SECTION 01 11 00

SUMMARY OF WORK

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Project Description.
   2. Work by Others
   3. Contractor's use of site and premises

1.2 PROJECT SESCRIPTION

A. Work of this Project is described as the construction and or alteration of the existing building of the City of Aztec Public Works Department. The building is a Pre Engineered Metal Building with office buildouts. A shower room and locker room are provided for employees to clean up after performing activities that are dirty or unsanitary.

B. Work includes general construction, mino, plumbing, HVAC, and electrical.

C. The Project will be constructed under a single contract.

1.3 WORK BY OTHERS

A. Separate Contracts:
   1. The Owner may execute contracts for additional work at the site, that is excluded from the work of this Contract.
   2. Work under separate contract may be executed concurrent with Work of this Contract.
   3. Cooperate with the Owner and separate contractors to accommodate this requirement.

1.4 CONTRACTOR'S USE OF SITE AND PREMISES

A. Limit use of site and premises to allow for:
   1. Work by separate contractors.
   2. Work by Owner.

B. Move any stored products under Contractor's control that interfere with the operations of the Owner or separate contractors.

C. Assume full responsibility for protection and safekeeping of products under this Contract stored on site.

D. Obtain and pay for use of any additional storage or work areas needed for operations.

E. Coordinate use of site and premises with the Owner.

F. Prohibit smoking within interior spaces.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 21 00

ALLOWANCES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Cash allowances.

B. Related Sections
   1. Section 012900 - Payment Procedures.
   2. Section 013216 - Construction Progress Schedules.
   3. Individual specification sections.

C. Include in Contract Sum cash allowances as indicated in the Drawings.

D. Designate in Construction Progress Schedule specified in Section 013216 delivery dates for products under each allowance.

E. Designate in Schedule of Values specified in Section 012900 quantities of materials specified under unit cost allowances.

1.2 CASH ALLOWANCES

A. General:
   1. Purchase products under each allowance as directed by Architect.
   2. Amount of allowance includes:
      a. Net cost of product, less any applicable trade discounts.
      b. Delivery to site.
      c. Applicable taxes.
      d. Labor required under allowance, only when labor is specified to be included in allowance.
   3. In addition to amounts of allowances, include in Contract Sum, Contractor's costs for:
      a. Handling at site, including unloading, uncrating, and storing.
      b. Protection from elements and from damage.
      c. Labor required for installation and finishing, except where installation is specified to be part of allowance.
      d. Other expenses required to complete installation.
      e. Overhead and profit.

B. Selection of Products: 1. Architect's Duties:

a. Consult with Contractor in consideration of products and suppliers.
b. Make selection; designate products to be used.
c. Prepare Change Orders.

2. Contractor's Duties:
   a. Assist Architect in determining:
      1) Supplier or installer, as applicable.
      2) Cost, delivered and unloaded at site.
   b. Obtain proposals from suppliers when requested by Architect.
   c. Notify Architect of any effect anticipated by selection of product or supplier under consideration on construction schedule or contract sum. On notification of selection, enter into purchase agreement with designated supplier.

C. Delivery:
1. Contractor's Duties:
   a. Arrange for delivery and unloading.
   b. Promptly inspect products for damage or defects.
   c. Submit any claims for transportation damage.

D. Installation: Comply with requirements of referenced specification section.

E. Adjustment of Costs:
1. Should actual purchase cost be more or less than specified amount of allowance, Contract Sum will be adjusted by Change Order equal to amount of difference.
2. Amount of Change Order will recognize any changes in handling costs at site, labor, installation costs, overhead, profit, and other expenses caused by selection under allowance.
3. For products specified under unit cost allowance, unit cost shall apply to quantity listed in Schedule of Values.
4. Submit invoices or other data to substantiate quantity actually used.
5. Submit any claims for additional costs at site or other expenses caused by selection under allowances, prior to execution of work. Failure to do so will constitute waiver of claims for additional costs.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

UNIT PRICES

PART 1 GENERAL

1.1 SUMMARY

A. **Section Includes:**
   1. **Measurement.**
   2. **Payment.**

B. **Related Sections:**
   1. Individual specification sections.

1.2 UNIT PRICES

A. **Provide unit prices for items listed, for inclusion in Contract, guaranteed to apply for duration of Project as basis for additions to or deductions from Contract Sum.**

B. **Take measurements and compute quantities.**

C. **Quantities and measurements indicated are for Contract purposes only. Actual quantities and measurements supplied or placed in the Work will determine payment.**

D. **Payment includes full compensation for all required labor, Products, tools, equipment, plant, transportation, services, and incidentals, and for erection, application, or installation of an item of the Work.**

E. **Adjustments to Contract Sum will be made by Change Order based on net cumulative change for each item of the Work.**

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 012500

SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Product Substitution Procedures.

1.2 GENERAL

A. Definition: Proposal by Contractor to use manufacturer, product, material, or system different from one required in Contract Documents.

B. Do not substitute Products unless a substitution request has been approved by Architect.

C. Substitutions during Bidding: Refer to Instructions to Bidders.

D. Architect will consider substitution requests within 30 days after award of Contract. After initial 30-day period, substitutions requests will be considered only due to non-availability of a specified Product through no fault of Contractor.

E. In case of non-availability of a specified Product notify Architect in writing as soon as non-availability becomes apparent.

1.3 SUBSTITUTION REQUESTS

A. Submit substitution requests on form provided by Architect. Contractor9s standard form.

B. Document specified product and proposed substitution with complete data, including:
1. Product identification, including name and address of manufacturer.
2. Product description, performance and test data, and reference standards.
3. Sample, if requested.
4. Description of any anticipated effect that acceptance of proposed substitution will have on Progress Schedule, construction methods, or other items of Work.
5. Description of any differences between specified product and proposed substitution.
6. Difference in cost between specified product and proposed substitution.

C. Burden of proof for substantiating compliance of proposed substitution with Contract Document requirements remains with Contractor.

D. A request constitutes a representation that the Contractor:
1. Has investigated the proposed Product and determined that it meets or exceeds the quality level of the specified Product.
2. Will provide the same warranty for the substitution as for the specified Product.
3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
4. Waives claims for additional costs or time extension that may subsequently become apparent.

5. Will reimburse Owner for design services associated with re-approval by authorities or revisions to Contract Documents to accommodate the substitution.

E. Substitutions will not be considered if:
1. They are indicated or implied on Shop Drawings or other submittals without submitting a substitution request.
2. Approval will require substantial revision of Contract Documents without additional compensation to Architect.

3. Architect will notify Contractor of approval or rejection of each Substitution Request.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SUBSTITUTION REQUEST FORM

DATE: _____

_____

TO:

ATTENTION: _____

PROJECT: _____

We submit for your consideration the following product as a substitution for the specified product:

Section No. Paragraph Specified Product

_____ _____ _____ ___ _____

_____

_____ _____ _____

Proposed Substitution:

_____

Reason for Substitution: _____

_____

Product Data:

Attach complete technical data for both the specified product and the proposed substitution. Include information on changes to Contract Documents that the proposed substitution will require for its proper installation.

