columns, and installing fully glazed overhead doors and operators similar to Door Type F.
- D. Deductive Alternate No. 4: State the amount to be deducted from the Base Bid to install metal wall panels in lieu of brick veneer on the South side of the Truck Bays.

END OF SECTION

SECTION 01040

COORDINATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Includes Contractor coordination of the portion of his work with that of his subcontractors, including all mechanical and electrical work.

1.02 RELATED SECTIONS

- A. Section 01010 - Summary of Work
- B. Section 01020 - Allowances
- C. Section 01030 - Alternates
- D. Section 01045 - Cutting and Patching
- E. Section 01050 - Field Engineering
- F. Section 01200 - Project Meetings
- G. Section 01340 - Submittals
- H. Section 01500 - Temporary Construction Facilities
- I. Section 01600 - Materials and Equipment
- J. Section 01700 - Contract Closeout
- K. Section 01720 - Record Documents

1.03 CONTRACTOR'S DUTIES

- A. Work with trades specified in Divisions 2 through 16.
- B. Coordinate the schedules of all trades, including mechanical and electrical subcontractors.
 - 1. Verify timely deliveries of products for installation by all trades.
 - 2. Verify that labor and materials are adequate to maintain schedules.
- C. Conduct conferences among all subcontractors and other concerned parties, as necessary to:
 - 1. Maintain coordination and schedules.
 - 2. Resolve matters in dispute.
- D. Participate in project meetings:
 - 1. Report progress of each trade.
 - 2. Recommend needed changes in schedules.
 - 3. Transmit minutes of meetings to trades as appropriate.

- E. Temporary Utilities
 - 1. Coordinate installation, operation and maintenance, to verify compliance with project requirements and with Contract Documents.
 - 2. Verify adequacy of service at required locations.
- F. Shop Drawings, Product Data and Samples - Submittals
 - 1. Prior to submittal, review for compliance with Contract Documents.
 - a. Check field dimensions, clearance dimensions and finish requirements.
 - b. Check relation to available space.
 - c. Check anchor bolt settings and setting of other embedded items.
 - d. Review the effect of any changes on the work of other contracts or trades.
 - e. Check items to receive field finish. Verify that item is suitable to receive such finish.
 - f. Check compatibility with mechanical and electrical equipment and work of other trades.
 - g. Coordinate controls and interlocks:
 - (1) Voltages
 - (2) Wiring of pneumatic switches or relays.
 - (3) Coordinate wiring and control diagrams.
- G. Coordination Drawings
 - 1. Prepare, as required to assure coordination of work of, or affected by trades or to resolve conflicts.
 - 2. Contractor to review prior to transmitting to appropriate trades.
 - 3. Reproduce and distribute Contractor approved copies to all concerned parties.
- H. Observe required testing; maintain a record of tests:
 - 1. Testing agency and name of inspector.
 - 2. Subcontractor.
 - 3. Manufacturer's Representative present.
 - 4. Date and time of testing.
 - 5. Type of product or equipment.
 - 6. Type of test and results.
 - 7. Retesting required.
- I. Verify that subcontractors maintain accurate record of documents.
- J. Document all window and door openings and through wall flashing.
 - 1. Notify related subcontractors that openings will be photo documented prior to brick or finish material being installed.
 - 2. Photo document and verify all flashing and weather barrier has been installed properly. Correct any deficiencies.
 - 3. Maintain record for file and future reference as needed.
- K. Substitution and Changes
 - 1. Review proposals and requests:
 - a. Check for compliance with Contract Documents.
 - b. Verify with work and equipment of other trades.
 - 2. Recommend action to concerned parties.
- L. Observe work of all trades, including mechanical and electrical work for compliance with requirements of Contract Documents.
 - 1. Maintain list of observed deficiencies.
 - 2. Promptly report deficiencies or discrepancies to applicable parties.
- M. Assemble documentation for handling of claims or disputes involving various trades.

N. Equipment Startup

1. Check to assure that utilities and specified connections are complete and that equipment is in operable condition.
2. Observe test, adjust and balance.
3. Record results, including time and date of startup.

O. 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 specified guarantee period, prepare and transmit written notice to Owner.

P. Assemble Record Documents for subcontractors; transmit to Architect for delivery to Owner.

1.04 COORDINATION SCHEDULE

A. The schedule designates areas of basic responsibility of contractors and subcontractors, including items of mechanical work for electrical power and control wiring for the project, but does not define scope.

B. Refer to respective Sections of Project Manual for detailed descriptions of work required.

C. Contractor Shall:

1. Maintain Schedule throughout construction period; record changes in responsibilities due to:
 - a. Modifications to Contract.
 - b. Field orders.
 - c. Substitutions.
2. Reproduce and distribute revised schedule promptly after each change to affected subcontractors, material suppliers, Architect, and Owner.

END OF SECTION

SECTION 01045

CUTTING AND PATCHING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Contractor shall be responsible for all cutting, fitting and patching, including attendant excavation and backfill, required to complete the Work or to:
 - 1. Make its several parts fit together properly.
 - 2. Uncover portions of the Work to provide for installation of ill-timed work.
 - 3. Remove and replace defective work.
 - 4. Remove and replace work not conforming to requirements of Contract Documents.
 - 5. Remove samples of installed work as specified for testing.
 - 6. Provide routine penetrations of non-structural surfaces for installation of piping and electrical conduit.
 - 7. Removal of portions of existing slab as necessary to execute proposed work.
- B. Related Requirements in Other Parts of the Project Manual:
 - 1. Basic responsibilities of parties: Conditions of the Contract.

1.02 SUBMITTALS

- A. Submit a written request to the Architect well in advance of executing any cutting or alteration which affects:
 - 1. The work of the Owner or any separate contractor.
 - 2. The structural value or integrity of any element of the Project.
 - 3. The integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
 - 4. The efficiency, operational life, maintenance or safety of operational elements.
 - 5. The visual qualities of sight-exposed elements.
- B. The request shall include:
 - 1. Identification of the Project.
 - 2. Description of the affected work.
 - 3. The necessity for cutting, alteration or excavation.
 - 4. The effect on the work of the Owner or any separate contractor, or on the structural or weatherproof integrity of the Project.
 - 5. Description of the proposed work:
 - a. The scope of cutting, patching, alteration, or excavation.
 - b. The trades who will execute the work.
 - c. Products proposed to be used.
 - d. The extent of refinishing to be done.
 - 6. Alternatives to cutting and patching.
 - 7. Cost proposal, if applicable.
 - 8. Written permission of any separate contractor whose work will be affected.
- C. Should conditions of the work or the schedule indicate a change of products from the original installation, Contractor shall submit a request for substitution as specified in Sections 01340 and 01600.
- D. Submit a written notice to the Architect designating the date and the time the work will be uncovered.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Comply with specifications and standards for each specific product involved.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Inspect existing conditions of the Project, including elements subject to damage or to movement during cutting and patching.
- B. After uncovering work, inspect the conditions affecting the installation of products, or performance of the work.
- C. Report unsatisfactory or questionable conditions to the Architect in writing; do not proceed with the work until the Architect has provided further instructions.

3.02 PREPARATION

- A. Provide adequate temporary support as necessary to assure the structural value or integrity of the affected portion of the Work.
- B. Provide devices and methods to protect other portions of the Project from damage.
- C. Provide protection from the elements for that portion of the Project which may be exposed by cutting and patching work, and maintain excavations free from water.

3.03 PERFORMANCE

- A. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.
- B. Execute excavating and backfilling by methods which will prevent settlement or damage to other work.
- C. Employ the original Installer or Fabricator to perform cutting and patching for weather-exposed or moisture-resistant elements and sight-exposed finished surfaces.
- D. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.
- E. Restore work which has been cut or removed; install new products to provide completed Work in accord with requirements of Contract Documents.
- F. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces. Fire caulk where required to maintain integrity of fire rating.
- G. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes.

END OF SECTION

SECTION 01050

FIELD ENGINEERING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Provide and pay for field engineering services required for this Project. Such field engineering shall include:
 - 1. Survey work required in the execution of the Project.
 - 2. Other engineering services which the Contractor may select to contract at his option.
- B. Existing control points, property line corners and construction limits are as indicated on the Drawings.

