

DIVISION 1 GENERAL REQUIREMENTS**SECTION 01019 CONTRACT CONSIDERATIONS****PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Schedule of values.
- B. Application for payment.
- C. Change procedures.

1.2 RELATED SECTIONS

- A. Section 01600 - Material and Equipment: Product substitutions and options.

1.3 SCHEDULE OF VALUES

- A. Submit a printed schedule on AIA Form G703 - Application and Certificate for Payment Continuation Sheet.
- B. Submit Schedule of Values in duplicate within 15 days after date established in Notice to Proceed.
- C. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the major specification Section. Identify site mobilization, bonds and insurance.
- D. Include within each line item, a direct proportional amount of Contractor's overhead and profit.
- E. Revise schedule to list approved Change Orders, with each Application for Payment.

1.4 APPLICATIONS FOR PAYMENT

- A. Submit three copies of each application on AIA Form G702 - Application and Certificate for Payment and AIA G703 - Continuation Sheet.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Payment Period: Monthly.
- D. Include an updated construction progress schedule.
- E. The Owner will withhold Ten per cent (10%) of the value until final payment is due.

1.5 CHANGE PROCEDURES

- A. The Architect/Engineer will advise of minor changes in the Work not involving an adjustment to Contract Sum/Price or Contract Time as authorized by AIA A201, 1987 Edition, Paragraph 7.4 by issuing supplemental instructions on AIA Form G710.

- B. The Architect may issue a Notice of Change, which includes, a detailed description of a proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor will prepare and submit an estimate within 2 days.
- C. The Contractor may propose changes by submitting a request for change to the Architect/Engineer, describing the proposed change and its full effect on the Work. Include a statement describing the reason for the change, and the effect on the Contract Sum/Price and Contract Time with full documentation and a statement describing the effect on Work by separate or other Contractors. Document any requested substitutions in accordance with Section 01600.
- D. Stipulated Sum Change Order: Based on Notice of Change and Contractor's fixed price quotation or Contractor's request for a Change Order as approved by Architect/Engineer.
- E. Construction Change Directive: Architect may issue a directive, on AIA Form G713 Construction Change Directive signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute the change.
- F. Change Order Forms: AIA G701 Change Order.
- G. Execution of Change Orders: Architect/Engineer will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

1.6 DEFECT ASSESSMENT

- A. Replace the Work or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of the Architect/Engineer, it is not practical to remove and replace the Work, the Architect/Engineer will direct an appropriate remedy or adjust payment.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01039 COORDINATION AND MEETINGS**PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Coordination and project conditions.
- B. Field engineering.
- C. Preconstruction meeting.
- D. Progress meetings.
- E. Preinstallation meetings.
- F. Equipment electrical characteristics and components.
- G. Examination.
- H. Preparation.
- I. Cutting and Patching.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Coordinate space requirements, supports, and installation of mechanical and electrical Work, which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- E. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion and for portions of Work designated for Owner's partial occupancy.
- F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.3 FIELD ENGINEERING

- A. Employ a Land Surveyor registered in the State where the project is located and acceptable to Architect.
- B. Contractor shall locate and protect survey control and reference points.
- C. Control datum for survey is that established by Owner provided survey.
- D. Verify setbacks and easements; confirm drawing dimensions and elevations.
- E. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.

1.4 PRECONSTRUCTION MEETING

- A. Architect/Owner will schedule a meeting after Notice of Award.
- B. Attendance Required: Owner, Architect and Contractor.
- C. Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
 - 5. Designation of personnel representing the parties in Contract, and the Architect/Engineer.
 - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 7. Scheduling.
 - 8. Scheduling activities of a Geotechnical Engineer.
- D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

1.5 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum bi-monthly intervals.
- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Architect/Engineer, as appropriate to agenda topics for each meeting.
- D. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems, which impede planned progress.

5. Review of submittals schedule and status of submittals.
 6. Review of off-site fabrication and delivery schedules.
 7. Maintenance of progress schedule.
 8. Corrective measures to regain projected schedules.
 9. Planned progresses during succeeding work period.
 10. Coordination of projected progress.
 11. Maintenance of quality and work standards.
 12. Effect of proposed changes on progress schedule and coordination.
 13. Other business relating to Work.
- E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect/Engineer, participants, and those affected by decisions made.
- 1.6 PREINSTALLATION MEETING
- A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.
 - B. Require attendance of parties directly affecting, or affected by, work of the specific section.
 - C. Notify Architect/Engineer four days in advance of meeting date.
 - D. Prepare agenda and preside at meeting:
 1. Review conditions of installation, preparation and installation procedures.
 2. Review coordination with related work.
 - E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect/Engineer, participants, and those affected by decisions made.