Samples:

____ Attached __Will be furnished upon request

Does the substitution affect dimensions shown on Drawings?

____No __Yes (explain) _____

Effects of proposed substitution on other Work:

Differences between proposed substitution and specified Product:

Manufacturer's warranties of the proposed substitution are:

____ Same __Different (explain) _____

Maintenance service and spare parts are available for proposed substitution from:

Previous installations where proposed substitution may be seen:

Project:

Project:

Owner:

Date Installed:

Owner:

Architect:

Architect:

Date Installed:

Cost savings to be realized by Owner, if proposed substitution is approved:

_____

Change to Contract Time, if proposed substitution is approved:

____No Change ____Add _____ days ____ Deduct _____ days

Submittal constitutes a representation that Contractor has read and agrees to the provisions of Section 012500.

Submitted by Contractor:

_____

Signature

_____

Firm

For Use by Architect:

Based on the information supplied by the Contractor, the Architect has reviewed the proposed substitution on the basis of design concept of the Work and conformance with information given in Contract Documents.

____ Approved ____Approved as Noted ____ Rejected

Submit Additional Information: _____

_____

By:_____Date: _____

SECTION 012600

CONTRACT MODIFICATION PROCEDURES

Supplemental Instructions.

1. Proposal Requests.
2. Contractor proposed changes.
3. Construction Change Directives.
4. Change Orders.

B. Related Sections:
   1. Section 01 6000 - Product Requirements.

1.2 CHANGE PROCEDURES

A. Architect's Supplemental Instructions:
   1. Format: AIA Document G710 - Architect's Supplemental Instructions.
   2. Architect will advise of minor changes in Work not involving an adjustment to Contract Sum or Contract Time as authorized by the Conditions of the Contract.

B. Proposal Requests:
   1. Format: AIA Document G709 - Proposal Request.
   2. Architect may issue a Proposal Request that includes a detailed description of a proposed change with supplemental or revised Drawings and specifications.
   3. Prepare and submit an estimate of any change to Contract Sum or Contract Time within 7 days after receipt. Include:
      a. Quantities and unit costs, with total cost or credit to Owner. If requested, furnish documentation of quantities.
      b. Taxes, delivery charges, equipment rentals, and trade discounts as applicable.
      c. If change in Contract Time is involved, provide updated Progress Schedule.
   4. Do not stop work or initiate changes in response to a Proposal Request. If approved, Architect will prepare and issue a Change Order.
   5. Submit electronically in Adobe PDF format.

C. Contractor Proposed Changes:
   1. Format: Contractor9s standard.
   2. Contractor may propose a change by submitting request for change to Architect.
   3. Describe proposed change, reason for change, its full effect on Work, and any change to Contract Sum or Contract Time. Include:
      a. Quantities and unit costs, with total cost or credit to Owner. If requested, furnish documentation of quantities.
      b. Taxes, delivery charges, equipment rentals, and trade discounts as applicable.
      c. If change in Contract Time is involved, provide updated Progress Schedule.
   4. Document any required substitutions in accordance with Section 016000.
   5. Submit electronically in Adobe PDF format.

D. Construction Change Directive:
   1. Architect may issue a directive, signed by Owner, instructing Contractor to proceed with a change for subsequent inclusion in a Change Order.

PART 1 GENERAL

SUMMARY
Section Includes:

Documentation will describe changes in Work and designate method of determining any change to Contract Sum or Contract Time. Promptly execute change.

E. Change Orders:
1. Format: AIA Document G701 - Change Order.
Execution: Prepare Change Orders for signature of parties as provided in the Conditions of the Contract.
2. Submit electronically in Adobe PDF format.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

REQUESTS FOR INFORMATION

Requests for Information (RFI's).

B. Related Sections:
1. Section 012500 - Substitution Procedures.
2. Section 012600 - Contract Modification Procedures.
3. Section 013300 - Submittal Procedures.
4. Section 017700 - Closeout Procedures.

1.2 GENERAL

A. Request for Information (RFI): Request from Contractor seeking interpretation or clarification of Contract Documents not involving Substitutions or changes to Contract Sum or Contract Time.

B. RFI9s constitute a request for information only.

C. Do not submit RFI9s:
1. To request approval of Substitutions; refer to Section 012500.
2. To request changes known to include changes to Contract Sum or Contract Time; refer to Section 012600.
3. To request approval of submittals; refer to Section 013300.
4. To submit Project Record Documents; refer to Section 017700.

1.3 SUBMITTAL

A. Submit RFI9s on Contractor9s standard form.

B. Include on each RFI:
1. Name of Contractor.
2. Project name.
3. Date submitted.
4. Sequential RFI number.
5. Applicable Drawing sheet and detail numbers or Specification Section numbers.
6. Date when response information is required to avoid impact on Construction Schedule and Construction Cost.

C. Review and sign RFI9s submitted by Subcontractors, Sub-Subcontractors, or Suppliers prior to submittal to Architect.

D. Maintain log of RFI9s showing RFI number and current status of each RFI.

E. When RFI's require submittal of drawings, follow submittal procedures specified for Shop Drawings in Section 013300.

F. Submit electronically in Adobe PDF format.

G. Allow minimum 7 days for Architec's review and response to each RFI.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 012900

PAYMENT PROCEDURES

1.1 SCHEDULE OF VALUES

A. General:
1. Submit a Schedule of Values to Owner and Architect at least 20 days prior to submitting first Application for Payment.
2. Upon request of Owner or Architect, furnish additional data to support values given that will substantiate their correctness.
3. Approved Schedule of Values will be used as basis for reviewing contractor's Applications for Payment.

B. Form and Content:
1. Format: AIA Document G703 - Continuation Sheet of Application and Certification for Payment or Contractor's standard electronic media format.
2. Use Table of Contents of Project Manual as basis of format for listing costs of Work.
3. List installed value of component parts of Work in sufficient detail to serve as basis for computing values for progress payments.
4. Include separate line items for:
   a. Site mobilization.
   b. Bonds and insurance.
   c. Contractor9s overhead and profit.
5. For items on which payment will be requested for stored materials, break down value into:
   a. Cost of materials, delivered and unloaded, with taxes paid.
   b. Total installed value.
6. For each line item that has a value of more than $25,000.00, break down costs to list major products or operations under each item.
7. Total of costs listed in Schedule shall equal Contract Sum.

C. Submit electronically in Adobe PDF format.

D. Review and Resubmittal:
1. After initial review by Architect, revise and resubmit if required.
2. Revise and resubmit along with next Application for Payment when a Change Order is issued. List each Change Order as a new line item.