1.02 RELATED SECTIONS

- A. Section 01010 - Summary of Work
- B. Section 01700 - Contract Closeout
- C. Section 01720 - Record Documents

1.03 QUALITY ASSURANCE

- A. Qualifications of Surveyor and Engineer: Provide a registered engineer/surveyor approved by the Architect and Owner. Engineer shall be registered in the discipline required for the specific service to be performed, licensed in the State where the project is constructed.

1.04 SURVEY REFERENCE POINTS

- A. Existing basic horizontal and vertical control points for the Project are those designated on the Drawings.
- B. Locate and protect control points prior to starting site work, and preserve all permanent reference points during construction.
 - 1. Make no changes or relocations without prior written approval from the Architect.
 - 2. Report to the Architect when any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations.
 - 3. Require surveyor to replace project control points which may be lost or destroyed.
 - a. Establish replacements based on original survey control.

1.05 PROJECT SURVEY AND CONSTRUCTION ENGINEERING REQUIREMENTS

- A. Establish a minimum of two (2) permanent benchmarks on the site, referenced to data established by survey control points.
 - 1. Record locations, with horizontal and vertical data, on Project record Documents.
- B. Establish lines and levels, locate and lay out, by instrumentation and similar appropriate means:
 - 1. Existing column lines.
 - 2. Building floor slab elevations, column locations, roof elevations and variations in levels.
 - 3. Controlling lines and levels required for the mechanical and electrical trades.
- C. From time to time, verify layouts by the same methods.

1.06 RECORDS

- A. Maintain complete, accurate log of all control and survey work as it progresses.
- B. On completion of the steel framing, prepare a certified survey showing all dimensions, locations, angles, and elevations of construction.
 - 1. Notify Architect of any discrepancies or deviations; submit survey showing any discrepancies or deviations to the Architect and Structural Engineer.
 - 2. Submit with closeout package in accordance with Sections 01700 and 01720.

1.07 SUBMITTALS

- A. On request of the Architect, submit documentation to verify accuracy of field engineering work.
- B. Submit certificate signed by registered engineer or surveyor (as applicable) certifying that elevations and locations of improvements are in conformance, or non-conformance with Contract Documents.

END OF SECTION

SECTION 01150

UNIT PRICES

PART I - GENERAL

1.01 SECTION INCLUDES

- A. Includes requirements for administrative and procedural requirements for unit prices.
- B. A unit price is an amount proposed by Bidders and stated on this Unit Price Schedule and attached to the Bid Proposal Form as a price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by Change Order in the event the estimated quantities of Work required by the Contract Documents are increased or decreased.
- C. Unit prices shall include all necessary material, labor, overhead, profit and applicable taxes.
- D. Refer to individual Specification Sections for construction activities requiring the establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- E. Schedule: A "Unit Price Schedule" is included at the end of this Section. Specification Sections referenced in the Schedule contain requirements for materials and methods described under each unit price.
- F. The Owner reserves the right to reject the Contractor's measurement of work-in-place that involves use of established unit prices, and to have this Work measured by an independent surveyor acceptable to the Contractor at the Owner's expense.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 UNIT PRICE SCHEDULE

- A. Earthwork: Undercut unsuitable soils, remove from Project Site, and replace with borrowed engineered fill material: \$ _____/CY.
- B. Electrical: Provide price to add/install one duplex electrical outlet: \$ _____ per outlet.
- C. Attach a copy of this Unit Cost Section to the Bid Form.

END OF SECTION

SECTION 01200

PROJECT MEETINGS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. The Contractor shall schedule and administer a preconstruction meeting, twice monthly progress meetings and specially called meetings throughout the progress of the Work. The Contractor shall conduct the progress meetings, and:
 - 1. Prepare agenda for meetings.
 - 2. Make physical arrangements for meetings.
 - 3. Record the minutes; include all significant proceedings and decisions.
 - 4. Reproduce and distribute copies of minutes within three days after each meeting.
 - a. To all participants in the meeting.
 - b. To all parties affected by decisions made at the meeting.
 - c. Furnish copies of minutes to the Architect.
- B. Representatives of Contractors, Subcontractors and suppliers attending the meetings shall be qualified and authorized to act on behalf of the entity each represents.
- C. The Architect or Engineers will attend meetings as necessary (at least monthly) to ascertain that work is expedited consistent with Contract Documents and the construction schedules.

1.02 PRE-CONSTRUCTION MEETING

- A. A Pre-Construction meeting shall be scheduled at the project site within 5 days after date of Notice to Proceed. This meeting shall be attended by:
 - 1. Owner's Representative.
 - 2. The Architect or his representative.
 - 3. Contractor's Superintendent.
 - 4. Major Subcontractors.
 - 5. Others as Appropriate.
- B. The following is a suggested Agenda for this meeting:
 - 1. Review requirements of Divisions 0 and 1 of the Project Manual.
 - 2. Projected Construction Schedules.
 - 3. Critical work sequencing.
 - 4. Major priorities.
 - 5. Project Coordination.
 - 6. Procedures and processing of:
 - a. Field Decisions.
 - b. Submittals.
 - c. Payroll Submittals.
 - d. Change Orders and itemization of cost.
 - e. Applications for payment.
 - 7. Extension of time (weather data shall be based on U. S. Weather Bureau statistics).
 - 8. Adequacy of distribution of Contract Documents.
 - 9. Use of premises.
 - 10. Construction facilities, controls and construction aids.
 - 11. Temporary Utilities.
 - 12. Safety and first-aid procedures.

13. Security procedures.
14. Housekeeping procedures.

1.03 PROGRESS MEETINGS

- A. Progress Meetings shall be scheduled at the Project Site monthly, concurrent with the Contractor submitting each Application for Payment. The meetings will be attended by:
 1. The Contractor's Superintendent and Project Manager.
 2. Subcontractors as appropriate to the stage of construction.
 3. The Architect, Engineer, or his representative.
 4. The Owner's representative (when required).
 5. Others, as required.
- B. The Contractor may schedule meetings with the subcontractors as frequently as necessary.
- C. The following is a suggested agenda for this meeting:
 1. Review of work progress since previous meeting.
 2. Application for Payment.
 3. Field observations, problems, conflicts.
 4. Problems which impede construction schedule.
 5. Review of off-site fabrication, delivery schedules.
 6. Corrective measures and procedures to regain projected schedule.
 7. Revisions to construction schedule.
 8. Plan progress, schedule, during succeeding work period.
 9. Coordination of schedules.
 10. Review submittal schedules: Expedite as required.
 11. Maintenance of quality standards.
 12. Other business, as required.

1.04 QUALITY ASSURANCE

- A. Preliminary Installation and Pre-Installation conferences shall be held on-site for the following materials and systems:
 1. Brick Masonry
 2. Fiber Cement Board
 3. Metal Wall Panels
 4. Weather Barrier and Flashings
 5. Exterior doors and windows
 6. Roofing, including insulated nail deck, rigid insulation, underlayment, membrane, and metal roofing.
 7. Additional materials and systems as required in other sections.
- B. Mock-up Panel: Construct a mock-up panel as directed, in order to illustrate the various exterior finish materials. Refer to Section 01451.
- C. Preliminary Installation Conference: As soon as possible, meet with the material installer, installer of substrate construction, and other work associated and adjoining work, including structural systems; the Architect; and representatives of other entities directly concerned with performance of the materials or system.
 1. Review requirements of the Contract Documents, submittals, status of coordinating work and availability of materials and installation facilities; establish preliminary installation schedule. Review requirements for inspections, testing, certifications, forecasted weather conditions, governing regulations and proposed installation procedures.
 2. Record discussion, including agreement or disagreement on matters of significance; furnish copy of recorded discussions to each participant.
 3. Discuss material or system protection requirements for construction period extending beyond material or system installation.