PART 2 PRODUCTS

2.1 EQUIPMENT ELECTRICAL CHARACTERISTICS AND COMPONENTS

- A. Motors: Refer to Section 15170, NEMA MG1 Type. Specific motor type is specified in individual specification sections.
- B. Wiring Termination: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Size terminal lugs to NFPA 70, include lugs for terminal box.
- C. Cord and Plug: Provide minimum 6-foot (2 m) cord and plug including grounding connector for connection to electric wiring system. Cord of longer length is specified in individual specification sections.

PART 3 EXECUTION

3.1 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements which affect the following:
 - Structural integrity of element.
 - Integrity of weather-exposed or moisture-resistant elements

Efficiency, maintenance, or safety of element.
Visual qualities of sight exposed elements.
Work of Owner or separate Contractor.

- C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
Fit the several parts together, to integrate with other Work.
Uncover Work to install or correct ill-timed Work.
Remove and replace defective and non-conforming Work.
Remove samples of installed Work for testing.
Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- E. Cut masonry and concrete materials using masonry saw or core drill.
- F. Restore Work with new Products in accordance with requirements of Contract Documents.
- G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- I. Refinish surfaces to match adjacent finishes. For continuous surfaces refinish to nearest intersection, for an assembly refinish entire unit.
- J. Identify hazardous substances or conditions exposed during the Work to the Architect/Engineer for decision or remedy.

END OF SECTION

SECTION 01300 SUBMITTALS**PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Product Data.
- D. Shop Drawings.
- E. Samples.
- F. Design data.
- G. Test reports.
- H. Certificates.
- I. Manufacturer's instructions.
- J. Manufacturer's field reports.
- L. Erection drawings.

1.2 RELATED SECTIONS

- A. Section 01300 - Submittals: Photographs associated with application for payment.
- B. Section 01400 - Quality Control: Manufacturers' field services and reports.
- C. Section 01700 - Contract Closeout: Contract warranties, bonds, manufacturers' certificates, and closeout submittals.

1.3 REFERENCES

- A. GC (Associated General Contractors of America) publication "The Use of CPM in Construction - A Manual for General Contractors and the Construction Industry".

1.4 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Architect/Engineer accepted form.
- B. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.

- C. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate.
- D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite the Project, and deliver to Architect/Engineer. Coordinate submission of related items.
- F. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
- G. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.
- H. Provide space for Contractor and Architect/Engineer review stamps.
- I. When revised for resubmission, identify all changes made since previous submission.
- J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- K. Submittals not requested will not be recognized or processed.

1.5 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial schedule in duplicate within 15 days after date established in Notice to Proceed.
- B. Revise and resubmit as required.
- C. Submit revised schedules with each Application for Payment, identifying changes since previous version.
- D. Submit computer generated network analysis diagram using the critical path method, as outlined in AGC - The Use of CPM in construction.
- E. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
- F. Indicate estimated percentage of completion for each item of Work at each submission.
- G. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates, including those furnished by Owner and required by Allowances.

1.6 PRODUCT DATA

- A. Product Data for Review:
 - 1. Submitted to Architect/Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

2. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.

- B. Product Data for Information:
 - 1. Submitted for the Architect/Engineer's knowledge as contract administrator or for the Owner.
- C. Product Data for Project Close-out: Submitted for the Owner's benefit during and after project completion.
- D. Submit the number of copies which the Contractor requires, plus two copies which the Architect will retain.
- E. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- F. Indicate Product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- G. After review distribute in accordance with the Submittal Procedures article above and provide copies for record documents described in Section 01700 - CONTRACT CLOSEOUT.

1.7 SHOP DRAWINGS

- A. Shop Drawings for Review:
 - 1. Submitted to Architect/Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
 - 2. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.
- B. Shop Drawings for Information:
 - 1. Submitted for the Architect/Engineer's knowledge as contract administrator or for the Owner.
- C. Shop Drawings for Project Close-out:
 - 1. Submitted for the Owner's benefit during and after project completion.
- D. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- E. Submit the number of opaque reproductions which Contractor requires, plus two copies which Architect will retain.