1.2 APPLICATIONS FOR PAYMENT

A. Preparation:
1. Format: AIA Document G702 - Application and Certification for Payment, supported by AIA Document G703 - Continuation Sheet or Contractor9s standard electronic media format.
2. Prepare required information in typewritten format or on electronic media format.
3. Use data from reviewed Schedule of Values. Provide dollar value in each column for each line item representing portion of work performed.
4. List each authorized Change Order as a separate line item, listing Change Order number and dollar value.

Waivers of Lien:
5. Along with each Application for Payment, submit waivers of lien from Contractor and each Subcontractor or Sub-subcontractor included on the current month's Application for Payment.
6. Submit partial waivers on each item for amount requested, prior to deduction of retainage.

7. For completed items, submit full or final waiver.

B. Substantiating Data:
   1. When Architect requires substantiating information, submit data justifying dollar amounts in question.
   2. Provide one copy of data with cover letter showing Application number and date, and line-item number and description.

C. Submittal:
   1. Submit electronically in Adobe PDF format.
   2. Payment period: Submit at intervals stipulated in Owner/Contractor Agreement.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

PROJECT MANAGEMENT AND COORDINATION

Project coordination.
1. Project meetings.

B. Related Sections:
1. Section 017700 - Contract Closeout.

1.2 **PROJECT COORDINATION**

A. Submit required project submittals electronically in Adobe PDF format.

B. Coordinate scheduling, submittals, and work of various Sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements.

C. Verify that utility requirement 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.

D. Coordinate space requirements and installation of mechanical and electrical items that are indicated diagrammatically on Drawings.
   1. Follow routing shown as closely as practical; place runs parallel with building lines.
   2. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. In finished areas, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.

F. Coordinate completion and cleanup of work of separate Sections in preparation for Substantial Completion.

G. After Owner occupancy, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents to minimize disruption of Owner9s activities.

1.3 **PROJECT MEETINGS**

A. Schedule and administer preconstruction conference, progress meetings, and pre-installation conferences.

B. Make physical arrangements for meetings; notify involved parties at least 4 days in advance.

C. Record significant proceedings and decisions at each meeting; reproduce and distribute copies to parties in attendance and others affected by proceedings and decisions made.

1.4 **PRECONSTRUCTION CONFERENCE**

A. Schedule within 15 days after date of Notice to Proceed at Contractor9s Project field office.

B. Attendance:
   1. Contractor.
   2. Owner.
   3. Architect.
   4. Major subcontractors and suppliers as Contractor deems appropriate.
   5. Representative of Testing Laboratory.

C. Review and Discuss:
   1. Relation and coordination of various parties, and responsible personnel for each party.
   2. Use of premises, including office and storage areas, temporary controls, and security procedures.
   3. Construction schedule and critical work sequencing.
   4. Processing of:
      a. Contract modifications.
      b. Shop Drawings, Product Data, and Samples.
      c. Applications for Payment.
      d. Substitutions.
      e. Requests for Information.
      f. Other required submittals.
   5. Adequacy of distribution of Contract Documents.
   6. Procedures for maintaining contract closeout submittals.

7. Installation and removal of temporary facilities.
8. Notification procedures and extent of testing and inspection services.

1.5 **PROGRESS MEETINGS**

A. Schedule progress meetings not less than every other week.

B. Location: Contractor9s Project field office.

C. Attendance:
1. Contractor.
2. Owner.
3. Architect.
4. Subcontractors and suppliers as appropriate to agenda.
5. Others as appropriate to agenda.

D. Review and Discuss:
1. Work progress since previous meeting, including:
   a. Field observations, deficiencies, conflicts, and problems.
   b. Progress and completion date.
   c. Corrective measures needed to maintain quality standards, progress, and completion date.
2. Status of:
   a. Requests for information.
   b. Submittals.
   c. Contract modifications.
3. Coordination between various elements of Work.
4. Maintenance of Project Record Documents.

1.6 PRE-INSTALLATION CONFERENCES

A. Where required in the individual specification Section, convene a pre-installation conference at project site or other designated location.

B. Require attendance of parties directly affecting or affected by work of the specific Section.

C. Review conditions of installation, preparation and installation procedures, and coordination with related work.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION END OF SECTION Not used

013216 CONSTRUCTION PROGRESS SCHEDULES

Construction progress schedule.

B. Related Sections:
   1. Section 012900 - Payment Procedures.

1.2 FORMAT

A. Prepare the Progress Schedule as a horizontal bar chart with separate bar for each major portion of Work or operation, identifying first work day of each week.

B. Sequence of Listings: The chronological order of the start of each item of Work.

C. Scale and Spacing: To provide space for notations and revisions.

D. Sheet Size: Multiples of 8-1/2 x 11 inches.

1.3 **CONTENT**

A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.

B. Identify each item by specification Section number.

C. Provide sub schedules to define critical portions of the entire Progress Schedule.

D. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.

E. Provide separate schedule of submittal dates for Shop Drawings, Product Data, and Samples, including:
   1. Dates reviewed submittals will be required from Architect.
   2. Decision dates for selection of finishes.

F. Coordinate content with Schedule of Values specified in Section 012900.

G. Revisions:
   1. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
   2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.

H. Provide narrative report to define problem areas, anticipated delays, and impact on Progress Schedule. Report corrective action taken, or proposed, and its effect.

1.4 SUBMITTAL

A. Submit initial Progress Schedule within 15 days after date of Notice to Proceed. After review, resubmit required revised data within 10 days.

B. Submit revised Progress Schedule with each Application for Payment.

C. Submit electronically in Adobe PDF format.

1.5 DISTRIBUTION

A. Distribute copies of approved Progress Schedule to project site file, Subcontractors, suppliers, and other concerned parties.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in Progress Schedule.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

1.

SECTION 013300

SUBMITTAL PROCEDURES

Submittal procedures.

2. Proposed Products list.
3. Submittal schedule.
4. Shop Drawings.
5. Product Data.
6. Samples.
7. Quality control submittals.

B. Related Sections:
1. Section 014000 - Quality Requirements.

1.2 SUBMITTAL PROCEDURES

A. Number each submittal with Project Manual section number and a sequential number within each section. Number resubmittals with original number and an alphabetic suffix.

B. Identify Project, Contractor, Subcontractor or supplier, pertinent Drawing sheet and detail numbers, and specification Section number, as appropriate.

C. Submit all submittals listed under <Submittals for Review= simultaneously for each Product or Specification Section.

D. Where multiple Products functions as an assembly, group submittals for all related Products into single submittal.

E. Architect will not review incomplete submittals.

F. Apply Contractor9s stamp, signed or initialed certifying that:
1. Submittal was reviewed.
2. Products, field dimensions, and adjacent construction have been verified.
3. Information has been coordinated with requirements of Work and Contract Documents.

G. Schedule submittals to expedite the Project, and deliver to Architect. Coordinate submittal of related items.

H. For each submittal, allow 14 days for Architect's review, excluding delivery time to and from Contractor.

I. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of completed Work.