4. If meeting ends with substantial disagreements, determine how disagreements will be resolved and set date for reconvened meeting.
- D. Pre-Installation Conference: Approximately 2 weeks before scheduled commencement of material installation and associated and adjoining work, meet at project site with installer; installer of each component of associated and adjoining work; the Architect; material manufacturer's representative; and other representatives directly concerned with performance of the work.
1. Record in writing discussions, decisions, and agreements (or disagreements) reached at conference; furnish copy of report to each entity attending.
 2. Review foreseeable methods and procedures related to the work.
 3. Tour representative areas of substrates; inspect and discuss condition of substrate and other preparatory work performed by other trades.
 4. Review material and system requirements (drawings, specifications, and other Contract Documents). Ensure installation method and techniques are in full compliance with manufacturer's requirements and that all warranties will apply.
 5. Review required submittals, both completed and yet to be completed.
 6. Review and finalize construction schedule related to the work; verify availability of materials, installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 7. Review weather and forecasted weather conditions, as well as procedures for coping with favorable conditions.

END OF SECTION

SECTION 01340

SUBMITTALS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Includes submittals to the Architect of shop drawings, product data, samples, and other submittals required by the Contract Documents. Items, materials and equipment proposed for use on this project, as specified/scheduled, will require submittals as evidence of item, product, material, equipment being furnished.

1.02 TYPES OF SUBMITTALS

A. Shop Drawings

- 1. Shop drawings include technical data prepared specifically for this project including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements, and similar information not in standard printed form which illustrates a portion of the work.
- 2. Drawings shall be presented on bond in a clear and complete manner in appropriate size and scale with details identified by reference to sheet and detail, schedule, or room numbers shown on Contract drawings with the name of the Preparer indicated (firm name).
- 3. Digital submittals of shop drawings and product data are acceptable.
- 4. Shall be prepared by a qualified detailer (see technical Sections).
- 5. Identify field dimensions; show relation to adjacent or critical features, work, or products.

B. Product Data

- 1. Product data includes standard printed information on materials, products and systems not specifically prepared for this project other than the designation of selections from among available choices printed therein.
- 2. Preparation
 - a. Clearly mark each copy to identify pertinent products or models.
 - b. Show performance characteristics and capacities.
 - c. Show dimensions and clearances required.
 - d. Show wiring or piping diagrams and controls.
- 3. Manufacturer's standard schematic drawings and diagrams
 - a. Modify drawings and diagrams to delete information which is not applicable to the work.
 - b. Supplement standard information to provide information specifically required and applicable to the work.

C. Samples

- 1. Samples are physical examples which illustrate materials, equipment, or workmanship and establish standards by which the work will be judged.
- 2. Office samples shall be of sufficient size and quantity to illustrate clearly:
 - a. Functional characteristics of the product with integrally related parts and attachment devices.
 - b. Full range of color, texture, and pattern.
- 3. Mock-ups are a special form of samples which are too large or otherwise inconvenient for handling in specified manner for transmittal of sample submittals. When required, mock-ups are specified under appropriate specification section.

- D. Miscellaneous submittals related directly to the work (non-administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, quality testing and certifying measurement data, operating and maintenance materials, overrun stock, and similar information, devices, and materials applicable to the work and not processed as shop drawings, product data, or samples.

1.03 CONTRACTOR RESPONSIBILITIES

- A. Review and indicate approval of shop drawings, product data, samples, and miscellaneous submittals with approval stamp and signature prior to submission to Architect.
- B. Determine and/or verify before submitting for approval:
 - 1. Field measurements
 - 2. Field construction criteria
 - 3. Catalog numbers and similar data
 - 4. Conformance with Contract Documents
- C. Coordinate each submittal with requirements of the work. Submittal schedules shall allow not less than fourteen (14) working days for Architect's review.
- D. Notify the Architect in writing, at time of submission, of any deviations in the submittals from requirements of the Contract Documents. The deviations shall be clearly marked on all copies of the submittal.
- E. Begin no fabrication or work which requires submittals until return of submittals with Architect's acceptance.
- F. Maintain a "Shop Drawing, Product Data, and Sample Log" identified with project name and descriptive identification. Log shall show title of each submittal, date of submittal, date returned, or status.

1.04 CONTRACTOR SUBMISSION REQUIREMENTS

- A. Make submittals promptly in accordance with progress schedule and in such sequence as to cause no delay in the work or in the work of any other contractor.
- B. Number of Submittals Required
 - 1. Shop drawings: Submit the number of copies which the Contractor requires: One (1) copy will be retained by the Architect, except for structural, mechanical, plumbing, fire protection and electrical items, of which two (2) copies will be retained by the Architect.
 - 2. Digital submittals of shop drawings and product data are acceptable.
 - 3. Product data: Submit the number of copies which the Contractor requires, plus two (2) copies which will be retained by the Architect.
 - 4. Samples: Submit the number stated in each specification or a minimum of two (2) for each sample required.
- C. All Submittals shall contain:
 - 1. The date of submission and the dates of any previous submissions.
 - 2. Project name.
 - 3. Contract identification.
 - 4. The names of:
 - a. Contractor
 - b. Supplier
 - c. Architect
 - 5. Identification of the product with the specification section number.
 - 6. Field dimensions clearly identified as such.
 - 7. Relationship to adjacent or critical features of the work or materials.
 - 8. Applicable standards such as ASTM numbers.
 - 9. Specific identification, in writing, of deviations if any from Contract Documents.
 - 10. Identification of revisions on resubmittals.
 - 11. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the work and of Contract Documents. Those without stamp will not be reviewed by the Architect.

- D. The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Architect's approval of shop drawings, product data, or samples unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submission, and the Architect has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the shop drawings, product data, or samples by the Architect's approval thereof. The Architect's approval of a separate item shall not indicate approval of an assembly in which the item functions.
- E. In checking shop drawings, the Architect will not check dimensions, quantities, electrical characteristics, specific capacities, or coordination with the trades. These are the responsibility of the Contractor.

1.05 CONTRACTOR'S RESUBMISSION REQUIREMENTS

- A. Make any corrections or changes in the submittals required by the Architect and resubmit until approved. "Field Copy" of shop drawings without Architect's approval stamp shall not be used at the project site.
- B. Shop Drawings and Product Data
 - 1. Revise initial drawings or data, and resubmit as specified for the initial submittal.
 - 2. Clearly identify any changes which have been made other than those requested by the Architect.
- C. Samples: Submit new samples as required for initial submittal.

1.06 DISTRIBUTION

- A. Distribute, without additional cost to the Owner or Architect, reproductions/copies of product data which carry the Architect's stamp of review and/or approval to:
 - 1. Job site file.
 - 2. Record Documents file.
 - 3. Other affected contractors.
 - 4. Subcontractors as applicable.
 - 5. Supplier or Fabricator as applicable.
- B. Distribute samples which carry the Architect's stamp of approval as directed by the Architect.

1.07 LIMITS OF APPROVAL

- A. Nothing in the approval of shop drawings and samples shall be construed as authorizing additional work or increased cost to the Owner unless a change order has been authorized as provided in Sections 00700 and 00800.

1.08 SUBSTITUTIONS

- A. Substitutions of material or equipment on an "or equal" basis shall not be proposed or requested in shop drawing or sample submittals unless submitted in accordance with Section 01600.

1.09 SHOP DRAWING RECORDS

- A. Submit to the Owner one (1) final record copy of shop drawings marked "FOR JOB USE" which reflects all changes required in previous submittals including those marked "APPROVED AS NOTED" or similarly revised by the Architect or Engineers.

END OF SECTION

SECTION 01410

TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Includes Owner employment and payment of the services of an independent testing laboratory approved by the Engineers to perform specified services and testing. Employment of the laboratory does not relieve Contractor's obligations to perform the Work of the Contract.
- B. Contractor shall coordinate all inspections including those required by law, ordinances, rules, regulations, orders, or approvals of public authorities as required by the Contract Documents.
 - 1. Testing agency shall furnish copies of Products Test Reports as required.
 - 2. Contractor shall furnish incidental labor and facilities to facilitate inspections and tests and for storage and curing of test samples.
 - 3. Contractor shall notify the laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.
 - 4. Contractor shall make arrangements with laboratory and pay for additional samples and tests required for Contractor's convenience.