1.8 SAMPLES

- A. Samples For Review:
 - 1. Submitted to Architect/Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

2. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.
- B. Samples For Information:
1. Submitted for the Architect/Engineer's knowledge as contract administrator or for the Owner.
- C. Samples For Selection:
1. Submitted to Architect/Engineer for aesthetic, color, or finish selection.
 2. Submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Architect/Engineer selection.
 3. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.
- D. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- E. Include identification on each sample, with full Project information.
- F. Submit the number of samples specified in individual specification sections; Architect will retain one of which.
- G. Reviewed samples that may be used in the Work are indicated in individual specification sections.
- H. Samples will not be used for testing purposes unless specifically stated in the specification section.
- 1.9 DESIGN DATA
- A. Submit for the Architect/Engineer's knowledge as contract administrator or for the Owner.
- B. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
- 1.10 TEST REPORTS
- A. Submit for the Architect/Engineer's knowledge as contract administrator or for the Owner.
- B. Submit test reports for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
- 1.11 CERTIFICATES
- A. When specified in individual specification sections, submit certification by the manufacturer, installation/application Subcontractor, or the Contractor to Architect/Engineer, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Architect/Engineer.

1.12 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up (where applicable), adjusting, and finishing, to Architect/Engineer for delivery to Owner in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention and special environmental criteria required for application or installation.
- C. Refer to Section 01400 - Quality Control, Manufacturers' Field Services article.

1.13 MANUFACTURER'S FIELD REPORTS

- A. Submit reports for the Architect/Engineer's benefit as contract administrator or for the Owner.
- B. Submit report in duplicate within 30 days of observation to Architect/Engineer for information.
- C. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.14 ERECTION DRAWINGS

- A. Submit drawings for the Architect/Engineer's benefit as contract administrator or for the Owner.
- B. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
- C. Data indicating inappropriate or unacceptable Work may be subject to action by the Architect/Engineer or Owner.

PART 2 PRODUCTS (Not used.)

PART 3 EXECUTION (Not used.)

END OF SECTION



SECTION 01400 QUALITY CONTROL**PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Quality assurance - control of installation.
- B. Tolerances
- C. References and standards.
- D. Mock-up.
- E. Inspecting and testing laboratory services.
- F. Manufacturers' field services.

1.2 RELATED SECTIONS

- A. Section 01300 - Submittals: Submission of manufacturers' instructions and certificates.
- B. Section 01600 - Material and Equipment: Requirements for material and product quality.
- C. Section 01650 - Starting of Systems.

1.3 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.4 TOLERANCES

- A. Monitor fabrication and installation tolerance control of Products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- C. Adjust Products to appropriate dimensions; position before securing Products in place.

1.5 REFERENCES AND STANDARDS

- A. For Products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents, except where a specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Architect/Engineer shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.6 MOCK-UP

- A. Tests will be performed under provisions identified in this section and identified in the respective product specification sections.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- C. Accepted mock-ups shall be a comparison standard for the remaining Work.
- D. Where mock-up has been accepted by Architect/Engineer and is specified in product specification sections to be removed; remove mock-up and clear area when directed to do so.

1.7 TESTING SERVICES

- A. Refer to AIA General Conditions for employment, and payment for specified services of an independent firm to perform testing.
- B. The independent firm will perform tests and other services specified in individual specification sections and as required by the Architect/Engineer.
- C. Testing and source quality control may occur on or off the project site. Perform off-site testing as required by the Architect/Engineer or the Owner.
- D. Reports will be submitted by the independent firm to the Architect/Engineer and Contractor, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.

- E. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
 - 1. Notify Architect/Engineer and independent firm 24 hours prior to expected time for operations requiring services.
 - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
- F. Testing does not relieve Contractor to perform Work to contract requirements.
- G. The same independent firm on instructions shall perform re-testing required because of non-conformance to specified requirements by the Architect/Engineer. Payment for re-testing will be charged to the Contractor by deducting testing charges from the Contract Sum/Price.

1.8 INSPECTION SERVICES

- A. Owner reserves the rights to appoint, employ, and pay for specified services of an independent firm to perform inspection.
- B. The independent firm may perform inspections and other services specified in individual specification sections and as required by the Architect/Engineer.
- C. Inspecting may occur on or off the project site. Perform off-site inspecting as required by the Architect/Engineer or the Owner.
- D. Reports will be submitted by the independent firm to the Architect/Engineer and Contractor, in duplicate, indicating inspection observations and indicating compliance or non-compliance with Contract Documents.
- E. Cooperate with independent firm; furnish safe access and assistance by incidental labor as requested.
 - 1. Notify Architect/Engineer and independent firm 24 hours prior to expected time for operations requiring services.
- F. Inspecting does not relieve Contractor to perform Work to contract requirements.

1.9 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or Product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment and as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Architect/Engineer 30 days in advance of required observations.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Refer to Section 01300 - SUBMITTALS, MANUFACTURERS' FIELD REPORTS article.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Verify that utility service is available, of the correct characteristics, and in the correct locations.

3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

END OF SECTION

SECTION 01500 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS**PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Temporary Utilities: Electricity, lighting, heat, ventilation, telephone service, water, and sanitary facilities.
- B. Temporary Controls: Barriers, enclosures and fencing, protection of the Work, and water control.
- C. Construction Facilities: Access roads, parking, progress cleaning, project signage, and temporary buildings.

1.2 RELATED SECTIONS

- A. Section 01700 - Contract Closeout: Final cleaning.

1.3 TEMPORARY ELECTRICITY

- A. Cost: By Contractor; provide and pay for power service required from utility source.
- B. Provide temporary electric feeder from electrical service at location as directed. Do not disrupt Owner's use of service.
- C. Complement existing power service capacity and characteristics as required.
- D. Provide power outlets for construction operations, with branch wiring and distribution boxes located as required. Provide flexible power cords as required.
- E. Provide main service disconnect and over-current protection at convenient location.
- F. Permanent convenience receptacles may not be utilized during construction.
- G. Provide adequate distribution equipment, wiring, and outlets to provide single phase branch circuits for power and lighting.
 - 1. Provide 20 ampere duplex outlets, single phase circuits for power tools for every 1,000 sq ft of active work area.
 - 2. Provide 20 ampere, single phase branch circuits for lighting.

1.4 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide and maintain lighting for construction operations to achieve a minimum lighting level of 2 watt/sq ft.
- B. Provide and maintain 1 watt/sq ft lighting to exterior staging and storage areas after dark for security purposes.
- C. Provide and maintain 0.25 watt/sq ft H.L.D. lighting to interior work areas after dark for security purposes.

- D. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.
 - E. Maintain lighting and provide routine repairs.
 - F. Permanent building lighting may not be utilized during construction.
- 1.5 TEMPORARY HEATING
- A. Provide and pay for heating devices and heat as needed to maintain specified conditions for construction operations.
 - B. Provide separate metering and reimburse Owner for cost of energy used. Enclose building prior to activating temporary heat in accordance with the Exterior Enclosures article in this section.
 - C. Prior to operation of permanent equipment for temporary heating purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.
 - D. Maintain minimum ambient temperature of 50 degrees F in areas where construction is in progress, unless indicated otherwise in product sections.
- 1.6 TEMPORARY COOLING
- A. Provide and pay for cooling devices and cooling as needed to maintain specified conditions for construction operations.
 - B. Provide separate metering and reimburse Owner for cost of energy used. Enclose building prior to activating temporary cooling in accordance with the Exterior Enclosures article in this section.
 - C. Prior to operation of permanent equipment for temporary cooling purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.
 - D. Maintain maximum ambient temperature of 80 degrees F in areas where construction is in progress, unless indicated otherwise in specifications.
- 1.7 TEMPORARY VENTILATION
- A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
 - B. Utilize existing ventilation equipment. Extend and supplement equipment with temporary fan units as required to maintain clean air for construction operations.
- 1.8 TELEPHONE SERVICE
- A. Provide, maintain, and pay for telephone service to field office at time of project mobilization.

1.9 FACSIMILE SERVICE

- A. Provide, maintain and pay for facsimile service and a dedicated telephone line to field office at time of project mobilization.

1.10 TEMPORARY WATER SERVICE

- A. Provide, maintain and pay for suitable quality water service required. Connect to existing water source for construction operations at time of project mobilization.
- B. Provide separate metering and reimburse Owner for cost of water used.
- C. Extend branch piping with outlets located so water is available by hoses with threaded connections.

1.11 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Existing facility use is not permitted. Provide at time of project mobilization.

1.12 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
- C. Provide protection for plants designated to remain. Replace damaged plants.
- D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.13 WATER CONTROL

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

1.14 EXTERIOR ENCLOSURES

- A. Provide temporary weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.15 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification sections.