J. Revise and resubmit submittals when required; identify all changes made since previous submittal.

K. Distribute copies of reviewed submittals to concerned parties and to Project Record Documents file. Instruct parties to promptly report any inability to comply with provisions.

1.3 PROPOSED PRODUCTS LIST

A. Within 15 days after date of Notice to Proceed, submit a complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

C. Submit electronically in Adobe PDF format.

1.4 SUBMITTAL SCHEDULE

A. Within 15 days after date of Notice to Proceed, submit a submittal schedule showing all submittals proposed for project, including submittals listed as:
1. Submittals for Review.
2. Quality Control Submittals.
3. Closeout Submittals.

B. Include for each submittal:
1. Specification section number.
2. Description of submittal.
3. Type of submittal.
4. Anticipated submittal date.
5. For submittals requiring Architect9s review, date reviewed submittal will be required from Architect.

C. Submit electronically in Adobe PDF format.

1.5 SHOP DRAWINGS

A. Present information in clear and thorough manner.

B. Identify details by reference to sheet and detail numbers or room number shown on Drawings.

C. Reproductions of details contained in Contract Documents are not acceptable.

D. Submit electronically in Adobe PDF format. Architect will return one copy to Contractor for printing and distribution.

1.6 PRODUCT DATA

A. Mark each copy to identify applicable products, models, options, and other data.

B. Supplement manufacturers' standard data to provide information unique to this Project.

C. Submit electronically in Adobe PDF format. Architect will return one copy to Contractor for printing and distribution.

1.7 SAMPLES

A. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

B. Where so indicated, submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Architect's selection.

C. Include identification on each sample, with full Project information.

D. Unless otherwise specified in individual specifications, submit two of each sample.

E. Architect will notify Contractor of approval or rejection of samples, or of selection of color, texture, or pattern if full range is submitted.

1.8 **QUALITY CONTROL SUBMITTALS**

A. Quality control submittals specified in Section 014000 are for information and do not require Architect9s responsive action except to require resubmission of incomplete or incorrect i n f o r m a t i o n .

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 014000

QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. References.
2. Quality assurance and control of installation.
3. Mockups.
4. Manufacturer's field services and reports.
5. Design data and calculations.
6. Test reports and certifications.
7. Manufacturer's installation instructions.

1.2 REFERENCES

A. For products or workmanship specified by reference to association, trade, or industry standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

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

C. Conform to edition of reference standard in effect as of date of Owner/Contractor Agreement.

D. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.3 QUALITY ASSURANCE AND CONTROL OF INSTALLATION

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

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

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

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

E. Perform work by persons qualified to produce workmanship of specified quality.

F. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.4 MOCKUPS

A. Definition:

1. Mockups are field samples constructed, applied, or assembled at the project site for review by the Owner and Architect that illustrate materials, equipment, or workmanship.
2. Approved mockups establish the standard of quality by which the Work will be judged.

B. Construct, apply, or assemble specified items, with related attachment and anchorage devices, flashings, seals, and finishes.

C. Perform work in accordance with applicable specifications sections.

D. Erect at project site at location acceptable to Architect. Protect from damage.

E. Removal:
1. Mockups may remain as part of the Work only when so designated in individual specification sections.
2. Do not remove mockups until removal is approved by Architect or upon Final Completion.
3. Where mockup is not permitted to remain as part of the Work, clear area after removal of mockup has been approved by Architect.

1.5 MANUFACTURERS' FIELD SERVICES AND REPORTS

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, or startup of equipment, as applicable, and to initiate instructions when necessary.

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

C. Submit electronically in Adobe PDF format within 10 days after each observation.

1.6 DESIGN DATA AND CALCULATIONS

A. When specified in individual specification Sections, require material or Product suppliers or manufacturers to provide design data and calculations.

B. Accuracy of design data and calculations is the responsibility of the Contractor.

C. When so specified, prepare design data and calculations under the direction of a professional engineer licensed in the state in which the Project is located. Affix engineer9s seal to submittals.

D. Submit electronically in Adobe PDF format.

1.7 TEST REPORTS AND CERTIFICATIONS

A. When specified in individual specification Sections, require material or Product suppliers or manufacturers to provide test reports and manufacturers9 certifications.

B. Indicate that material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Submittals may be recent or previous test results on material or Product, but must be acceptable to Architect.

D. Submit electronically in Adobe PDF format.

1.8 MANUFACTURER'S INSTALLATION INSTRUCTIONS

A. When Contract Documents require that Products be installed in accordance with manufacturer's instructions:
   1. Submit manufacturer's most recent printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, as applicable.
   2.
      a. Submit 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. Identify conflicts between manufacturers' instructions and requirements of Contract Documents.

   3. Perform installation of Products to comply with requirements of manufacturer9s instructions.
   4. If installation cannot be performed in accordance with manufacturer's instructions, notify Architect and await instructions.
   5. Submit electronically in Adobe PDF format.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 014213

ABBREVIATIONS AND ACRONYMS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Abbreviations and acronyms of industry organizations.

1.2 ACRONYMS

A. Abbreviations and acronyms used in Contract Documents refer to recognized names of organizations according to following list.

B. Contract Documents may not contain all abbreviations and acronyms.

ACRONYM OR ABBREVIATION	ENTITY	WEBSITE
AA	Aluminum Association	www.aluminum.org
AAMA	American Architectural Manufacturers Association	www.aamanet.org
AAADM	American Association of Automatic Door Manufacturers	www.aaadm.com
AASHTO	American Association of State Highway and Transportation Officials	www.transportation.org
ABAA	Air Barrier Association of America	www.airbarrier.org
ACI	American Concrete Institute	www.aci-int.org
AI	Asphalt Institute	www.asphaltinstitute.org
AISC	American Institute of Steel Construction	www.aisc.org
AITC	American Institute of Timber Construction	www.aitc-glulam.org
AMCA	Air Movement and Control Association International, Inc.	www.amca.org
AISI	American Iron and SteelInstitute	www.steel.org
ANSI	American National Standards Institute	www.ansi.org
APA	Engineered Wood Association	www.apawood.org
ASCE	American Society of Civil Engineers	www.asce.org