1.02 TESTING LABORATORY

- A. Qualifications
 - 1. Meet "Recommended Requirements for Independent Laboratory Qualification", published by the American Council of Independent Laboratories, and basic requirements of ASTM E 329 "Standards of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used for Construction".
 - 2. Be authorized to operate in the State where the project is constructed.
 - 3. Submit copies of the report of inspection to the Architect with memorandum of remedies of any deficiencies reported by the inspection.
- B. Duties and Limitations of Authority
 - 1. Perform specified inspections, sampling and testing of materials and methods of construction, and promptly submit two (2) copies of the written report to the Architect within one (1) day of the test(s). Immediately email or fax one (1) copy to the Architect. Each report shall include:
 - a. Date issued.
 - b. Project name.
 - c. Testing laboratory name, address, and telephone number.
 - d. Name and signature of Engineer and laboratory Inspector or Technician.
 - e. Date and time of sampling or inspection or test.
 - f. Record of temperature and weather conditions.
 - g. Location in the project of sample or test.
 - h. Results of the test in compliance with Contract Documents.
 - i. Monetary accounting of tests by test type, indicating test or retest charges under this Contract.
 - 2. Laboratory is not authorized to release, revoke, alter or enlarge on requirements of the Contract Documents, approve or accept portions of the Work, or perform duties of the Contractor.

1.03 QUALITY ASSURANCE

- A. The following tests and inspections and the frequency of tests and inspections shall be strictly adhered to.
- B. The following tests and inspections shall be considered the minimum required. See other sections and drawings for additional requirements.
- C. Test soils in each area of the proposed additions.

TYPE OF WORK	ITEM	SAMPLE FREQUENCY	SAMPLE SIZE	MINIMUM TESTING
General Earthwork and Fill	Soil Material	1 per soil type	50 lbs.	- Gradation - P.I. - Moisture-Density - Relationship - Probe all footings to test bearing
	Compaction	1 per 2,500 sq. ft. per lift (min. of 3 per lift)		Field Density Test
Flexible Base	Base Material	1 per type per 1,000 cu. yds.	50 lbs.	- Sieve - P.I. - Moisture-Density
	Compaction	1 per 2,500 sq. ft. per lift (min. of 3 per lift)		Field Density Test
Hot Mix Paving	Job Mix Formula	1 per HMAC Type		Review and Approval
	Cold Aggregate	Weekly	50 lbs.	Sieve, Sand Equivalent and Examination
	Asphalt	Each transport delivery	1 qt.	As required.
	Uncompacted Mix	2 Daily	35 lbs.	Extraction, Density, Stability
	Compacted Mix on Job	1 per 1,000 sq. yds. or 3 daily, whichever is more		Field Density (Nuclear is permitted)
Concrete	Mix Design	1 per concrete class		- Review & approval with confirmatory cylinders - Plant & materials approval, testing if questionable
	Aggregates (coarse & fine)	1 per 500 cu. yd., min. 1 per job	50 lbs.	Sieve, organic, impurities, specific gravity
	Cement	1 per 100 cu. yds. 10 lbs. min. 1 per job		- fineness - chemical compound - see mill reports

TYPE OF WORK	ITEM	SAMPLE FREQUENCY	SAMPLE SIZE	MINIMUM TESTING
Concrete (continued)	Concrete Placement	1 per 50 cu. yds. or each day's pour if less		- slump - air test - 5 compressive cylinder test: test 2 at 7 days, 2 at 28 days, 1 hold
Welded Steel Inspection	All of welds at shop and field			
	Qualifications of Welders	Each		Observe and verify for required positions
	X-ray welds or Ultra-Sonic Testing of Welds			-all bending stress sections -20% of all other welds
Bolted Steel	Pre-installation Testing			Pre-installation bolt tension calibration per Structural specifications
AU Steel Including Reinforcing	Material	Per Lot		See Mill Report
Foundation	Bearing Surface, Reinforcing Steel & Concrete	Each Pour		Qualified inspector

END OF SECTION

SECTION 01451

MOCKUP PANEL REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Mockup Panel: Built on-site in order to establish standards for exterior materials, systems, and installation methods for the project.

1.02 SUBMITTALS

- A. Quality Control Submittals
 - 1. Shop Drawing: Detailed, dimensioned plans and elevations showing mockup panel size, and items and materials that will be included.

1.03 DESCRIPTION OF WORK

- A. Integrated Exterior Mockup: Construct a full-size physical assembly on-site. The mockup panel shall be constructed in accordance with the drawings and specifications for each material and system included in the assembly. The mockup panel shall demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation. Construct the mockup panel so as to show the interface between adjacent and adjoining materials; and to demonstrate compliance with specified installation tolerances.
 - 1. Unless otherwise indicated, the approved mockup shall establish the standard by which the Work will be judged.
 - 2. The Mockup shall not be considered to be material Samples.

1.04 QUALITY ASSURANCE

- A. Mockup Shop Drawing: Submit as described under 1.02.A.1 above, and Section 01340.
- B. Pre-Construction Conference: Prior to the construction of the mockup, a conference will be called by the Contractor for the purpose of reviewing the requirements, and intent of mockup. The conference shall be attended by representatives of the Contractor, the Architect, and all subcontractors and vendors whose work will be included in the mockup.

PART 2 - PRODUCTS AND SYSTEMS

2.01 MOCKUP PANEL

- A. The mockup panel shall be constructed using only materials and systems specifically required for the project, and selections made under sample submittals.
 - 1. Refer to Section 04210 for brick and mortar selection.
- B. All products and systems represented in the mockup panel shall be installed as required by the drawings and specifications.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Before installing portions of the Work represented by the mockup panel, build and finish the panel as directed.
 - 1. Build the mockup panel in a location selected by the architect, and of size and profile indicated in the drawings.
 - 2. Notify the architect a minimum of 15 days in advance of dates and times when mockup will be constructed and available to be inspected.
 - 3. Employ supervisory personnel to oversee mockup construction. Employ same workers that will be employed during the construction of Project.
 - 4. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 5. Commence the Work only after the mockup panel has been inspected and accepted in writing by the architect.
 - 6. The mockup will establish the standard of quality of workmanship by which the Work will be judged.
 - 7. Maintain the mockup panel during construction in an undisturbed condition as a standard for judging the completed Work. Failure to maintain the mockup, until directed, may be cause for rejection of the Work.
 - 8. Demolish and remove mockups when directed unless otherwise indicated.

END OF SECTION

SECTION 01500

TEMPORARY CONSTRUCTION FACILITIES

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Includes providing all temporary construction and facilities necessary to complete the Work.

1.02 TEMPORARY FIELD OFFICE AND STORAGE SHEDS

- A. Office: Provide and maintain a temporary field office for the Contractor's use and to be used by the representatives of the Owner and Architect. Provide lights, a working restroom (including a lavatory and watercloset), ventilation and air conditioning to permit comfortable use of the office. Provide and pay for telephone service within the office for administrative use. Provide exterior steps and handrail as required for access to the interior.
- B. Material Storage: Provide and maintain adequate protection and security for materials stored on site.
1. Provide suitable and sufficient enclosed and covered spaces, with raised flooring, to protect materials and equipment subject to damage by weather or construction.
 2. Provide sheds, as necessary, to suitably store materials and equipment needing limited protection.
- C. Staging Area: Coordinate with the Owner. Once such an area has been defined, confine all storage and construction staging to this designated area.

1.03 SAFETY DEVICES

- A. Provide all temporary works, including barriers, lighting, covered walkways, required to fulfill this Contract, and at all times comply with local and governing codes and laws and furnish protection to workmen, the public and inhabitants of the building and surrounding areas. Submit for Architect's review a Contractor-prepared program/plan for implementation and execution of such protective barriers.
- B. Maintain areas adjacent to the construction site in manner not to hinder or endanger normal traffic flow, or endanger or damage adjacent property.
- C. All streets shall be kept clean and open for pedestrian and vehicular traffic. Warning lights, guards and barricades shall be utilized and maintained as required to ensure these conditions. Should it be necessary to close right-of-way to pedestrian traffic, erect adequate barricades, lights, etc., as necessary. Erect warning signs directing pedestrians to safe, alternate routes.
- D. Provide cribbing and shoring for excavations which might endanger workmen, equipment or adjacent property.
- E. Erect barricades and/or fencing sufficient to prevent injury to persons or damage to property. Construct to prevent entry of unauthorized persons.
- F. Cover trenches and holes when not in use. Erect barriers as required to maintain safe conditions.
- G. Temporary stairs, ladders and ramps shall be provided to safely enable access to all parts of the work by the Architect and the Owner, or any other authorized personnel. All such equipment shall meet all governing and local safety requirements.
- H. Provide temporary lifting and hoisting devices and equipment as required to distribute materials and equipment to various locations.

1.04 AREAS AVAILABLE

- A. Actual areas in which the project is to be constructed are herein defined to exist within all boundary lines as clearly identified and delineated on the Drawings.
- B. Provide temporary construction easement, limits as shown on the Drawings.

1.05 ACCESS

- A. Limit access to the property so as not to block any entrance to or exit from the site at any time.
- B. Coordinate parking area for Contractor's trucks. All damage made to entrances, driveways and yards shall be repaired by the Contractor.
- C. Parking of cars or other vehicles used for personal transportation shall be coordinated by the Contractor.
- D. All traffic routes shall be kept open at all times, free of all operations and storage of materials.

1.06 PROJECT SIGN AND ARCHITECT'S CONSTRUCTION SIGN

- A. Provide a Project Sign as designed by the Architect. Locate on site as directed by Architect. Sign shall be constructed as detailed, printed on two (2) sides with professionally painted lettering and graphics on each side, typically 4' x 8'. The sign shall conform to all applicable sign and zoning ordinances.

1.07 TEMPORARY WATER DURING CONSTRUCTION

- A. All necessary arrangements for providing all water required during the entire construction period shall be provided by the General Contractor. Where the installation of a water meter is required to obtain temporary water, the metered cost for temporary water shall be borne by the General Contractor. Provide drinking water for construction personnel.

1.08 TEMPORARY TOILET FACILITIES

- A. Provide and maintain in use an adequate number of temporary toilets with proper enclosures as necessary for use of workmen and all inspection staff during construction. Locate toilets where directed and approved by the Owner. Keep toilets clean and comply with all local and governing health requirements and sanitary regulations. Toilet facilities shall consist of the prefabricated chemical type. The plumbing fixtures within the newly constructed areas may not be used by construction personnel.

1.09 TEMPORARY ELECTRICITY DURING CONSTRUCTION

- A. All necessary and sufficient temporary electric service and lighting required during the entire construction period shall be provided by the General Contractor. Monthly service charges shall be borne by the General Contractor.
 - 1. Power sources shall be provided at points as required to complete the Work.
 - 2. Power and lighting in corridors, stairways and other dark enclosed areas shall be provided as required for safety and in accordance with OSHA requirements. Provide lighting levels in all areas to allow for acceptable workmanship.
 - 3. Security site lighting shall be provided as required for protection of personnel and materials. Any such security lighting shall be shielded from adjacent Residential property.
- B. Electricity During Partial Occupancy: Should a portion of the building be occupied by the Owner prior to final acceptance, the metered cost of utilities for the occupied portion of the building will be borne by the Owner from time of partial occupancy until final acceptance, only when agreed and authorized in writing by the Architect.

1.10 COLD WEATHER PROTECTION AND TEMPORARY HEAT

- A. Provide all cold weather protection necessary to carry on the work expeditiously during inclement weather and protect all work and materials against injury and from environment harmful to man.

1.11 PUMPING AND DRAINAGE

- A. Keep working and storage areas free from water that could cause damage or that would interfere with work.
- B. Pump or drain water to designated points. Distribute discharge to prevent excessive erosion.

1.12 TEMPORARY FIRE PROTECTION AND FIRE SAFETY

- A. The Contractor is responsible for fire extinguishers and fire protection for all work, equipment, office, sheds, etc., as required by OSHA regulations.
- B. Free access shall be maintained at all times from the street to fire hydrants and to outside connections for standpipes. Fire doors shall be installed and in operation at the earliest possible time.
- C. Where existing exits occur, they shall be fully maintained at all times and shall be kept free from materials, equipment, or other obstructions.
- D. Combustible materials shall not be stored in the building.
- E. The use of wood scaffolding shall be kept to a minimum and entirely eliminated when possible in order to eliminate fire hazards from this source. No part of the building where forms are in place shall be used for the storage of flammable materials of any kind. Temporary structures of combustible material shall be located not less than 30 feet from the building.
- F. No smoking or use of tobacco in any form shall be permitted within the building or on the roof surfaces.

1.13 HAZARDOUS MATERIALS

- A. The Contractor shall comply with all laws concerning hazardous materials. Hazardous material shall be disposed in a legal manner. MSDS sheets for hazardous materials shall be filed at the Contractor's job site office and as otherwise required by law.

END OF SECTION

SECTION 01600

MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Includes proper methods of shipping materials and equipment, handling, and storage of same in accordance with manufacturer's recommendations. Also includes requirements for making material and equipment substitutions.

1.02 REQUIREMENTS INCLUDED

- A. Conform to applicable specifications and standards.
- B. Comply with size, make, type and quality specified, or as specifically approved in writing by Architect.
- C. Manufactured and Fabricated Products:
 - 1. Design, fabricate and assemble in accord with the best engineering and shop practices.
 - 2. Manufacture like parts of duplicate units to standard sizes and gauges, to be interchangeable.
 - 3. Two (2) or more items of the same kind shall be by the same manufacturer and identical.
 - 4. Products shall be suitable for service conditions.
 - 5. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing by the Architect.
- D. Do not use material or equipment for any purpose other than that for which it is designed or specified.

1.03 MANUFACTURER'S INSTRUCTIONS

- A. When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in installation, including copies to Architect and Contractor. Maintain one (1) set of complete instructions at the job site during installation and until completion.
- B. Handle, install, connect, clean, condition and adjust products in strict accord with such instructions and in conformance with specified requirements.
- C. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with Architect for further instructions. Do not proceed with work without clear instructions.
- D. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents, or Architect's written instructions.

1.04 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of Products in accordance with construction schedules, coordinate to avoid conflict with work and conditions at the site.
- B. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
- C. Immediately on delivery, inspect shipments to assure compliance with Contract Documents and approved submittals, and that Products are properly protected and undamaged.

- D. Provide equipment and personnel to handle Products by methods to prevent soiling or damage to Products or packaging.

1.05 STORAGE

- A. Store Products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store products subject to damage by the elements in weathertight enclosures. Maintain temperature and humidity within ranges required by manufacturer's instructions.
- B. Exterior Storage
 - 1. Store fabricated products above ground, on blocking or skids; prevent soiling or staining. Cover products which are subject to deterioration with impervious sheet coverings; provide adequate ventilation to avoid condensation.
 - 2. Store loose, granular materials in well-drained area on solid surfaces to prevent mixing with foreign matter.
- C. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored Products to assure that products are maintained under specific conditions, and free from damage or deterioration.
- D. Provide substantial coverings as required to protect installed Products from damage from traffic and subsequent construction operations. Remove when no longer needed.

1.06 SUBSTITUTIONS AND PRODUCT OPTIONS

- A. Submit to the Architect a complete list of major products proposed to be used, with the name of the manufacturer and the installing subcontractor.
- B. Contractor's Options
 - 1. For Products specified only by reference standard, select any product meeting that standard.
 - 2. For Products specified by naming several products or manufacturers, select any one of the products or manufacturers names, which complies with the Specifications.
 - 3. For Products specified by naming one (1) or more Products or manufacturers, Contractor must submit a request for substitutions for any Product of manufacturer not specifically named. Submit data that the substituted product/material will perform as well as the specified item. Substitutions submitted without such substantiating data will be returned without review.
- C. Substitutions
 - 1. For a period of fifteen (15) days after Contract Date, the Architect will consider written requests for substitution of Products. Comply with requirements Paragraph 1.06B 3.
 - 2. Submit a separate request for each Product, supported with complete product data, with Drawings and samples as appropriate, in accordance with Section 01340.
- D. By making requests for substitutions, Contractor:
 - 1. Represents that he has personally investigated the proposed substitute product and determined it is equal or superior in all respects to that specified;
 - 2. Represents that he will provide the same warranty for the substitute that he would for that specified;
 - 3. Certifies that the cost data presented is complete and includes all related costs, and excludes the Architect's redesign costs, and waives all claims for additional costs related to the substitution which subsequently becomes apparent; and
 - 4. Will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.