ASCC	American Society of Concrete Contractors	www.ascconline.org
ASHRAE	American Society of Heating, Refrigeration, and Air-Conditioning Engineers	www.ashrae.org
ASME	American Society of Mechanical Engineers	www.asme.org
AWI	Architectural Woodwork Institute	www.awinet.org
AWMAC	Architectural Woodwork Manufacturers of Canada	www.awmac.com
AWS	American Welding Society	www.aws.org
ASTM	ASTM International	www.astm.org
BHMA	Builders Hardware Manufacturers Association	www.buildershardware.com
CDA	Copper Development Association	www.copper.org
CISCA	Ceiling and Interior Systems Construction Association	www.cisca.org
CLFMI	Chain Link Fence Manufacturers Institute	www.chainlinkinfo.org
CRI	Carpet and Rug Institute	www.carpet-rug.com
CRSI	Concrete Reinforcing Steel Institute	www.crsi.org
CSA	Canadian Standards Association	www.aamanet.org
CSI	Cast Stone Institute	www.caststone.org
CSSB	Cedar Shingle and Shake Bureau	www.cedarbureau.org
CSPC	United States Consumer Product Safety Commission	www.cpsc.gov
DASMA	Door and Access Systems Manufacturers Association International	www.dasma.com
EIMA	EIFS Industry Manufacturers Association	www.eima.com
FM	Factory Mutual Insurance Co.	www.fmglobal.com
FSC	Forest Stewardship Council	www.fscus.org
GA	Gypsum Association	www.gypsum.org
GS	Green Seal, Inc. www.greenseal.org	
IGMA	Insulating Glass Manufacturers Alliance	www.igmaonline.org
MFMA	Maple Flooring Manufacturer's Association	www.maplefloor.org
MPI	Master Painters Institute	www.mpi.net
MVMA	Masonry Veneer Manufacturers Association	www.ncma.org
NAAMM	National Association of Architectural Metal Manufacturers	www.naamm.org
NEMA	Association of Electrical and Medical Imaging Equipment Manufacturers	www.nema.org
NELMA	Northeastern Lumber Manufacturers Association	www.nelma.org
NFPA	National Fire Protection Association	www.nfpa.org
NFRC	National Fenestration Rating Council	www.nfrc.org

NFSI	National Floor Safety Institute	www.nfsi.org
NHLA	National Hardwood Lumber Association	www.nhla.org
NIST	National Institute of Standards and Technology	www.nist.gov
NLGA	National Lumber Grades Authority	www.nlga.org
NRCA	National Roofing Contractors Association	www.nrca.net
NTMA	National Terrazzo and Mosaic Association	www.ntma.com
NWFA	National Wood Flooring Association	www.nwfa.org
PCI	Precast/Prestressed Concrete Institute	www.pci.org
PEI	Porcelain Enamel Institute	www.porcelainenamel.com
PTI	Post-Tensioning Institute	www.post-tensioning.org
RCSC	Research Council on Structural Connections	www.boltcouncil.org
RFCI	Resilient Floor Covering Institute	www.rfci.com
RIS	Redwood Inspection Service	www.redwoodinspection.com
SCAQMD	South Coast Air Quality Management District	www.aqmd.gov
SDI	Steel Deck Institute	www.sdi.org
SDI	Steel Door Institute	www.steeldoor.org
SFIA	Steel Framing Industry Association	www.sfia.memberclicks.net
SIPA	Structural Insulated Panel Association	www.sips.org
SJI	Steel Joist Institute	www.steeljoist.org
SMACNA	Sheet Metal and Air Conditioning Manufacturer9s Association International	www.smacna.org
SPIB	Southern Pine Inspection Bureau	www.spib.org
SPRI	Single Ply Roofing Institute	www.spri.org
SSMA	Steel Stud Manufacturer9s Association	www.ssma.com
SSPC	Society for Protective Coatings	www.sspc.org
SWI	Steel Window Institute	www.steelwindows.com
TCNA	Tile Council of North America	www.tileusa.com
TMS	The Masonry Society	www.masonrysociety.org
TPI	Truss Plate Institute	www.tpinst.org
TPI	Turfgrass Producers International	www.turfgrasssod.org
USDOJ	United States Department of Justice	www.ada.gov
USEPA	United States Environmental Protection Agency	www.epa.gov
USEPA	United States Environmental Protection Agency	www.energystar.gov
USGBC	U.S. Green Building Council	www.usgbc.org
USPS	United States Postal Service	www.usps.com
WCLIB	West Coast Lumber Inspection Bureau	www.wclib.org
WDMA	Window and Door Manufacturers Association	www.wdma.com
WI	Woodwork Institute	www.woodworkinstitute.com
WRCLA	Western Red Cedar Lumber Association	www.realcedar.com
WWPA	Western Wood Products Association	www.wwpa.org

SECTION 014523

TESTING AND INSPECTION SERVICES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Laboratory selection and payment.
2. Laboratory duties.
3. Contractor9s responsibilities.

B. Related Sections: Individual specifications sections contain specific tests and inspections to be performed.

1.2 REFERENCES

A. ASTM International (ASTM):
1. C1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
2. D3666 - Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials.
3. D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
4. E329 - Standard Specification for Agencies Engaged in Construction Inspection and/or Testing.
5. E543 - Standard Specification for Agencies Performing Nondestructive Testing.

1.3 QUALITY ASSURANCE

A. Owner will employ and pay for services of an independent testing laboratory to perform specified testing and inspection.

B. Contractor shall cooperate with the Testing Laboratory to facilitate performance of its work.

C. Refer to the Conditions of the Contract for provisions related to special inspections and testing.

D. Qualifications of Laboratory:
1. Meet requirements of ASTM C1077, D3666, D3740, E329, and E543.
2. Authorized to operate in State in which project is located.

1.4 LABORATORY DUTIES

A. Cooperate with Architect and Contractor; provide qualified personnel after due notice.

B. Perform specified inspections, sampling, and testing of materials and methods of construction:
1. Comply with specified standards.
2. Ascertain compliance or noncompliance of materials with requirements of Contract Documents.

C. Promptly notify Owner, Architect, and Contractor of observed irregularities or deficiencies of Work or products.

D. Promptly submit report of each test and inspection; submit electronically in Adobe PDF format to Owner, Architect, and Contractor.

Each report shall include:

1. Date issued.
2. Project title and number.
3. Testing Laboratory name, address, and telephone number.
4. Name of Inspector and signature of individual in charge.
5. Date and time of sampling or inspection.
6. Record of temperature and weather conditions.
7. Date of test.
8. Identification of product and specification section.
9. Location of sample or test in project.
10. Type of inspection or test.
11. Results of tests and compliance or noncompliance with Contract Documents.
12. Interpretation of test results when requested by Architect or Contractor.

E. Perform additional tests when required by Owner, Architect, or Contractor.

F. Laboratory is not authorized to:

1. Release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Approve or accept any portion of work.
3. Perform any duties of Contractor.

1.5 CONTRACTOR'S RESPONSIBILITIES

A. Cooperate with Laboratory personnel, provide access to Work, and to manufacturer's operations.

B. When materials require testing prior to being incorporated into Work, secure and deliver to Laboratory adequate quantities of representative samples of materials proposed to be used.

C. Furnish copies of product test reports as required.

D. Furnish incidental labor and facilities:

1. To provide access to work to be tested.
2. To obtain and handle samples at site or at source of product to be tested.
3. To facilitate inspections and tests.
4. For safe storage and curing of test samples.

E. Notify Laboratory sufficiently in advance of operations to allow for Laboratory assignment of personnel and scheduling of tests.

F. When tests or inspections cannot be performed after such notice, reimburse Owner for Laboratory personnel and travel expenses incurred due to Contractor9s negligence.

G. Make arrangements with Laboratory and pay for additional samples and tests required for Contractor9s convenience.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 015000

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Temporary utilities.
2. Field offices and sheds.
3. Temporary controls.
4. Protection of installed Work.
5. Progress cleaning.
6. Water, erosion, sediment, dust, and mold and mildew control.
7. Removal.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

3.1 TEMPORARY ELECTRICITY

A. Provide temporary electrical service of capacity and characteristics required for construction.

B. Provide power outlets for construction operations, with branch wiring and distribution boxes located as required. Provide flexible power cords as required.

C. Maintain distribution system and provide routine repairs.

3.2 TEMPORARY LIGHTING

A. Provide temporary lighting for construction and security purposes.

B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.

C. Maintain lamps and provide routine repairs.

D. Provide portable lights when required to provide minimum lighting levels necessary for specific w o r k .

3.3 TEMPORARY HEAT

A. Provide temporary heating devices required to maintain specified ambient temperatures for construction.

B. Maintain minimum ambient temperature of 50 degrees F in areas where construction is in progress, unless otherwise indicated in individual specification sections.

3.4 TEMPORARY VENTILATION

A. Ventilate enclosed areas to facilitate curing of materials, disperse humidity, and prevent accumulations of dust, fumes, vapors, or gases.

B. Provide temporary fan units as required to maintain clean air for construction.

3.5 TEMPORARY TELEPHONE, FACSIMILE, AND COMPUTER SERVICES

A. Provide temporary telephone service required during construction.

B. Provide plain paper facsimile machine in Contractor9s field office on separate telephone line from Contractor9s field telephone.

C. Provide computer in Contractor9s field office with printer, Internet access, scanner, and email service.

3.6 TEMPORARY WATER

A. Provide temporary water required for construction.

B. Extend branch piping and provide temporary hoses so that water is available at locations needed for work.

C. Protect from freezing.

D. Maintain distribution system and provide routine repairs.

3.7 TEMPORARY SANITARY FACILITIES

A. Provide chemical toilets for use during construction.

B. Permanent toilets may not be used during construction.

C. Maintain facilities in clean and sanitary condition.

3.8 FIELD OFFICES AND SHEDS

A. Provide temporary field offices and storage sheds required for construction.

B. Do not unreasonably encumber site or premises with excess materials or equipment.

C. Temporary Structures:
   1. Portable or mobile buildings, structurally sound, weathertight, with floors raised above ground.
   2. Thermal transmission resistance: Compatible with occupancy and storage requirements.
   3. Provide connections for utility services when required.
   4. Provide steps and landings at entrances.

D. Field Office:
   1. Size required for Contractor9s use and to provide space for project meetings.
   2. Adequate electrical power, lighting, heating, and cooling to maintain human comfort.
   3. Provide facilities for storage of Project Record Documents.
   4. Provide thermometer mounted at convenient outside location, not in direct sunlight.

3.9 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from construction operations.

B. Provide barricades required by governing authorities for public rights-of-way.

C. Fencing:
   1. Provide temporary fencing for construction operations.
   2. Construction: Commercial grade chain link.
   3. Height: 6 feet.
   4. Locate to protect construction operations, materials, and equipment.

Temporary Facilities and Controls
   5. Provide vehicular gates.

3.10 EXTERIOR CLOSURES

A. Provide temporary weathertight closures for exterior openings to provide acceptable interior working conditions, to allow for temporary heating and maintenance of ambient temperatures required in individual specification sections, to protect the Work, and to prevent entry of unauthorized persons.

B. Provide access doors with locking hardware.

3.11 PROTECTION OF INSTALLED WORK

A. Protect installed work from construction operations; provide special protection when required in individual specification sections.

B. Minimize traffic, storage, and construction activities on roof surfaces. If traffic, storage, or activity is necessary, obtain recommendations for protection from roofing manufacturer.

C. Prohibit traffic from landscaped areas.

3.12 PROGRESS CLEANING

A. Maintain areas free from waste materials, debris, and rubbish. Maintain site in clean and orderly condition.

B. Provide containers for collection of waste materials, debris, and rubbish; remove and dispose of off- site as required by construction activities.

C. Periodically clean interior areas to provide suitable conditions for finish work.

3.13 TEMPORARY CONTROLS

A. Water Control:
   1. Grade site to drain. Prevent puddling water.
   2. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
   3. Provide water barriers to protect site from soil erosion.

B. Erosion and Sediment Control:
   1. Plan and execute methods to control surface drainage from cuts, fills, borrow areas, and waste disposal areas. Prevent erosion and sedimentation.
   2. Minimize amount of bare soil exposed at any one time.
   3. Provide temporary measures such as silt fences, dikes, berms, settlement basins, and drainage systems to prevent water flow and sedimentation.
   4. Periodically inspect earthwork to detect erosion and sedimentation; promptly employ corrective measures.

C. Dust Control:
   1. Provide dust control materials and methods to minimize dust from construction operations.
   2. Prevent dust from dispersing into atmosphere.

D. Mold and Mildew Control:
   1. Provide continuous measures to prevent formation of mold and mildew in construction.
   2. Do not install materials sensitive to mold and mildew growth until protection can be provided.
   3. Promptly remove and replace materials exhibiting mold and mildew growth.

3.14 REMOVAL

A. Remove temporary utilities, equipment, facilities, and services when construction needs can be met by use of permanent construction or upon completion of Project.

B. Remove foundations and underground installations; grade site as indicated.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing and permanent facilities used during construction to original or to specified condition.

END OF SECTION

SECTION 015800 PROJECT

IDENTIFICATION

Project identification sign.

2. Maintenance and removal.

1.2 QUALITY ASSURANCE

A. Project Sign:
   1. Design sign and structure to withstand 50 MPH wind velocity.
   2. Sign Painter: Experienced as a professional sign painter for minimum 3 years.
   3. Finishes and painting: Adequate to withstand weathering, fading, and chipping for duration of construction.

B. Do not erect other signs at site without Owner9s approval, except those required by governing authorities.

1.3 SUBMITTALS

A. Submittals for Review:
   1. Shop Drawings: Show content, layout, lettering, colors, structure, sizes, and grades of members.
   2. Samples: 3 x 3-inch samples of each paint color.

PART 2 PRODUCTS

2.1 MATERIALS

A. Structure and Framing: New lumber, structurally adequate.

B. Sign Surfaces: Exterior grade plywood with medium density overlay, nominally 3/4-inch thick, standard large sizes to minimize joints.