- E. The Architect will reply in writing to the Contractor stating whether the Architect, after due investigation, has reasonable objection to any such proposal. If adequate data on any proposed manufacturer or installer is not available, the Architect may state that action will be deferred until the Contractor provides further data. Failure to object to a manufacturer shall not constitute a waiver of any of the requirements of the Contract Documents. All products furnished by the listed manufacturer must conform to such requirements.
- F. When a material, equipment or system is approved by the Architect for substitution, such material, equipment or system shall become an essential element of the Contract. The Architect will be the final judge of the acceptability of the substitution. The Architect is under no obligation to consider or accept any proposed substitution, and he may reject any requested substitution for any cause or no cause. No substitution shall be made without authority in writing from the Architect.

1.07 NO-ASBESTOS/NO LEAD REQUIREMENTS

- A. No asbestos-containing or lead-containing materials or products shall be incorporated into the project. All products and materials shall be 100% asbestos free and 100% lead free.
- B. The intent of the Contract Documents is to exclude all materials and products which contain asbestos or lead in any form or amount. In studying the Contract Documents and at any time during execution of the Work, the Contractor shall at once report to the Architect any asbestos-containing materials or products that he may discover. Do not proceed with installation of asbestos-containing materials or products or lead-containing materials or products.
- C. Where products are specified by reference standard or in a descriptive manner without manufacturer's name, model number or trade name, Contractor shall select materials or products meeting specified requirements which do not contain asbestos or lead in any form or amount.
- D. In making requests for substitutions, Contractor shall be responsible for determining that materials and products requested for substitution are 100% free of asbestos and lead in any form.

END OF SECTION

SECTION 01650

STARTING OF SYSTEMS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Includes all material and labor to clean, inspect and adjust in accordance with manufacturer's written recommendations every piece of equipment, control/safety device and system.
- B. Testing, adjusting, and balancing of HVAC systems, although specified elsewhere, is part of this section.
- C. Code required disinfecting of potable water systems, although specified elsewhere, is a requirement of this section.
- D. After completion of all requirements of A, B, and C above, the Contractor shall start up (put into operation) every piece of equipment, control/safety device and system and demonstrate to the Architect and Owner's Representative that same will operate safely, noiselessly, as per code, as specified and as required by Architect whichever is the more stringent requirement.
- E. Related Requirements: 01700 - Contract Closeout.

1.02 RELATED WORK SPECIFIED/INDICATED ELSEWHERE

- A. Equipment, control/safety devices and systems, including, but not limited to, the following:
 - 1. Mechanical
 - 2. Plumbing
 - 3. Fire Protection System
 - 4. Electrical / Fire Alarm

1.03 PROCEDURES

- A. Mechanical and Electrical: Contractor shall provide a detailed checklist and procedures for cleaning, inspecting and adjusting each piece of equipment, control/safety devices, system, etc. All to be in accord with the manufacturer's specific recommendations and as required to prepare each item for proper operation, including, but not limited to, the following items and systems:
 - 1. HVAC Systems
 - a. Exhaust (air)
 - b. Make up air
 - c. Combustion air
 - d. Air handling H/C
 - e. Control
 - 2. Mechanical Equipment, Control/Safety Devices
 - a. Air Handling Units
 - b. Fans and blowers
 - c. Fan coil units
 - d. Coils
 - e. Valves - gate, globe, plug, balancing, etc.
 - f. Filters
 - g. Safety and pressure reducing valves
 - h. Gauges and thermometers

- i. Thermostats and controls
 - j. Sound and vibration attenuation
 - k. Dampers and operators
 - 3. Plumbing Systems
 - a. Domestic cold water
 - b. Domestic hot water
 - c. Sanitary sewer
 - d. Storm sewer
 - 4. Plumbing equipment, controls/safety devices
 - a. Water heaters
 - b. Storage tanks
 - c. Valves - gate, globe, plug, balancing, etc.
 - d. Safety & pressure reducing valves
 - e. Gauges and thermometers
 - f. Thermostats and controls
 - g. Sound & vibration attenuation
 - h. Circulating pumps
 - i. House pumps
 - j. Meters (water and gas)
 - k. Vacuum breakers
 - l. Backflow preventers
 - m. Fixtures and trim
 - n. Automatic fire sprinkler system
 - 5. Electrical Systems
 - a. Emergency lighting
 - b. Grounding
 - c. Power Distribution
 - d. Lighting circuitry
 - e. Equipment - power & control
 - f. Smoke detection
 - g. Light dimming
 - h. Exit lighting
 - 6. Electrical equipment, controls/safety devices
 - a. Motor control center
 - b. Panels - light, power, control, annunciation
 - c. Transformers
 - d. Disconnects
 - e. Breakers
 - f. Fuses
 - g. Switches
 - h. Fixtures & Lamps
 - i. Starters
 - j. Clocks/timers
 - k. Relays
 - l. Solenoids
 - m. Arrestors - surge
 - n. Thermostats
- B. Start-up and check-out of miscellaneous equipment.
- 1. Equipment manufacturer's representative to visit site, when notified by Contractor that specific equipment is ready for start-up and check-out.
 - 2. Architect, Owner's Representative, equipment manufacturer's representative, representatives of Contractor and Subcontractor responsible for hook-up, equipment design engineer, and representative of operations staff are to be present during start-up and must sign acceptance of each piece of equipment after check-out.

3. Any deficiencies found must be reported in writing to the Architect and corrected before final check-out and acceptance, again following the above procedure.
4. To minimize site visits, it is preferable to have as many pieces of equipment as possible ready together, with the required representatives available.

PART 2 - PRODUCTS

2.01 CLEANING MATERIAL SHALL BE

- A. Specifically recommended by manufacturer for the service intended.
- B. Approved by the manufacturers of the equipment, item and system being cleaned.
- C. Approved by governing agencies.
- D. Approved by Architect.

2.02 DISINFECTING AGENTS

- A. For potable water system shall be:
 1. Specifically recommended by manufacturer for the service intended.
 2. Approved by the manufacturers of the equipment, item and system to be disinfected.
 3. Approved by governing agencies.
 4. Approved by Owner and Architect.

2.03 LUBRICANTS AND OTHER MATERIALS

- A. Lubricants and other materials necessary during checking, adjusting or servicing of each piece of equipment, control/safety device on system in preparation for putting it into operation shall be:
 1. Specifically recommended by manufacturer for the service intended.
 2. Approved by the manufacturer of the equipment, item or system part being checked, adjusted or serviced.
 3. Approved by governing agencies.
 4. Approved by Owner and Architect.

2.04 MATERIAL QUALITY

- A. All products shall be new and of top quality. Delivered to job site in unopened clearly labeled containers giving storage and handling recommendations, expiration dates and instructions for safe use.

PART 3 - EXECUTION

3.01 STARTING OF SYSTEMS

- A. Personnel performing services pursuant to this section shall be fully trained and experienced tradesmen highly skilled in the work being performed and, where necessary or required, be factory trained and approved.
- B. Contractor shall provide all required or necessary safety equipment, warning signs, barricades, etc. so that all cleaning, disinfecting and adjusting operations will be completed without injury to personnel, equipment, property, etc.

- C. All cleaning of equipment, control/safety devices and systems shall be performed using approved top quality trade procedures, repeated if necessary, until every piece of equipment, control/safety device and system is clean and ready for operation is required and approved by manufacturer, governing agency and Architect.
- D. All adjusting and servicing of equipment, control/safety devices and systems shall be performed using top quality trade procedures in strict accord with manufacturer's recommendations, and governing agencies and Owner's requirements.
- E. The disinfecting of the potable cold and hot water systems shall be performed after the above specified cleaning, adjusting and servicing work has been completed and in strict accord with governing codes and agencies, manufacturer's recommendations and Owner's requirements. Contractor shall provide an approved laboratory's test showing test results. Disinfecting and laboratory report shows findings acceptable to governing agencies and Architect.
- F. Testing, adjusting and balancing of HVAC systems specified elsewhere shall be performed immediately after the applicable work specified above has been completed and approved.
- G. Contractor shall attest in writing and demonstrate to Architect that every piece of equipment, control/safety device, and system is clean, ready for operation and approved for operation by governing agencies.
- H. Contractor shall demonstrate to Architect and Owner's Representative by starting up and/or causing to function, that every piece of equipment, control/safety device and system will perform its intended function safely, noiselessly, per governing codes and as required by Architect. This work shall be performed by highly skilled tradesmen under direct supervision of manufacturer's factory trained and approved representatives under close surveillance of Contractor's and Owner's consultants.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

PART 1 - GENERAL

1.01 REQUIREMENTS

- A. Comply with the requirements stated in the General Conditions of the Contract for Construction and the Supplementary Conditions for administrative procedures, fiscal provisions and legal submittals to close out the Work.
- B. Cleaning: Refer to Section 01710.
- C. Record Documents: Refer to Section 01720.

1.02 REPAIRS

- A. All structures, sidewalks, pavement, planting and other items disturbed or damaged incident to construction work under this Contract shall be replaced by the Contractor as soon as possible, in a manner satisfactory to the Owner, Architect and Governing Agencies.

1.03 SUBSTANTIAL COMPLETION

- A. When the Contractor considers the Work to be substantially complete, he shall submit to the Architect:
 - 1. A written notice that the Work is sufficiently complete, that the Owner may occupy the Work for the use for which it is intended, and is therefore substantially complete.
 - 2. List of items to be completed or corrected and dates scheduled for completion or correction of each item.
- B. Within a reasonable time after receipt of such notice, the Architect will schedule a date with the Owner's Representative, and the Architect and his consultants will make an inspection to determine the status of completion.
- C. Should the Architect determine that the Work is not substantially complete, he will promptly notify the Contractor in writing stating the reasons. The Contractor shall remedy the deficiencies in the Work and send a second notice of Substantial Completion to the Architect. The Architect will notify the Owner and reinspect the Work.
- D. When the Architect concurs that the Work is substantially complete, he will prepare a Certificate of Substantial Completion on AIA Document G704 accompanied by the Contractor's list of items to be completed or corrected (punch list) as verified and amended by the Architect. The Architect will submit the Certificate to the Contractor and Owner for their written acceptance.

1.04 FINAL ACCEPTANCE

- A. When the Contractor determines the Work is complete he shall submit written certification that:
 - 1. Contract Documents have been reviewed.
 - 2. The Work has been inspected by a qualified person authorized by the Contractor for compliance with the Contract Documents.
 - 3. The Work has been completed in accordance with the Contract Documents.
 - 4. Equipment and systems have been tested and demonstrated in the presence of the Owner's Representative and are operational.
 - 5. Inspections, inspection certificates or letters of acceptance for items requiring approval from governing authority or authorities are complete and available.
 - 6. The Work is completed and ready for final inspection.

- B. Within a reasonable time after receipt of the certification the Architect will schedule a date with the Owner's Representatives, and the Architect and his consultants will make an inspection to verify completion.
- C. Should the Architect consider the Work incomplete or defective the Contractor will be notified in writing listing incomplete or defective Work. The Contractor shall take immediate steps to remedy the stated deficiencies and send a second written certification that the Work is complete. The Architect will notify the Owner and reinspect the Work.

1.05 REINSPECTION FEES

- A. Should the Architect perform reinspections due to failure of the Work to comply with the claims of status of completion made by the Contractor:
 - 1. The Contractor will compensate the Architect for such additional services.
 - 2. Owner may deduct the amount of such compensation from the final payment due the Contractor.

1.06 UTILITY TRANSFER

- A. It shall be the responsibility of the Contractor to coordinate the transfer of all utility services to the name of the Owner. This transfer shall be at the time of Substantial Completion, unless directed otherwise by the Owner.

1.07 CONTRACTOR'S CLOSEOUT SUBMITTALS TO ARCHITECT FOR THE OWNER

- A. The closeout submittal shall be complete and submitted to the Architect as a single package. The package shall include two (2) copies of the following or other number as specified in the various Sections of the Project Manual. Refer to Section 01720 for specific requirements for preparation and submittal of Record Documents.
 - 1. Project Record Documents as required by Section 01720.
 - 2. Operating and Maintenance Data bound in commercial quality, three-ring binders with durable plastic covers.
 - 3. Shop Drawings and Product Data as required by Section 01340.
 - 4. Written guarantees as specified, bound in with Operating and Maintenance Data.
 - 5. Paint Schedule, consisting of color chip of each color used, paint manufacturer's name and color number, and room number where each color and type of paint is applied.
 - 6. Keys and Keying Schedule as called for in Section 08710, Finish Hardware.
 - 7. Spare Parts and Maintenance Materials as called for in various Sections of the Project Manual.
 - 8. Contractor's Affidavit of Payment of Debts and Claims, AIA Document G706.
 - 9. Affidavit of Release of Liens, AIA Document G706A.
 - 10. Consent of Surety to Final Payment, AIA Document G707.
 - 11. Occupancy Permits as required by local and governing agencies.
 - 12. Record Survey as specified in Section 01050.

1.08 FINAL ADJUSTMENT OF ACCOUNTS

- A. The Contractor shall submit to the Architect the Final Application for Payment accompanied by a statement of accounting. The statement shall reflect all adjustments to the Contract Sum.
 - 1. The Original Contract sum
 - 2. Additions and Deductions resulting from:
 - a. Previous Change Orders
 - b. Allowances
 - c. Unit Prices
 - d. Deductions for non-conforming work
 - e. Deductions for Liquidated Damages
 - f. Deductions for reinspection payments
 - g. Other adjustments
 - 3. Total contract sum as adjusted
 - 4. Previous Payments
 - 5. Sum Remaining Due

- B. When the Architect has determined that the Closeout submittal is complete and correct and has received the final Application for Payment with the statement of accounting, he will prepare a Change Order reflecting the approved adjustments to the Contract sum which were not previously made by Change Order.
- C. The Architect will submit to the Owner the Consent of Surety, Releases of Liens, Final Application for Payment with the Statement of Accounting, and signed Change Order, if required, and other documents related to fiscal provisions with a cover letter (from the Architect) to certify that to the best of his knowledge, completion of the Project is in compliance with the Contract documents and the balance shown is due and payable.

END OF SECTION

SECTION 01710

CLEANING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Execution of daily cleaning during progress of the Work and at completion of the Work. If the Contractor fails to keep the project clean, as herein specified, the Owner shall do the cleaning, the cost of which shall be charged to the Contractor.

1.02 DISPOSAL REQUIREMENTS

- A. Conduct daily cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-pollution laws.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.
- B. Use only those cleaning materials and methods recommended by the manufacturer of the surface to be cleaned.
- C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.
- D. Refer to particular sections of this Project Manual for items requiring special handling and cleaning.

PART 3 - EXECUTION

3.01 PROGRESS CLEANING

- A. General
 1. Retain all stored items in an orderly arrangement allowing maximum access, not impeding traffic, and providing the required protection of materials.
 2. Do not allow the accumulation of scrap, debris, waste material, and other items not required for the construction of this work.
 3. Twice weekly, and more often if necessary, the Contractor shall completely remove all scrap, debris, and waste material from the job site, and shall place into container furnished by the Contractor.
 4. Provide adequate storage for all items awaiting removal from the job site, observing all requirements for fire protection.
- B. Project Site: The Contractor shall:
 1. Daily, and more often if necessary, inspect the project site and pick up all scrap, debris, and waste material. Remove all such items to the place designated for their storage.
 2. Weekly, and more often if necessary, sweep all interior places clean. "Clean", for the purpose of this subparagraph, shall be interpreted as meaning free from dust and other material that can be removed by reasonable diligence using a hand-held broom.
 3. As required preparatory to installation of succeeding materials, clean the structures or pertinent portions thereof to the degree of cleanliness recommended by the manufacturer of the succeeding material, using all equipment and materials required to achieve the required cleanliness.

4. Following the installation of finish floor materials, protect by covering with temporary coverings and/or clean the finish floor daily (and more often if necessary) at all times while work is being performed in the space in which finish materials have been installed. "Clean", for the purpose of this subparagraph, shall be interpreted as meaning free from all foreign material, which may be injurious to the finish floor material.

3.02 FINAL CLEANING

- A. Definition: Except as otherwise specifically provided, "Clean" (for the purpose of this Article) shall be interpreted as meaning the level of cleanliness generally provided by commercial building maintenance Subcontractors using commercial quality building maintenance equipment and materials.
- B. General: Prior to completion of the work, remove from the job site all tools, temporary structures, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning as described in Article 3.01 above.
- C. Interior: Visually inspect all interior surfaces and remove all traces of soil, waste material, smudges, and other foreign matter. Remove all traces of splashed materials from adjacent surfaces. Remove all paint droppings, spots, stains, and dirt from finished surfaces. Use only the specified cleaning materials and equipment.
- D. Repair, patch, and touch-up marred or damaged surfaces to match adjacent finishes.
- E. Clean the following if located within the project area:
 1. Plumbing Fixtures, Strainers and Floor Drains
 2. Light Fixtures and Lamps
 3. Replace filters of ventilating equipment when units have been operating during construction. In addition, clean grilles and louvers.
 4. Excess lubrication is to be removed from mechanical and electrical equipment.
 5. All Electrical Panels
- F. Clean all transparent materials, including glass and mirrors. Remove glazing compound and other substances that are noticeable from vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
- G. Remove labels that are not permanent labels.
- H. Polished and Resilient Surfaces: To all surfaces requiring the routine application of protective waxes and/or buffed polish, apply coating and/or polish as recommended by the manufacturer of the material being treated.
- I. Clean hard tile and stone as work progresses, preventing accumulation of setting and grouting materials or debris on tile faces. Clean glazed tile and thresholds using solution of detergent and water only. Cleaning glazed tile and thresholds with acids is prohibited.
- J. Leave concrete floors broom clean. Vacuum carpeted surfaces.
- K. Clean areas traversed by construction personnel.
- L. Clean the site, including landscape development areas, of construction rubbish, litter, and other foreign substances left on site as a result of construction operations. Sweep paved areas broom clean. Remove stains, spills, and other foreign deposits.
 1. Wash walks, steps, terraces, curbs, drives and paved areas free of mud or other foreign stains, where such has become contaminated with construction debris.
 2. Clean finish surfaces and site improvements of dirt, stains and foreign matter, where such has become contaminated with construction debris.
 3. Clean storm drainage systems to provide for free flow of storm water where such has become contaminated with construction debris.

- M. Roof
 - 1. Remove all construction debris from each roof.
 - 2. Verify that all roof drains, gutters and downspouts are clear and will provide free flow of storm water.
 - 3. Remove leaves and other foreign matter from the surface of each roof where work has been performed.
- N. Maintain cleaning until the Date of Substantial Completion.
- O. Timing: Schedule final cleaning as to enable the Owner to accept a completely clean project.

END OF SECTION

SECTION 01720
RECORD DOCUMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Includes maintenance at the site for the Owner one copy of:
 - 1. Drawings
 - 2. Project Manual
 - 3. Addenda
 - 4. Change Orders and other Modifications to the Contract
 - 5. Architect Field Orders and Written Instructions
 - 6. Approved Shop Drawings, Project Data and Samples
 - 7. Field Test Reports
 - 8. Record Survey

- B. Related Requirements in Other Parts of the Project Manual:
 - 1. Conditions of the Contract
 - 2. Field Engineering

1.02 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Store documents and samples in Contractor's field office apart from documents used for construction.
 - 1. Provide files and racks for storage of documents.
 - 2. Provide locked cabinet or secure space for storage of samples.

- B. File documents and samples in accordance with Data Filing Format of the Uniform Construction Index.

- C. Maintain documents in a clean, dry, legible condition and in good order. Record Documents shall not be used for construction purposes.

- D. Make documents and samples available at all times for inspection by the Architect and Owner.

- E. Prepare Record Drawings by marking a set of Contract Drawings (marked up Xerox bond prints) at the Construction Site. Record Drawings shall be furnished to the Architect for the Owner at the completion of the Work.

1.03 RECORDING

- A. Label each document "PROJECT RECORD" in neat, large, printed letters

- B. Record information concurrently with construction progress.
 - 1. Do not conceal any work until required information is recorded.

- C. Drawings: Legibly mark to record actual construction:
 - 1. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
 - 2. Field changes of dimension and detail.
 - 3. Changes made by Field Order and Change Order.
 - 4. Details not on original Contract Drawings, such as Supplemental (SUP) drawings.

- D. Specifications and Addenda: Legibly mark each Section to record:
1. Manufacturer, trade name, catalog number and supplier of each product and item of equipment actually installed.
 2. Changes made by Field Order and Change Order.

1.04 PROJECT DATA BINDERS

- A. Furnish two (2) complete sets of Project Data in commercial quality ring binders with durable plastic covers in black. Identify the project on the face side of the binder. If multiple binders are required, identify each as consecutively numbered volumes. The original documents shall be considered as set number one.
- B. Introductory Information
1. Cover sheet or sheets giving complete Project title, Contractor's name, address, telephone number, name of project superintendent, project manager and related general information.
 2. Provide a complete listing of subcontractors and material suppliers, including company name, address, telephone number, contact person and local representative.
 3. Table of Contents for each Section.
- C. Certificates and Acceptance
1. Section Table of Contents.
 2. Contractor's certification as required in Section 01700.
 3. Certificate of Substantial Completion.
 4. Certificate of Inspection or Letter of Acceptance from Public Health Department.
 5. Copy of Occupancy Certificate.
- D. Warranties and Bonds
1. Section Table of Contents.
 2. Contractor's Warranty of the Work.
 3. Warranties and service/maintenance contracts, executed by each of the respective manufacturers, suppliers and subcontractors as specified in respective Sections of the Specifications.
 4. Complete information for each item of work with the beginning date and duration of warranty or service maintenance contract and information on conditions which might affect the validity and proper procedure in case of failure.
- E. Operating and Maintenance Data
1. Section Table of Contents.
 2. List, with each system or product, the name, address and telephone number of the responsible subcontractor or installer. Give Drawing and Specification reference, project location, manufacturer and model number, local supplier and maintenance service company for each item.
 3. Data for maintenance and operation of all major mechanical and electrical systems, equipment, and products furnished under the contract. For each item of equipment, system or product, as appropriate or as specified, provide the following.
 - a. Description and component parts.
 - b. Operating and maintenance procedures, including manufacturer's printed operating and maintenance instructions, supplemented with drawings and written text as necessary to clearly illustrate proper operation. Provide a logical sequence of instructions for each procedure.
 - c. Servicing and lubrication schedule with a list of lubricants required.
 - d. Manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
 - e. Instructions for care, with a list of manufacturer's recommended types of cleaning agents and methods.
 - f. Product data that clearly identifies the specific product or part installed. When manufacturer's cut sheets are used for product identification, plainly mark the specific items included in the work.
 - g. List materials and parts furnished for the Owner's use.
 4. Prior to final inspection, demonstrate operation of each system to the Architect and the Owner's Representative. Instruct Owner's personnel in the operation, adjustment and maintenance of equipment and systems, using the operating and maintenance data as the basis of instruction.

1.05 SUBMITTAL

- A. At Contract Close-Out, deliver all Record Documents to the Architect for the Owner.
- B. Accompany submittal with transmittal letter in duplicate, containing:
 - 1. Date
 - 2. Project title and number
 - 3. Contractor's name and address
 - 4. Title and number of each Record Document
 - 5. Signature of Contractor or his authorized representative

END OF SECTION