C. Rough Hardware: Galvanized steel or aluminum.

D. Paints: Alkyd type, exterior quality, semigloss sheen.

2.2 FABRICATION

A. Provide one sign of following design:
   1. Area: 32 square feet.
   2. Bottom edge of sign: 6 feet above ground.
   3. Content:
      a. Project title and logo.
      b. Owner9s name.
      c. Names and titles of Architect and Consultants.

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1.

d. Name of Contractor.

4. Graphic design, colors, and lettering style: As designated by Architect.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install project identification sign within 30 days after date of Notice to Proceed.

B. Erect at designated location.

C. Erect supports and framing on secure foundation, rigidly braced and framed to resist wind loadings.

D. Install sign surface plumb and level, with butt joints. Anchor securely.

E. Paint exposed surfaces of sign, supports, and framing.

3.2 MAINTENANCE

A. Maintain signs and supports clean. Repair deterioration and damage.

3.3 REMOVAL

A. Remove signs, framing, supports, and foundations at completion of Project and restore the area.

END OF SECTION

SECTION 016000 PRODUCT

REQUIREMENTS

Products.
2. Transportation and handling.
3. Storage and protection.
4. Product options.

B. Related Sections:
1. Section 012500 - Substitution Procedures.

1.2 PRODUCTS

A. Provide interchangeable components by the same manufacturer for identical items.

B. Do not use products containing asbestos or other known hazardous materials.

1.3 TRANSPORTATION AND HANDLING

A. Coordinate delivery of Products to prevent conflict with Work and adverse conditions at site.

B. Transport and handle Products in accordance with manufacturer9s instructions.

C. Promptly inspect shipments to ensure that Products comply with requirements of Contract Documents, are undamaged, and quantities are correct.

D. Provide equipment and personnel to handle products by methods to prevent damage.

1.4 STORAGE AND PROTECTION

A. Store and protect Products in accordance with manufacturer's instructions with manufacturer's seals and labels intact and legible.

B. Store Products on site unless prior written approval to store off site has been obtained from Owner.

C. Store Products subject to damage by elements in weathertight enclosures. Maintain temperature and humidity within ranges required by manufacturer's instructions.

D. Exterior Storage:
1. Store fabricated Products above ground; prevent soiling and staining.

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1.

2. Cover products subject to deterioration with impervious sheet coverings; provide ventilation to prevent condensation.
3. Store loose granular materials in well drained area on solid surfaces; prevent mixing with foreign matter.

E. Arrange storage areas to permit access for inspection. Periodically inspect stored products to verify that products are undamaged and in acceptable condition.

1.5 PRODUCT OPTIONS

A. Products specified by reference standard only:

1. Select any Product meeting the specified standard.

Submit Product Data to substantiate compliance of proposed Product with specified requirements.

B. Products specified by naming two or more acceptable Products: Select any named Product.

C. Products specified by stating that the Contract Documents are based on a Product by a single manufacturer followed by the statement "Equivalent products by the following manufacturers are acceptable":

1. Select the specified Product or a Product by a named manufacturer having equivalent or superior characteristics to the specified Product and meeting the requirements of the Contract Documents.
2. If the specified Product is not selected, submit Product Data to substantiate compliance of proposed Product with specified requirements.
3. The specified Product establishes the required standard of quality.

D. Products specified by naming one or more Products followed by "or approved substitute" or similar statement:

1. Submit a substitution request under provisions of Section 012500 for Products not listed.
2. The specified Product establishes the required standard of quality.

E. Products specified by naming one or more Products or manufacturers followed by the statement "Substitutions: Under provisions of Division 01":

1. Submit a substitution request under provisions of Section 012500 for Products not listed.
2. The specified Product establishes the required standard of quality.

F. Products specified by naming one Product followed by the statement "Substitutions: Not permitted": Substitutions will not be allowed.

G. Products specified by required performance or attributes, without naming a manufacturer or Product:

1. Select any Product meeting specified requirements.
2. Submit Product Data to substantiate compliance of proposed Product with specified requirements.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

1.

SECTION 017123 FIELD

ENGINEERING

Survey and field engineering.

2. Submittals.
3. Records.

B. Provide and pay for field engineering services required for Project:

1. Survey work required in execution of Work.
2. Other professional engineering services specified or required to execute Contractor9s construction methods.

1.2 QUALIFICATIONS

A. Surveyor: Qualified land surveyor, licensed in State in which project is located.

1.3 SUBMITTALS

A. Submit documentation to verify accuracy of field engineering work upon Architect9s request.

B. Submit certification that elevations and locations of improvements are in conformance with Contract Documents.

1.4 SURVEY REFERENCE POINTS

A. Existing horizontal and vertical control points for project are those designated on Drawings.

B. Locate, verify, and protect control points prior to beginning Work; preserve permanent reference points during construction.

1.5 PROJECT SURVEY REQUIREMENTS

A. Establish minimum of two permanent bench marks on site, referenced to survey control points. Record locations on Project Record Documents.

B. Establish lines and levels, locate and lay out, by instrumentation:

1. Site improvements:
   a. Stakes for grading, fill, and topsoil placement.
   b. Utility slopes and invert elevations.
2. Building foundation and column locations, floor elevations, and other controlling dimensions.
3. Controlling lines and levels required for mechanical and electrical trades.

C. Verify property corners, easements, building setbacks, and horizontal control dimensions with information contained in Contract Documents.

D. Promptly notify Architect of any errors or discrepancies noted; await instructions prior to proceeding with Work.

1.6 RECORDS

A. Maintain accurate log of control and survey work.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 017329

CUTTING AND PATCHING

Requirements and limitations for cutting and patching of work.

B. Related sections:
1. Section 012500 - Substitution Procedures.

1.2 SUBMITTALS

A. Submit written request in advance of executing cutting or alteration that affects:
1. Work of Owner or separate contractor.
2. Structural integrity of project.
3. Integrity or effectiveness of weather exposed or moisture resistant elements or systems.
4. Efficiency, operational life, maintenance, or safety of operational elements.
5. Visual qualities of sight exposed elements.

B. Include in Request:
1. Identification of project.
2. Description of work affected.
3. Necessity for cutting or patching.
4. Effect of cutting or patching on work of Owner or separate contractor, or on structural, weatherproof, or visual integrity of project.
5. Description of proposed work:
a. Scope of cutting and patching.
b. Subcontractor and trades to execute work.
c. Products proposed to be used.
d. Extent of refinishing.
6. Alternate to cutting and patching.
7. Cost proposal, if applicable.
8. Written permission of any separate contractor whose work will be affected.

C. If conditions of work or schedule necessitate a change of material from that originally installed, submit substitution request in accordance with Section 012500.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

3.1 PREPARATION

A. Examine existing conditions of work, including elements subject to movement or damage during cutting and patching.

B. After uncovering work, examine conditions affecting installation of new products or performance of work.

C. Provide protection for other portions of project.

D. Provide protection from elements.

3.2 CUTTING AND PATCHING

A. Execute cutting to include excavating, fitting, and patching of Work required to:
   1. Make several parts fit properly.
   2. Uncover 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. Provide routine penetrations of nonstructural surfaces for installation of piping and electrical conduit.

B. Execute fitting and adjustment of products to provide finished installation to comply with specified tolerances, and finishes.

C. Execute cutting and demolition by methods that will prevent damage to other work, and will provide proper surfaces to receive installation of repairs and new work.

D. Execute excavating and backfilling by methods that will prevent damage to other Work, and will prevent settlement.

E. Employ original installer or fabricator to perform cutting and patching for:
   1. Weather exposed or moisture resistant elements.
   2. Sight exposed finished surfaces.

F. Restore work that has been cut or removed; install new products to provide completed Work in accordance with requirements of Contract Documents.

G. Refinish entire surfaces as necessary to provide an even finish:
   1. Continuous surfaces: To nearest intersections.
   2. Assembly: Refinish entirely.

END OF SECTION

1.

SECTION 017700 CLOSEOUT

PROCEDURES

Closeout procedures.

2. Final cleaning.
3. Adjusting.
4. Project record documents.
5. Operation and maintenance data.
6. Warranties.
7. Spare parts and maintenance materials.
8. Starting of systems.
9. Demonstration and instructions.

1.2 CLOSEOUT PROCEDURES

A. Final Inspection:
   1. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with the Contract Documents and ready for Architect's inspection.
   2. If Architect performs reinspection due to failure of Work to comply with claims of status of completion made by Contractor, Owner will compensate Architect for such additional services and will deduct the amount of such compensation from final payment to Contractor.

B. Submit final Application for Payment showing original Contract Sum, adjustments, previous payments, retainage withheld from previous payments, and sum remaining due.

C. Closeout Submittals:
   1. Evidence of compliance with requirements of governing authorities.
   2. Certificate of Occupancy.
   3. Project Record Documents.
   4. Operation and Maintenance Data.
   5. Warranties.
   6. Keys and keying schedule.
   7. Spare parts and maintenance materials.
   8. Evidence of payment of Subcontractors and suppliers.
   9. Final lien waiver.
   10. Certificate of insurance for products and completed operations.
   11. Consent of Surety to final payment.

1.3 FINAL CLEANING

A. Execute final cleaning prior to final inspection.

B. Clean surfaces exposed to view:
   1. Clean glass.
   2. Remove temporary labels, stains and foreign substances.
   3. Polish transparent and glossy surfaces.

4. Vacuum carpeted surfaces; damp mop hard surface flooring.

C. Clean equipment and fixtures to a sanitary condition.

D. Clean or replace filters of operating equipment.

Clean debris from roofs and drainage systems.

E. Clean site; sweep paved areas, rake clean landscaped surfaces.

F. Remove waste and surplus materials, rubbish, and construction facilities from the site.

1.4 ADJUSTING

A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

1.5 PROJECT RECORD DOCUMENTS

A. Maintain following record documents on site; record actual revisions to the Work:
1. Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other Modifications to the Contract. 5. Reviewed Shop Drawings, Product Data, and Samples.
6. Material Safety Data Sheets.

B. Store Record Documents separate from documents used for construction.

C. Record information concurrent with construction progress.

D. Make entries neatly and accurately.

E. Label each set or volume with "PROJECT RECORD DOCUMENTS", project title, and description of contents.
1. Organize contents according to Project Manual table of Contents.
2. Provide table of contents for each volume.

F. Drawings: Mark each item to record actual construction including:
1. Measured depths of foundations in relation to finish floor datum.
2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
4. Field changes of dimension and detail.
5. Details not on original Drawings.

G. Specifications: Mark each Product section description of actual Products installed, including the following:
1. Manufacturer's name and product model and number.
2. Product substitutions or alternates utilized.
3. Changes made by Addenda and Modifications.

H. Shop Drawings: Mark each item to record actual construction including:
   1. Field changes of dimension and detail.
   2. Details not on original Shop Drawings.

I. Submit electronically in Adobe PDF format along with final Application for Payment.

1.6 OPERATION AND MAINTENANCE DATA

A. Identify as "OPERATION AND MAINTENANCE INSTRUCTIONS" and title of project.

B. Contents:
   1. Directory: List names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.

Closeout Procedures

   2. Operation and maintenance instructions: Arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following: a. Significant design criteria.
      b. List of equipment.
      c. Parts list for each component.
      d. Operating instructions.
      e. Maintenance instructions for equipment and systems.
      f. Maintenance instructions for special finishes, including recommended cleaning methods and materials and special precautions identifying detrimental agents.
   3. Project documents and certificates including:
      a. Shop drawings and product data.
      b. HVAC balance reports.
      c. Certificates.
      d. Copies of warranties and bonds.

C. Submittal:
   1. Submit electronically in Adobe PDF format at least 15 days prior to final inspection.
   2. Architect will notify Contractor of any required revisions after final inspection.
   3. Revise content of documents as required prior to final submittal.
   4. Submit revised documents electronically in Adobe PDF format within 10 days after final inspection.

1.7 WARRANTIES

A. Execute and assemble documents from Subcontractors, suppliers, and manufacturers.

B. Include Table of Contents.

C. Submit electronically in Adobe PDF format along with final Application for Payment.

D. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.

1.8 SPARE PARTS AND MAINTENANCE MATERIALS

A. Provide spare parts and maintenance materials in quantities specified in individual specification Sections.

B. Inspect spare parts and maintenance materials jointly with Owner:
   1. Arrange for replacement of damaged, defective, and missing items.
   2. Obtain receipt from Owner prior to final payment.

C. Packaging:
   1. Leave products in original packaging when possible.
   2. Supplement and reinforce original packaging when required to ensure safe transport and storage.
   3. Clearly mark containers to identify contents.

1.9 STARTING OF SYSTEMS

A. Notify Owner and Architect at least seven days prior to startup of each system or piece of equipment.

B. Prior to beginning startup verify that:
   1. Lubrication has been performed.
   2. Drive rotation, belt tension, control sequences, tests, meter readings, and electrical characteristics are within manufacturer's requirements.
   3. Utility connections and support components are complete and tested.

   4. Execute start-up under supervision of applicable manufacturer's representative or Contractor9s personnel in accordance with manufacturers' instructions.

C. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to startup, and to supervise placing equipment or system in operation.

D. Submit written report that equipment or system has been properly installed and is functioning correctly.

1.10 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of Products to Owner's personnel two weeks prior to date of Substantial Completion.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

C. Utilize Operation and Maintenance Manuals as basis for instruction. Review contents of manual with Owners' personnel in detail to explain all aspects of operation and maintenance.

D. Demonstrate startup, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment at agreed upon times, at equipment location.

E. Prepare and insert additional data in Operation and Maintenance Manuals when need for additional data becomes apparent during instruction.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION