SECTION 00 01 10 - TABLE OF CONTENTS

Columbia Metropolitan Airport Front End Documents

OTHER DIVISION SECTIONS:

Please refer to individual project manuals and bid documents for specific information regarding individual projects.

PLAN SHEET

END OF TABLE OF CONTENTS

1. SECTION 00 72 13 - GENERAL CONDITIONS

The General Conditions of the Contract for Construction shall be AIA Document A201 - 2007 Edition, Articles 1 through 15, are incorporated by reference, as modified by Section 00 73 00 - Supplementary Conditions.

END OF SECTION 00 72 13

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2. **SECTION 00 73 00 - SUPPLEMENTARY CONDITIONS**

The following conditions modify, change, delete, or add to the "General Conditions of the Contract for Construction", AIA Document A201, 2007 Edition. Where any portion of the General Conditions is modified or deleted by these supplements, the unaltered provisions of that portion shall remain in effect. The AIA General Conditions and Supplementary Conditions are complementary and apply to all Work on this Project.

ARTICLE 1: GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1 Add the following sentence to the end of Subparagraph 1.1.1:

"The Contract Documents executed or identified in accordance with Subparagraph 1.5.1 shall prevail in case of an inconsistency with subsequent version made through manipulable electronic operations involving computers."

ARTICLE 2: OWNER

2.2.5 Delete Subparagraph it its entirety and substitute as follows:

"2.2.5 The Contractor will be furnished, free of charge, ONE (1) copy of the Contract Documents. Additional copies, if required, will be furnished at actual cost of reproduction and handling."

ARTICLE 3: PERMITS, FEES, AND NOTICES

3.7.1 Delete Subparagraph in its entirety and substitute as follows:

"3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for all permits and governmental fees, licenses, and inspections necessary for proper execution of the Contract and which are legally required when bids are received or negotiations conclude. The Contractor will pay all fees for water meters and water tap impact fees, sewer tap impact fees, electrical service to transformer pad(s), and natural gas to supply side of meter."

ARTICLE 6: DISPUTE RESOLUTION

6.2 This paragraph shall indicate Arbitration, and add Subparagraph as follows:

"6.2.1 This Contract is subject to Arbitration pursuant to Section 15-48-10 Code of Laws of South Carolina."

ARTICLE 7: CHANGES IN THE WORK

7.1.1 Add Subparagraphs as follows:

"7.1.1.1 The Owner shall have the right to omit from the work (order nonperformance) any contract item, except major contract items, in the best interest of the Owner.

Should the Owner omit or order nonperformance of a contract item or portion of such item from the work, the Contractor shall accept payment in full at the contract prices for any work actually completed and acceptable prior to the Architect's/Engineer's order to omit or non-perform such contract item.

7.1.1.2 Acceptable materials ordered by the Contractor or delivered on the work prior to the date of the Architect's/Engineer's order will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner.

7.1.1.3 In addition to reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the additional contract item prior to the date of the Architect's/Engineer's order. Such additional costs incurred by the Contractor must be directly related to the deleted contract item and shall be supported by certified statements by the Contractor as to the nature and amount of such costs."

7.1.1.4 Definition: A major contract item shall be any item that is listed in the proposal, the total cost of which is equal to or greater than 20% of the total amount of the award contract. All other items shall be considered minor contract items.

7.1.4 Add Subparagraph as follows:

"7.1.4 In determining the cost to the Owner resulting from either an increase or a decrease in the Work, by either Change Order or Construction Change Directive, the allowances for overhead and profit combined, included in the total cost to the Owner, shall not exceed the percentages as follows:

.1 For the Prime Contractor, for any Work performed by his own forces, 15% of the cost;

.2 For the Prime Contractor, for Work performed by his Subcontractors, 7% of the amount due the Subcontractor;

.3 For each Subcontractor involved, for work performed by his own forces, 15% of the cost;

.4 For the Subcontractor, for Work performed by lower tier Subcontractors, 7% of the amount due the Subcontractor."

7.3.7 Delete Subparagraph 7.3.7 in its entirety and substitute as follows:

"7.3.7 Where an adjustment to the contract sum is required for which non basis of payment has been provided in the contract documents, previously issued change orders or supplemental agreements, and a change to the contract sum is required, the Contractor shall include an allowance for overhead and profit with an itemized accounting together with appropriate supporting data. Costs for the purpose of this

Subparagraph 7.3.7 shall be limited to the following actual costs and allowances.

7.3.7.1 Labor: For all labor (skilled and unskilled) and foremen in direct charge of a specific force account item, the contractor shall receive the rate of wage (or scale) for every hour that such labor or foreman is actually engaged in the specified change order work. Such wage (or scale) shall be agreed upon in writing before beginning of the work.

The contractor shall receive the actual cost paid to, or in behalf of, workers by reason of subsistence and travel allowances, health and welfare benefits, pension fund benefits or other benefits, when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the work.

7.3.7.2 No additional allowance will be made for general superintendence, the use of small tools, or other costs for which no specific allowance is herein provided.

7.3.7.3 No payment will be made for additional work until the Contractor has furnished the ARCHITECT/ENGINEER with duplicate itemized statements of the cost of such additional work, detailed as follows:

Name, classification, date, daily hours, total hours, rate, and extension for each laborer and foreman.

Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.

Transportation of materials.

Cost of property damage, liability and workmen's compensation insurance premiums, unemployment insurance contributions, and social security tax.

7.3.7.4 Statements shall be accompanied and supported by receipted invoice for all materials used and transportation charges. However, if materials used for additional work are not specifically purchased for such work but are taken from the Contractor stock, then, in lieu of the invoices, the Contractor shall furnish an affidavit certifying that such materials were taken from his stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor."

ARTICLE 8: TIME

8.1.1 Delete and substitute the following:

"8.1.1 The contract time is the period of time allotted in the contract documents for substantial completion of the work. Work under this contract shall be substantially complete as required by Section 01 11 00 – Summary of Work."

8.2 Add Subparagraph as follows:

"8.2.2.1 No Contractor or their subcontractors shall commence any actual construction prior to the date on which the Notice to Proceed is issued by the Owner."

8.3.3 Delete Paragraph and substitute the following Paragraph:

"8.3.3 Damages for Delay

8.3.3.1 No damages for delay will be allowed. It is understood and agreed that the Owner and ARCHITECT/ENGINEER shall not in any way be liable to the Contractor for delays of any kind whatsoever.

8.3.3.2 The Owner's or Architect's/Engineer's exercise of any of their rights under applicable provisions of the Owner/Architect Agreement or Owner/Contractor Agreement related to changes in the work, or requirement of correction or re- execution of any of the work, shall not be construed as active or intentional interference with the Contractor's performance of the Work under any circumstances. No other acts by the Owner or ARCHITECT/ENGINEER shall be considered exceptions of the Damages for Delay Section, unless motivated by bad faith.

8.3.3.3 If completion is delayed by an intentional act of the Owner or the ARCHITECT/ENGINEER, or by neglect by the Owner or the ARCHITECT/ENGINEER, or by strikes or work stoppages by organized labor, or by other exceptional conditions over which the Contractor reasonably has no control, the time of completion shall be extended by such period as the ARCHITECT/ENGINEER may deem reasonable, upon receipt and review of the Contractor's written request for extension. If Contractor is delayed by any acts of the Owner or of the ARCHITECT/ENGINEER and is granted an extension of time by the Owner, the Contractor shall comply with the extended schedule with no additional compensation from the Owner.

8.3.3.4 No extension of time shall be allowed unless a claim is presented in writing to the ARCHITECT/ENGINEER within fifteen (15) days after the commencement of such delay, or the claim is waived.

8.3.3.5 The Contractor is fully responsible for making up lost time of all delays, except to the extent that extensions of time are granted. Nothing in this section shall be construed to release the Contractor from his obligation to perform the Work within the Contract Time for the stipulated Contract Sum, except for delays for which extensions of time have been granted in writing. Nothing in this section shall be interpreted to relieve the Contractor from covering, at his own expense, any and all overtime or additional labor that may be necessary to correct delays for which no extension of time is granted."

8.4 Liquidated Damages: Add the following Paragraph:

"8.4.1 The Owner will suffer financial loss if the Project is not Substantially Complete on the date set forth in the Contract Documents. The Contractor, and his surety, shall be liable for and shall pay to the Owner the sum of Five Hundred Dollars and No Cents ($500.00) as fixed, agreed and liquidated damages for each calendar day of delay until the Work is Substantially Complete."

ARTICLE 9: PAYMENTS AND COMPLETION

See also Payment Procedures in Section 012900 of the Specifications.

9.2.1 Add new Subparagraph as follows:

"9.2.1 Anticipated Monthly Draw Plan: Along with the Initial Schedule of Values, and prior to submitting the first Application for Payment, the Contractor shall provide a bar chart type schedule, broken into monthly increments, showing the work to be done and the value of that work. This shall be adjusted and resubmitted monthly to match actual work progress. The Owner reserves the right to withhold payment if this procedure is not followed."

9.3.4 Add new Subparagraph as follows:

"9.3.4 All sums payable by the Owner shall be subject to retainage of five percent (5%)."

ARTICLE 11: INSURANCE AND BONDS

11.1.1 In the first sentence following the word "located," insert the words ", and to which the Owner has no reasonable objection,".

11.1.2 Add new Subparagraph as follows:

"11.1.2.1 Workman's Compensation:

a. State: Statutory

b. Applicable Federal: Statutory

c. Employer's Liability: $1,000,000

11.1.2.2 Comprehensive General Liability:

Bodily Injury and Property Damage: $5,000,000

Combined Single Limit (Per Occurrence)

The Contractor's General Liability insurance shall provide coverage for the following:

(1) premises Operations, (2) Independent Contractors, (3) Products/Completed Operations Hazard, (4) Underground Hazard, (5) Broad Form Property Damage, (6) Where applicable, explosion and Collapse Hazard, and (7) Personal Injury.

11.1.2.3 Excess Liability Insurance:

Umbrella Form: $1,000,000 (Per Occurrence)

11.1.2.4 Comprehensive Automobile Liability:

(1) Bodily Injury and Property Damage:

$1,000,000 Combined Single Limit (Per Occurrence)

(2) The Contractor's Comprehensive Automobile Liability Insurance shall provide coverage for Bodily Injury and Property Damage per occurrence for owned, hired and non-owned vehicles.

(3) If privately owned vehicles (POV) are used in the Air Operations Area (AOA), the certificate of insurance shall state the employees' POV is covered under this policy.

Richland - Lexington Airport District, its officials and staff; and the ARCHITECT/ENGINEER, its staff and consultants shall be named as additional insured with right of notice in the policy. The Contractor's insurance provider shall edit the Certificate of Insurance standard cancellation clause from "…, the issuing company will endeavor to mail_____ days written notice to the certificate holder…" to "…, the issuing company will mail **30 days** written notice to the certificate holder…".

The Contractor shall obtain in the name of the Owner, Owner's Protective Liability Insurance which will have the same limits of coverage as that required above for the Contractor's general liability coverage, including liability for acts of Subcontractors and Subordinate Contractors.

The Contractor shall purchase and maintain such Protective and Contractual Bodily Injury Liability Insurance and such Protective and Contractual Property Damage Liability Insurance as shall be required by any public bodies or utility companies whose property, facilities, or right-of-way may be affected by the Work to be done under this Contract.

The Contractor will provide such additional information in respect of insurance provided by him as the Owner may reasonably request. Failure by Owner to give any such notice of objection within the time provided shall constitute an acceptance of such insurance purchased by Contractor as complying with the Contract Documents.

Certificates in triplicate from the insurance carrier stating the limits of liability and expiration date shall be filed with Owner before operations are begun.

Certificates shall not merely name the types of policy provided but shall specifically refer to this Contract and shall contain a separate express statement of compliance with each of the requirements as set forth in this Article. The certificates shall, in addition to the information relative to the insurance required, contain the following:

a. Inception and expiration dates of insurance policy.
b. Limits of liability provided (Public Liability and Property Damage).
c. Coverage provided, including special hazards if required.
d. Name of insurance company.
e. Policy Number.
f. Additional interests covered.
g. Statement that the Explosion, Collapse, and Underground exclusions do not apply.
h. Certificate shall reflect self-insured retention applicable to any contract of insurance.
i. Excess liability certified contracts must state underlying insurance requirements.
j. Project number and nature of work.
k. Cancellation notice stipulation.

No certificate will be accepted which exculpates the issuer or reduces any rights conferred on the Owner by the above certificates, nor will they be accepted unless the certificates bear a live signature of a direct representative of a company authorized to do business in South Carolina.

No certificate will be accepted unless the person signing the certificate certifies, in a separate letter, his exact relationship with the insurance carrier or carriers indicated in the certificate.

The Owner may, at his discretion, modify or waive any of the foregoing requirements.

No contract of insurance containing a “claims made” insuring agreement will be acceptable unless the Contractor offering such insurance to fulfill the requirements of this Contract agrees that each such contract is insurance shall be renewed for the entire existence of the Contractor, their successors or assigns; and that on termination of such coverage which is not replaced by similar contract with the required limits of liability, a “tail policy” will be purchased with limits not less than those required by this Contract.

11.1.4 Add new Subparagraph as follows:

“11.1.4.1 Furnish one copy of Certificates herein required for each copy of the Agreement; specifically set forth evidence of all coverage required by Subparagraphs 11.1.1 and 11.1.2. The form of the Certificate shall be AIA Document G705. Furnish to the Owner copies of any endorsements that are subsequently issued amending coverage or limits.”

11.3 Property Insurance

11.3.1 Delete Subparagraphs 11.3.1.2 and 11.3.1.3 in their entirety and substitute the following therefore:

"11.3.1.2 Property insurance shall have a $3,000.00 "deductible" on any insured loss and that the amount of this deductible and any other losses not specifically covered under the Owner's policy shall be borne by the prime Contractor and/or their subcontractors. This insurance does not cover any loss from theft or burglary, nor does it cover loss of any tools, equipment, scaffolding, staging, towers, forms, machinery, etc., owned or rented by mechanics, or the prime contractor or subcontractors, which are not intended to become a part of the project; but does cover damage to the building or contents because of theft or burglary."

11.3.2 Delete boiler and machinery insurance Paragraph in its entirety.

11.4 Delete Subparagraph 11.4.1 in its entirety and substitute the following therefore:

"11.4.1 Performance and Labor and Material Payment Bonds will be required for 100% of the contract price, with a surety or sureties legally authorized to do business in the State of South Carolina.

END OF SECTION 00 73 00

3. **SECTION 00 73 64 - E-VERIFY REQUIREMENTS (EMPLOYMENT ELIGIBILITY)**

The Contractor, and any subcontractors, are required to verify the employment eligibility of employees to work in the United States. In accordance with South Carolina Law and amendments to the South Carolina Illegal Immigration Reform Act, which requires the use of the Department of Homeland Security's E-Verify system, the E-Verify requirements are mandated to be included in this contract for the Contractor's and subcontractor's employees. Therefore, the Contractor agrees to use the E-Verify system and provide such compliance information as may be required by the Authority and/or the State of South Carolina.

END OF SECTION 00 73 64

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4. SECTION 01 13 50 - WEATHER DELAYS

PART 1 - GENERAL

1.1 EXTENSIONS OF CONTRACT TIME

A. If the basis exists for an extension of time in accordance with General Conditions, Article 8, an extension of time on the basis of weather may be granted only for the number of Weather Delay Days in excess of the number of days listed as the Standard Baseline for the entire construction duration of each phase as a whole.

1.2 STANDARD BASELINE FOR AVERAGE CLIMATIC RANGE

A. The Owner has reviewed weather data available from the National Oceanic and Atmospheric Administration (NOAA) which is attached to this Section and determined a Standard Baseline of average climatic range for the Columbia Metropolitan Airport.

B. Standard Baseline shall be regarded as the normal and anticipatory number of calendar days for each month during which construction activity shall be expected to be prevented and suspended by cause of precipitation in excess of one-tenth inch (0.10”) liquid measure. Suspension of construction activity for the number of days each month as listed in the Standard Baseline is included in the Work and is not eligible for extension of Contract Time.

C. Standard Baseline (based upon precipitation in excess of one-tenth inch (0.10”) liquid measure) established for this contract is as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7	6	6	5	5	7	8	7	5	4	5	6

1.3 ADVERSE WEATHER AND WEATHER DELAY DAYS

A. Adverse Weather is defined as the occurrence of one or more of the conditions which prevents exterior construction activity or access to the site within twenty-four (24) hours:

1. Precipitation (rain, snow, or ice) in excess of one-tenth inch (0.10”) liquid measure;
2. Temperatures which do not rise above 32 degrees F by 10:00 a.m.;
3. Temperatures which do not rise above that specified for the day's construction activity by 10:00 a.m., if any is specified;
4. Sustained wind in excess of twenty-five (25) m.p.h.;
5. Standing snow in excess of one inch (1.00”);
6. Any day that the Owner has requested no work to be performed.

B. A Weather Delay Day may be counted if adverse weather prevents work on the project for fifty percent (50%) or more of the Contractor's scheduled work day, including a weekend day or holiday if Contractor has scheduled construction activity that day.

C. Adverse Weather may include “dry-out” or “mud” days, as determined by the ARCHITECT/ENGINEER such as:

1. For rain days above the standard baseline.
2. Only if there is a hindrance to site access or sitework, such as excavation, backfill, footings, or similar items (see 4. and 5. below).

3. At a rate no greater than one (1) make-up day for each day or consecutive days of rain beyond the standard baseline that total 0.1 inch or more, liquid measure, if no substantial work is possible (see 4. and 5. below), unless specifically recommended otherwise by the ARCHITECT/ENGINEER.
4. If the Contractor's activity is limited to approximately 50% of the Contractor's activity before the Adverse Weather occurrence, then one-half (1/2) a weather delay day will be counted. For example, if the Contractor is disking excavation and embankment areas to dry in situ moisture in the soils or hauling and placing unclassified excavation or borrow material to the embankment before an Adverse Weather occurrence, but is able to continue disking excavation and embankment areas or placing unclassified excavation or borrow material, one-half (1/2) a Weather Delay Day will be allowed.
5. If the Contractor's activity is limited to minor activity when compared to the Contractor's activity before the Adverse Weather occurrence, then one (1) weather delay day will be counted. For example if the Contractor is disking excavation and embankment areas to dry in situ soils, hauling borrow material to embankment before an Adverse Weather occurrence, but is only able to disk excavation and embankment areas to dry them due to the Adverse Weather occurrence, one (1) Weather Delay Day will be allowed.

D. If the Contractor is able to only perform disking operations to dry excavation and embankment areas due to in situ moisture conditions in the soil, this is not considered an Adverse Weather occurrence or a Weather Delay Day and is considered to be a part of normal construction activities whether any other work can be performed or not.

E. The ARCHITECT/ENGINEER will compile monthly weather data from the Local National Weather Station or from on-site observations.

F. The determination of Contractor's entitlement for any Adverse Weather and Weather Delay days, as defined hereinabove, will be based on the entire construction duration of the phase in lieu of a month-by-month consideration. The entitlements will consider those months that conditions are better or worse than the Standard Baseline established for this contract.

1. For example:

a. If the total number of standard baseline days for a Phase is forty-one (41) days and there are thirty-six (36) days with precipitation in excess of one tenth inch (0.10") liquid measure and ten (10) weather delay days, giving a total of forty-six (46) rain and weather delay days. This would amount to five (5) days in excess of the total baseline days for that Phase. Five (5) additional days will be added to the time for that Phase.
b. If the total standard baseline for a Phase is forty-one (41) days and there are twenty- eight (28) days with precipitation in excess of one tenth inch (0.10") liquid measure and nine (9) weather delay days, giving a total of thirty-seven (37) rain and weather delay days. This would amount to four (4) days better than the total baseline days for that Phase. Four (4) days will be deducted from the time for that Phase.

G. Baseline days will be prorated when partial months are a part of a phase/stage or the overall contract time.

1. For example:
   a. If the contract or a phase begins on April 11, including April 11, there are twenty (20) calendar days remaining in April. Twenty (20) remaining calendar days divided by thirty (30) total calendar days in April equals 0.6667. Six (6) total baseline days established for April multiplied times 0.6667 equals four (4) baseline days for the remaining twenty calendar days in April.

H. Section 01 13 50 - Weather Delays establishes an anticipated number of days of lost construction time for each month.

1. To calculate any liquidated damages for a phase/stage that is not completed on time, the number of baseline days for the actual total construction time for that phase/stage will be calculated from the standard baseline.
2. The number of weather delay days for the actual total construction time for that phase/stage will be calculated.
3. The difference in weather delay days and baseline days will then be calculated. Months that have less weather delay days than baseline days will result in a negative number.
4. The resulting difference will then be added to the contract time for the phase/stage.
5. The difference in the actual total construction time and the contract time plus weather delay days in excess of the baseline for that phase/stage will determine if and what the actual amount of liquidated damages for that phase/stage will be.

I. Using a hypothetical Phase 1 for example if:

FROM	TO	HISTORICAL BASELINE DAYS	ADVERSE WEATHER THER DELAY DAYS	NUMBER OF DAYS IN EXCESS OF BASELINE
July 12, 2010	July 31, 2010	5	3	-2
Aug. 1, 2010	Aug. 31, 2010	7	11	+4
Sept. 1, 2010	Sept. 9, 2010	1	4	+3
		13	18	+5
Base Bid Contract Time				60
Phase 1 Contract Time + Number Of Weather Delay Days In Excess Of Baseline				65
Contractor’s Phase 1 Actual Construction Time				67
Phase 1 Days Of Liquidated Damages				2

J. Throughout the duration of the contract, the Contractor and the Resident Project Representative shall reconcile impacts due to weather on a monthly basis. The Contractor shall submit monthly with each pay request an itemized list of days impacted by the weather, scheduled activity that was impacted and the particular impact which caused the delay (temperature, rain, mud, snow, etc.)

END OF SECTION 01 13 50

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5. SECTION 01 14 00 - WORK RESTRICTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Use of premises.

B. Related Requirements:

1. Section 01 14 30 "Airport Project Procedures."

1.3 USE OF PREMISES

A. Use of Site: Limit use of premises to Work in areas indicated. Do not disturb portions of site beyond areas in which the Work is indicated.

1. Limits: Confine construction operations to areas indicated in the Documents and necessary to the progress of the Work.
2. Owner Occupancy: Allow for Owner occupancy of areas adjacent to site and use by the public. The Owner will endeavor to cooperate with the Contractor's operations when the Contractor has notified the Owner in advance of need for changes in operations in order to accommodate construction operations. Conduct the Work so as to cause the least interference with the Owner's operations.
3. The following existing facilities may not be used by construction personnel:
   a. Roadways and parking lots, except as designated in Documents.
   b. Toilet facilities.
   c. Public telephones.
4. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, FAA, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
   a. Schedule deliveries to minimize use of driveways and entrances.
   b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
   c. Delivery vehicles, construction vehicles, and other construction related hauling vehicles are restricted to the hauling/travel routs identified in the Documents unless otherwise authorized, in writing, by the Owner.
   d. Storage areas will be available on-site.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 UTILITIES

A. Utilities are located within the construction area. Contractor shall coordinate with Owner and ARCHITECT/ENGINEER to identify utilities. Contractor shall be responsible for contacting utility owners and locating existing utilities within the work area. Contractor shall be responsible for costs associated with utility location, protection, and for required repairs due to failure to comply with these requirements.

B. Information concerning underground utilities and service lines may be obtained from the utility companies, Owner, FAA, or the National Weather Service. The Owner and the ARCHITECT/ENGINEER do not guarantee their accuracy. Contractor is advised to determine the exact locations from the available sources of information, or provide his own means of detection.

C. Contractor shall notify airport personnel, utility companies, FAA personnel, and weather bureau personnel before excavating in any area.

D. Agencies/utility companies with service on the Airport are as follows:

1. Columbia Metropolitan Airport.
2. Federal Aviation Administration.
3. National Weather Service.
4. Gas, Electric.
5. Domestic Water.
6. Sewer.
7. Cable Television.
8. Telephone Service.

E. Maintain existing surface and pipe storm drainage, unless otherwise noted.

3.2 USE OF SITE

A. Contractor shall at all times so conduct his work as to create no hindrance, hazard, or obstacle to vehicular or aircraft traffic using the Airport.

1. Contractor shall control his operations and the operations of his subcontractors and suppliers so as to provide for the free and unobstructed movement of aircraft in the aircraft operations areas of the Airport. This area shall be accessible to the Contractor on a limited basis.
2. Aircraft always have right of way in operating areas.

B. Access to the Work: Access to the Work will be via the access routes indicted on Documents or as directed by the Owner. Contractor shall identify access routes with suitable signs, barricades, and similar equipment.

C. Construction traffic shall enter and exit the Project area through access points directed by the Owner.

D. Haul Route: Existing roads that will be used as part of the haul road shall be restored to their original condition. After completion of the Project the Contractor shall be responsible for daily clean-up operations of debris that may be on the haul road.

1. The existing airport pavements, access roads, and haul routes may not be capable of supporting certain types of construction equipment. Prior to bidding, the Contractor shall fully satisfy himself as to the ability of the existing airport pavements to satisfactorily sustain the type of equipment he plans to use. Contractor shall size the equipment used for construction accordingly. Contractor, at no additional cost to the Owner, shall repair damage caused by hauling or other construction activity to existing pavement.
2. It is of specific importance that all aircraft operating areas be kept free of debris due to potential aircraft damage. Contractor shall police the construction and adjacent site area regularly to ensure that no debris creates an endangerment to aircraft. Contractor shall maintain these pavements clean throughout the Project.

E. Project access, staging area, waste area, stockpile area, and all haul roads shall be restored to original condition including topsoil and seeding at job completion at no additional cost to Owner.

F. Contractor's staging area location will be determined at the pre-construction conference.

1. Construction material and equipment shall be located and stored in the designated staging area(s) only.
2. Contractor shall be responsible for the cleanup and disposal of trash and debris created by his work or personnel. Trash and debris shall be disposed of offsite.
3. Contractor shall be responsible for the storage and security of his material and equipment and shall erect storage facilities and fencing as necessary.

G. Contractor shall control dust at an acceptable level. Contractor shall be required to keep a water supply at the Project site during heavy equipment usage areas.

H. Burning of debris will not be allowed on Airport property.

I. Vehicles operated on existing pavements to remain shall be rubber tired.

J. Contractor shall not enter or encroach upon an aircraft parking area or operational taxiway without first obtaining permission from the Owner or FAA.

K. Damage to aircraft, ground equipment, or facilities on the ground, resulting from hauling or storage of material or other activities in connection with the execution of the contract work, shall be repaired or replaced by the Contractor in as good or better condition as originally found.

L. Stock-piled material shall be constrained in a manner to prevent movement resulting from aircraft engine blast or wind.

M. Vehicles of the Contractor's forces shall be parked in designated areas only. Contractor shall provide temporary gate and fencing at perimeter and is to be responsible for security, maintenance, and restoration of areas.

1. In the event of Contractor servicing his equipment on airport property, oil and fluids removed from the equipment shall be collected and disposed of in accordance with the local, state, and federal environmental laws. If a hazardous or regulated material is spilled, it shall be promptly reported to the Airport and cleaned up by the Contractor at his expense.

END OF SECTION 01 14 00

6. **SECTION 01 22 00 - UNIT PRICES**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

B. Related Requirements:

1. Section 01 26 00 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
2. Section 01 40 00 "Quality Requirements" for general testing and inspecting requirements.

1.3 DEFINITIONS

A. Unit price is a price per unit of measurement for materials, equipment, labor or services, or a portion of the Work. Work may be added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

E. Unit prices may include work of more than one Specification Section.

F. The quantity of each Unit Price shall be as indicated on the Bid Form.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. For the purpose of preparing a bid, the Contractor shall include the cost for all work described for the following items on a UNIT PRICE basis to be included for the estimated quantities listed on the Bid Documents.

B. The following shall be considered incidental to bid items; unless a bid item appears. Items considered incidental are not limited to those listed here:

1. Submittals

2. INSERT OTHER INCIDENTALS HERE

C. Unit Price No. 1: Mobilization

1. Description: This item shall consist of work and operations, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items.

2. Unit of Measurement: Lump Sum.

B. INSERT OTHER UNIT PRICE ITEMS HERE

END OF SECTION 01 22 00

7. SECTION 01 23 00 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.

2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum except for adjustments specifically indicated in the Agreement, General Conditions and Supplementary Conditions.

1.4 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

1. The work of this Alternate shall be completed according to the schedule in Section 00 11 00 - Summary of Work.

END OF SECTION 01 23 00

8. **SECTION 01 25 00 - SUBSTITUTION PROCEDURES**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Requirements:

1. Section 01 60 00 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.

2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 ACTION SUBMITTALS

A. Substitution Requests: Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Substitution Request Form: Use CSI Form 13.1A.

2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.

b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors, which will be necessary to accommodate proposed substitution.

c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.

d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.

e. Samples, where applicable or requested.

f. Certificates and qualification data, where applicable or requested.

g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.

h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.

i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.

j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.

k. Cost information, including a proposal of change, if any, in the Contract Sum.

l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.

m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. ARCHITECT/ENGINEER's Action: If necessary, ARCHITECT/ENGINEER's will request additional information or documentation for evaluation within ten days of receipt of a request for substitution. ARCHITECT/ENGINEER's will notify Contractor of acceptance or rejection of proposed substitution within 20 days of receipt of request, or ten days of receipt of additional information or documentation, whichever is later.

a. Forms of Acceptance: Change Order, Construction Change Directive, or ARCHITECT/ENGINEER's Supplemental Instructions for minor changes in the Work.

b. Use product specified if ARCHITECT/ENGINEER does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 30 days prior to time required for preparation and review of related submittals.

1. Conditions: ARCHITECT/ENGINEER's will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, ARCHITECT/ENGINEER will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution is consistent with the Contract Documents and will produce indicated results.

b. Substitution request is fully documented and properly submitted.

c. Requested substitution will not adversely affect Contractor's construction schedule.

d. Requested substitution is compatible with other portions of the Work.

e. Requested substitution has been coordinated with other portions of the Work.

f. Requested substitution provides specified warranty.

g. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Not allowed.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 25 00

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9. SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 and other Division Specification Sections included in the Project Manual, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

B. Related Requirements:

1. Section 01 25 00 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

1.3 MINOR CHANGES IN THE WORK

A. ARCHITECT/ENGINEER will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.4 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: ARCHITECT/ENGINEER will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Work Change Proposal Requests issued by ARCHITECT/ENGINEER are not instructions either to stop work in progress or to execute the proposed change.
2. Within time specified in Proposal Request or 20 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
c. Include costs of labor and supervision directly attributable to the change.
d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
e. Quotation Form: Use CSI Form 13.6D, "Proposal Worksheet Summary," and Form 13.6C, "Proposal Worksheet Detail."

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to ARCHITECT/ENGINEER.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Section 01 25 00 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
7. Proposal Request Form: Use CSI Form 13.6A, "Change Order Request (Proposal)," with attachments CSI Form 13.6D, "Proposal Worksheet Summary," and Form 13.6C, "Proposal Worksheet Detail."

1.5 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Work Changes Proposal Request, ARCHITECT/ENGINEER will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.6 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: ARCHITECT/ENGINEER may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 26 00

10. **SECTION 01 29 00 - PAYMENT PROCEDURES**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Requirements:
1. Section 01 26 00 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
2. Section 01 32 00 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 ANTICIPATED MONTHLY DRAW PLAN

A. Along with the Initial Schedule of Values, and prior to submitting the first Application for Payment, the Contractor shall provide a bar chart type schedule, broken into monthly increments, showing the work to be done and the value of that work. This shall be adjusted and resubmitted monthly to match actual work progress. The Owner reserves the right to withhold payment if this procedure is not followed.

1.5 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
   a. Application for Payment forms with continuation sheets.
   b. Submittal schedule.
   c. Items required to be indicated as separate activities in Contractor's construction schedule.
2. Submit the schedule of values to ARCHITECT/ENGINEER at earliest possible date, but no later than 15 days before the date scheduled for submittal of initial Applications for Payment.
3. Subschedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide

subschedules showing values coordinated with each element.

B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the schedule of values:
    a. Project name and location.
    b. Name of ARCHITECT/ENGINEER.
    c. ARCHITECT/ENGINEER project number.
    d. Contractor's name and address.
    e. Date of submittal.

2. Arrange schedule of values consistent with format of AIA Document G703.

3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.

    a. Include separate line items under Contractor and principal subcontracts for other Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.

4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.

5. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
    a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.

6. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

7. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.

8. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
    a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.

9. Schedule Updating: Update and resubmit the schedule of values before the next

Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.6 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by ARCHITECT/ENGINEER and paid for by Owner.
   1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: Pay applications shall be received by the first day of each month and may include work from the first of the previous month through the last day of the previous month. No more than one payment application will be processed each month. The Owner will make payment to the Contractor no later than 30 days from receipt of ARCHITECT/ENGINEER's approval of the Application for Payment.

C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
   1. Fill out and provide Subcontractors Report of South Carolina Sales and Use Tax Paid with each Application for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. ARCHITECT/ENGINEER will return incomplete applications without action.
   1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
   2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
   3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
   4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.

E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on- site and items stored off-site.
   1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
   2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
   3. Provide summary documentation for stored materials indicating the following:
      a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
      b. Value of previously stored materials put in place after date of previous

Application for Payment and on or before date of current Application for Payment.

c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.

F. Transmittal: Submit three signed and notarized original copies of each Application for Payment to ARCHITECT/ENGINEER by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
   1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
   1. List of subcontractors.
   2. Schedule of values.
   3. Contractor's construction schedule (preliminary if not final).
   4. Schedule of unit prices.
   5. Submittal schedule (preliminary if not final).
   6. List of Contractor's staff assignments.
   7. List of Contractor's principal consultants.
   8. Copies of building permits.
   9. Certificates of insurance and insurance policies.
   10. Performance and payment bonds.
   11. Data needed to acquire Owner's insurance.

H. Application for Payment at Substantial Completion: After ARCHITECT/ENGINEER issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
   1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
   2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

I. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
   1. Evidence of completion of Project closeout requirements.
   2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
   3. Updated final statement, accounting for final changes to the Contract Sum.
   4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
   5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
   6. AIA Document G707, "Consent of Surety to Final Payment."
   7. Evidence that claims have been settled.
   8. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 29 00

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11. **SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General coordination procedures.
2. Coordination drawings.
3. Requests for Information (RFIs).
4. Project meetings.

B. Related Requirements:

1. Section 01 32 00 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
2. Section 01 73 00 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
3. Section 01 77 00 "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

A. RFI: Request from Owner, ARCHITECT/ENGINEER, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.

B. Key Personnel Names: Within 10 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1.5 GENERAL COORDINATION PROCEDURES

A. Coordination: Coordinate operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's schedule.
2. Preparation of the schedule of values.
3. Delivery and processing of submittals.
4. Progress meetings.
5. Preinstallation conferences.
6. Project closeout activities.
7. Startup and adjustment of systems.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.
2. Coordination Drawing Prints: Prepare coordination drawing prints according to requirements in Section 01 33 00 "Submittal Procedures."

1.6 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
   1. Project name.
   2. Project number.
   3. Date.
   4. Name of Contractor.
   5. Name of ARCHITECT/ENGINEER.
   6. RFI number, numbered sequentially.
   7. RFI subject.
   8. Specification Section number and title and related paragraphs, as appropriate.
   9. Drawing number and detail references, as appropriate.
   10. Field dimensions and conditions, as appropriate.
   11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
   12. Contractor's signature.
   13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

C. RFI Forms: AIA Document G716.
   1. Attachments shall be electronic files in Adobe Acrobat PDF format.

D. Airport's/ARCHITECT/ENGINEER's will review each RFI, determine action required, and respond. Allow ten working days for response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.
   1. The following Contractor-generated RFIs will be returned without action:
      a. Requests for approval of submittals.
      b. Requests for approval of substitutions.
      c. Requests for approval of Contractor's means and methods.
      d. Requests for coordination information already indicated in the Contract Documents.
      e. Requests for adjustments in the Contract Time or the Contract Sum.
      f. Requests for interpretation of Airport's/ARCHITECT/ENGINEER's actions on submittals.
      g. Incomplete RFIs or inaccurately prepared RFIs.
   2. Airport's/ARCHITECT/ENGINEER's action may include a request for additional information, in which case time for response will date from time of receipt of additional information.
   3. Airport's/ARCHITECT/ENGINEER's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 01 26 00 "Contract Modification Procedures."
      a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Airport's/ARCHITECT/ENGINEER in writing within 5 days of receipt of the RFI response.

E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Include the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of ARCHITECT/ENGINEER.
4. RFI number including RFIs that were returned without action or withdrawn.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's/Engineer's response was received.

F. On receipt of Airport's/ARCHITECT/ENGINEER's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify ARCHITECT/ENGINEER within seven days if Contractor disagrees with response.

1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.7 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and ARCHITECT/ENGINEER of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, within three days of the meeting.

B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and ARCHITECT/ENGINEER but no later than 7 days after execution of the Agreement.

1. Conduct the conference to review responsibilities and personnel assignments.
2. Attendees: Authorized representatives of Owner, ARCHITECT/ENGINEER; Contractor and its superintendent; major subcontractors; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect progress, including the following:
    a. Tentative construction schedule.
    b. Critical work sequencing and long-lead items.
    c. Designation of key personnel and their duties.
    d. Lines of communications.

e. Procedures for processing field decisions and Change Orders.
f. Procedures for RFIs.
g. Procedures for testing and inspecting.
h. Procedures for processing Applications for Payment.
i. Distribution of the Contract Documents.
j. Submittal procedures.
k. Preparation of record documents.
l. Use of the premises.
m. Work restrictions.
n. Working hours.
o. Owner's occupancy requirements.
p. Construction waste management and recycling.
q. Parking availability.
r. Work and storage areas.
s. Equipment deliveries and priorities.
t. First aid.
u. Security.
v. Progress cleaning.

4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each activity that requires coordination.

1. Attendees: Installer and representatives Airport/Landscape shall attend the meeting. Advise of scheduled meeting dates.

2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

a. Contract Documents.

b. Options.
c. Related RFIs.
d. Related Change Orders.
e. Purchases.
f. Deliveries.
g. Submittals.
h. Review of mockups.
i. Possible conflicts.
j. Compatibility requirements.
k. Time schedules.
l. Weather limitations.
m. Manufacturer's written instructions.
n. Warranty requirements.
o. Compatibility of materials.
p. Acceptability of substrates.

q. Temporary facilities and controls.
r. Space and access limitations.
s. Regulations of authorities having jurisdiction.
t. Testing and inspecting requirements.
u. Installation procedures.
v. Coordination with other work.
w. Required performance results.
x. Protection of adjacent work.
y. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.

4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.

5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 10 days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.

2. Attendees: Authorized representatives of Owner; ARCHITECT/ENGINEER; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:

a. Preparation of record documents.
b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
c. Submittal of written warranties.
d. Requirements for preparing operations and maintenance data.
e. Requirements for delivery of material samples, attic stock, and spare parts.
f. Requirements for demonstration and training.
g. Preparation of Contractor's punch list.
h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
i. Submittal procedures.
j. Coordination of separate contracts.

k. Owner's partial occupancy requirements.
l. Installation of Owner's and equipment.
m. Responsibility for removing temporary facilities and controls.

4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

E. Progress Meetings: Conduct progress meetings at intervals to be determined at the pre-construction meeting.

1. Coordinate dates of meetings with preparation of payment requests.

2. Attendees: In addition to representatives of Owner and ARCHITECT/ENGINEER, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

1) Review schedule for next period.

b. Review present and future needs of each entity present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site utilization.
8) Temporary facilities and controls.
9) Progress cleaning.
10) Quality and work standards.
11) Status of correction of deficient items.
12) Field observations.
13) Status of RFIs.
14) Status of proposal requests.
15) Pending changes.

16) Status of Change Orders.
17) Pending claims and disputes.
18) Documentation of information for payment requests.

Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.

c. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 31 00

12. **SECTION 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
   1. Contractor's construction schedule.
   2. Construction schedule updating reports.
   3. Daily construction reports.
   4. Material location reports.
   5. Site condition reports.
   6. Special reports.

B. Related Requirements:
   1. Section 01 33 00 "Submittal Procedures" for submitting schedules and reports.
   2. Section 01 40 00 "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
   1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
   2. Predecessor Activity: An activity that precedes another activity in the network.
   3. Successor Activity: An activity that follows another activity in the network.

B. Float: The measure of leeway in starting and completing an activity.
   1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
   2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
   3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

C. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.4 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:
   1. PDF electronic file.
   2. Six paper copies.
B. Startup Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.
C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
   1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.
D. Construction Schedule Updating Reports: Submit with Applications for Payment.
E. Daily Construction Reports: Submit at weekly intervals.
F. Material Location Reports: Submit at monthly intervals.
G. Site Condition Reports: Submit at time of discovery of differing conditions.
H. Special Reports: Submit at time of unusual event.
I. Qualification Data: For scheduling consultant.

1.5 QUALITY ASSURANCE

A. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Section 01 31 00 "Project Management and Coordination." Review methods and procedures related to the preliminary construction schedule and Contractor's construction schedule, including, but not limited to, the following:
   1. Review software limitations and content and format for reports.
   2. Verify availability of qualified personnel needed to develop and update schedule.
   3. Discuss constraints, including work stages.
   4. Review delivery dates for Owner-furnished products.
   5. Review schedule for work of Owner's separate contracts.
   6. Review submittal requirements and procedures.
   7. Review time required for review of submittals and resubmittals.
   8. Review requirements for tests and inspections by independent testing and inspecting agencies.
   9. Review time required for Project closeout and Owner startup procedures.
   10. Review and finalize list of construction activities to be included in schedule.
   11. Review procedures for updating schedule.

1.6 COORDINATION

A. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.
   1. Secure time commitments for performing critical elements of the Work from entities involved.
   2. Coordinate each construction activity in the network with other activities

and schedule them in proper sequence.

PART 2 – PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of final completion.
   1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
B. Activities: Treat each story or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
   1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
   2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
   3. Submittal Review Time: Include review and resubmittal times indicated in Section 01 33 00 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
   4. Startup and Testing Time: Include no fewer than 15 days for startup and testing.
   5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's/Engineer's administrative procedures necessary for certification of Substantial Completion.
   6. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and final completion.
C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
   1. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Section 01 11 00 "Summary of Work." Delivery dates indicated stipulate the earliest possible delivery date.
   2. Work Restrictions: Show the effect of the following items on the schedule:
      a. Coordination with existing construction.
      b. Use of premises restrictions.
      c. Seasonal variations.
      d. Environmental control.
   3. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
      a. Subcontract awards.
      b. Submittals.
      c. Purchases.

d. Mockups.
e. Fabrication.
f. Deliveries.
g. Installation.
h. Tests and inspections.
i. Adjusting.
j. Startup and placement into final use and operation.

4. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
   a. Temporary enclosure and space conditioning.
   b. Permanent space enclosure.
   c. Completion of mechanical installation.
   d. Completion of electrical installation.
   e. Substantial Completion.

D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.

E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
   1. Unresolved issues.
   2. Unanswered Requests for Information.
   3. Rejected or unreturned submittals.
   4. Notations on returned submittals.
   5. Pending modifications affecting the Work and Contract Time.

F. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

G. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
   1. Use Windows XP operating system.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 30 days of date established for the Notice to Proceed. Base schedule on the startup construction schedule and additional information received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
   1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.3 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
1. List of subcontractors at Project site.
2. Approximate count of personnel at Project site.
3. Equipment at Project site.
4. Material deliveries.
5. Accidents.
6. Meetings and significant decisions.
7. Unusual events (see special reports).
8. Stoppages, delays, shortages, and losses.
9. Emergency procedures.
10. Orders and requests of authorities having jurisdiction.
11. Change Orders received and implemented.
12. Construction Change Directives received and implemented.
13. Equipment or system tests and startups.
14. Partial completions and occupancies.
15. Substantial Completions authorized.

B. Material Location Reports: At monthly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. Indicate the following categories for stored materials:
1. Material stored prior to previous report and remaining in storage.
2. Material stored prior to previous report and since removed from storage and installed.
3. Material stored following previous report and remaining in storage.

C. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.4 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
   1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
   2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
   3. As the Work progresses, indicate final completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Architect/Engineer, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
   1. Post copies in Project meeting rooms and temporary field offices.
   2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 01 32 00

13. **SECTION 01 33 00 - SUBMITTAL PROCEDURES**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 and Division 32 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's/Engineer's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's/Engineer's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.

D. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 ACTION SUBMITTALS

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by ARCHITECT/ENGINEER and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.

2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.

3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
4. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
5. Format: Arrange the following information in a tabular format:
    a. Scheduled date for first submittal.
    b. Specification Section number and title.
    c. Submittal category: Action; informational.
    d. Name of subcontractor.
    e. Description of the Work covered.
    f. Scheduled date for ARCHITECT/ENGINEER's final release or approval.
    g. Scheduled date of fabrication.
    h. Scheduled dates for purchasing.
    i. Scheduled dates for installation.
    j. Activity or event number.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
    1. Action Submittals: Submit three paper copies of each submittal unless otherwise indicated. ARCHITECT/ENGINEER will return two copies.
    2. Informational Submittals: Submit two paper copies of each submittal unless otherwise indicated. ARCHITECT/ENGINEER will not return copies.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
    1. Include the following information, as applicable:
        a. Manufacturer's catalog cuts.
        b. Standard color charts.
        c. Statement of compliance with specified referenced standards.
        d. Testing by recognized testing agency.
        e. Application of testing agency labels and seals.
        f. Notation of coordination requirements.
    2. For equipment, include the following in addition to the above, as applicable:

a. Wiring diagrams showing factory-installed wiring.

b. Operational range diagrams.

c. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

a. Identification of products.

b. Schedules.

c. Compliance with specified standards.

d. Notation of coordination requirements.

e. Notation of dimensions established by field measurement.

f. Relationship and attachment to adjoining construction clearly indicated.

g. Seal and signature of professional engineer if specified.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Disposition: Maintain sets of approved Samples at Project site, available for quality- control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.

2. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

3. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.

F. Coordination Drawing Submittals: Comply with requirements specified in Section 01 31 00 "Project Management and Coordination."

G. Application for Payment and Schedule of Values: Comply with requirements specified in Section 01 29 00 "Payment Procedures."

H. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 01 40 00 "Quality Requirements."

I. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 01 77 00 "Closeout Procedures."

J. Maintenance Data: Comply with requirements specified in Section 01 78 23 "Operation and Maintenance Data."

K. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

L. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

M. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

N. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

O. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

P. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

Q. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

R. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

S. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit six paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval before submitting to ARCHITECT/ENGINEER. Submittals received by the ARCHITECT/ENGINEER without review, approval and signature of the General Contractor will be returned for resubmittal without review.

B. Project Closeout and Maintenance Material Submittals: See requirements in Section 01 77 00 "Closeout Procedures."

3.2 ARCHITECT/ENGINEER'S ACTION

A. Action Submittals: ARCHITECT/ENGINEER will review each submittal, make marks to indicate corrections or revisions required, and return it. ARCHITECT/ENGINEER will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.

B. Informational Submittals: ARCHITECT/ENGINEER will review each submittal and will not return it, or will return it if it does not comply with requirements. ARCHITECT/ENGINEER will forward each submittal to appropriate party.

C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from ARCHITECT/ENGINEER.

D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Submittals not required by the Contract Documents may be returned by the ARCHITECT/ENGINEER without action.

END OF SECTION 01 33 00

14. **SECTION 01 40 00 - QUALITY REQUIREMENTS**

PART 1 - GENERAL

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.3 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality- assurance and -control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and -control services required by ARCHITECT/ENGINEER, or authorities having jurisdiction are not limited by provisions of this Section.
4. Specific test and inspection requirements are not specified in this Section.

C. Related Requirements:

1. See Division 32 for specific test and inspection requirements.

1.4 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by ARCHITECT/ENGINEER or Owner.

C. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.

1.5 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to ARCHITECT/ENGINEER for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to ARCHITECT/ENGINEER for a decision before proceeding.

1.6 CONTRACTOR'S QUALITY-CONTROL

A. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.

1. Project quality-control manager may also serve as Project superintendent.

B. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.

C. Testing and Inspection:

1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.

D. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.

E. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work ARCHITECT/ENGINEER has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.7 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.

3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Test and inspection results and an interpretation of test results.
8. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
9. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
10. Recommendations on retesting and reinspecting.

1.8 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

1.9 QUALITY CONTROL

A. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

B. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality- control services required by the Contract Documents as a component of Contractor's quality- control plan. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses.

1. Distribution: Distribute schedule to Owner, ARCHITECT/ENGINEER, and each party involved in performance of portions of the Work where tests and inspections are required.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.

3. Date test or inspection results were transmitted to Architect.
4. Identification of testing agency or special inspector conducting test or inspection.

END OF SECTION 01 40 00

15. **SECTION 01 42 00 - REFERENCES**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's/Engineer's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's/Engineer's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by ARCHITECT/ENGINEER. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

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

B. Publication Dates: Comply with standards in effect as of date of the Contract

Documents unless otherwise indicated.

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

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

1.4 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."

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

1. AABC - Associated Air Balance Council; www.aabc.com.
2. AAMA - American Architectural Manufacturers Association; www.aamanet.org.
3. AAPFCO - Association of American Plant Food Control Officials; www.aapfco.org.
4. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
5. AATCC - American Association of Textile Chemists and Colorists; www.aatcc.org.
6. ABMA - American Bearing Manufacturers Association; www.americanbearings.org.
7. ABMA - American Boiler Manufacturers Association; www.abma.com.
8. ACI - American Concrete Institute; (Formerly: ACI International); www.abma.com.
9. ACPA - American Concrete Pipe Association; www.concrete-pipe.org.
10. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
11. AF&PA - American Forest & Paper Association; www.afandpa.org.
12. AGA - American Gas Association; www.aga.org.
13. AHAM - Association of Home Appliance Manufacturers; www.aham.org.
14. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
15. AI - Asphalt Institute; www.asphaltinstitute.org.
16. AIA - American Institute of Architects (The); www.aia.org.
17. AISC - American Institute of Steel Construction; www.aisc.org.
18. AISI - American Iron and Steel Institute; www.steel.org.
19. AITC - American Institute of Timber Construction; www.aitc-glulam.org.
20. AMCA - Air Movement and Control Association International, Inc.;

www.amca.org.

21. ANSI - American National Standards Institute; www.ansi.org.
22. AOSA - Association of Official Seed Analysts, Inc.; www.aosaseed.com.
23. APA - APA - The Engineered Wood Association; www.apawood.org.
24. APA - Architectural Precast Association; www.archprecast.org.
25. API - American Petroleum Institute; www.api.org.
26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
27. ARI - American Refrigeration Institute; (See AHRI).
28. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.
29. ASCE - American Society of Civil Engineers; www.asce.org.
30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
31. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
32. ASME - ASME International; (American Society of Mechanical Engineers);www.asme.org.
33. ASSE - American Society of Safety Engineers (The); www.asse.org.
34. ASSE - American Society of Sanitary Engineering; www.asse-plumbing.org.
35. ASTM - ASTM International; www.astm.org.
36. ATIS - Alliance for Telecommunications Industry Solutions; www.atis.org.
37. AWEA - American Wind Energy Association; www.awea.org.
38. AWI - Architectural Woodwork Institute; www.awinet.org.
39. AWMAC - Architectural Woodwork Manufacturers Association of Canada;www.awmac.com.
40. AWPA - American Wood Protection Association; www.awpa.com.
41. AWS - American Welding Society; www.aws.org.
42. AWWA - American Water Works Association; www.awwa.org.
43. BHMA - Builders Hardware Manufacturers Association; www.buildershardware.com.
44. BIA - Brick Industry Association (The); www.gobrick.com.
45. BICSI - BICSI, Inc.; www.bicsi.org.
46. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); www.bifma.org.
47. BISSC - Baking Industry Sanitation Standards Committee; www.bissc.org.
48. BWF - Badminton World Federation; (Formerly: International Badminton Federation); www.bissc.org.
49. CDA - Copper Development Association; www.copper.org.
50. CEA - Canadian Electricity Association; www.electricity.ca.
51. CEA - Consumer Electronics Association; www.ce.org.
52. CFFA - Chemical Fabrics and Film Association, Inc.; www.chemicalfabricsandfilm.com.
53. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
54. CGA - Compressed Gas Association; www.cganet.com.
55. CIMA - Cellulose Insulation Manufacturers Association;

www.cellulose.org.
56. CISCA - Ceilings & Interior Systems Construction Association; www.cisca.org.
57. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
58. CLFMI - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
59. CPA - Composite Panel Association; www.pbmdf.com.
60. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
61. CRRC - Cool Roof Rating Council; www.coolroofs.org.
62. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
63. CSA - Canadian Standards Association; www.csa.ca.
64. CSA - CSA International; (Formerly: IAS - International Approval Services); www.csa- international.org.
65. CSI - Construction Specifications Institute (The); www.csinet.org.
66. CSSB - Cedar Shake & Shingle Bureau; www.cedarbureau.org.
67. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.cti.org.
68. CWC - Composite Wood Council; (See CPA).
69. DASMA - Door and Access Systems Manufacturers Association; www.dasma.com.
70. DHI - Door and Hardware Institute; www.dhi.org.
71. ECA - Electronic Components Association; (See ECIA).
72. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
73. ECIA - Electronic Components Industry Association; www.eciaonline.org.
74. EIA - Electronic Industries Alliance; (See TIA).
75. EIMA - EIFS Industry Members Association; www.eima.com.
76. EJMA - Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
77. ESD - ESD Association; (Electrostatic Discharge Association); www.esda.org.
78. ESTA - Entertainment Services and Technology Association; (See PLASA).
79. EVO - Efficiency Valuation Organization; www.evo-world.org.
80. FCI - Fluid Controls Institute; www.fluidcontrolsinstitute.org.
81. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); www.fiba.com.
82. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); www.fivb.org.
83. FM Approvals - FM Approvals LLC; www.fmglobal.com.
84. FM Global - FM Global; (Formerly: FMG - FM Global); www.fmglobal.com.
85. FRSA - Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.; www.floridaroof.com.
86. FSA - Fluid Sealing Association; www.fluidsealing.com.
87. FSC - Forest Stewardship Council U.S.; www.fscus.org.
88. GA - Gypsum Association; www.gypsum.org.
89. GANA - Glass Association of North America; www.glasswebsite.com.
90. GS - Green Seal; www.greenseal.org.
91. HI - Hydraulic Institute; www.pumps.org.
92. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See

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

www.naamm.org.

132. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.
133. NADCA - National Air Duct Cleaners Association; www.nadca.com.
134. NAIMA - North American Insulation Manufacturers Association; www.naima.org.
135. NBGQA - National Building Granite Quarries Association, Inc.; www.nbgqa.com.
136. NBI - New Buildings Institute; www.newbuildings.org.
137. NCAA - National Collegiate Athletic Association (The); www.ncaa.org.
138. NCMA - National Concrete Masonry Association; www.ncma.org.
139. NEBB - National Environmental Balancing Bureau; www.nebb.org.
140. NECA - National Electrical Contractors Association; www.necanet.org.
141. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
142. NEMA - National Electrical Manufacturers Association; www.nema.org.
143. NETA - InterNational Electrical Testing Association; www.netaworld.org.
144. NFHS - National Federation of State High School Associations; www.nfhs.org.
145. NFPA - National Fire Protection Association; www.nfpa.org.
146. NFPA - NFPA International; (See NFPA).
147. NFRC - National Fenestration Rating Council; www.nfrc.org.
148. NHLA - National Hardwood Lumber Association; www.nhla.com.
149. NLGA - National Lumber Grades Authority; www.nlga.org.
150. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
151. NOMMA - National Ornamental & Miscellaneous Metals Association; www.nomma.org.
152. NRCA - National Roofing Contractors Association; www.nrca.net.
153. NRMCA - National Ready Mixed Concrete Association; www.nrmca.org.
154. NSF - NSF International; www.nsf.org.
155. NSPE - National Society of Professional Engineers; www.nspe.org.
156. NSSGA - National Stone, Sand & Gravel Association; www.nssga.org.
157. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
158. NWFA - National Wood Flooring Association; www.nwfa.org.
159. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
160. PDI - Plumbing & Drainage Institute; www.pdionline.org.
161. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); www.plasa.org.
162. RCSC - Research Council on Structural Connections; www.boltcouncil.org.
163. RFCI - Resilient Floor Covering Institute; www.rfci.com.
164. RIS - Redwood Inspection Service; www.redwoodinspection.com.
165. SAE - SAE International; www.sae.org.
166. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
167. SDI - Steel Deck Institute; www.sdi.org.
168. SDI - Steel Door Institute; www.steeldoor.org.
169. SEFA - Scientific Equipment and Furniture Association (The);

www.sefalabs.com.

170. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
171. SIA - Security Industry Association; www.siaonline.org.
172. SJI - Steel Joist Institute; www.steeljoist.org.
173. SMA - Screen Manufacturers Association; www.smainfo.org.
174. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
175. SMPTE - Society of Motion Picture and Television Engineers; www.smpte.org.
176. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
177. SPIB - Southern Pine Inspection Bureau; www.spib.org.
178. SPRI - Single Ply Roofing Industry; www.spri.org.
179. SRCC - Solar Rating & Certification Corporation; www.solar-rating.org.
180. SSINA - Specialty Steel Industry of North America; www.ssina.com.
181. SSPC - SSPC: The Society for Protective Coatings; www.sspc.org.
182. STI - Steel Tank Institute; www.steeltank.com.
183. SWI - Steel Window Institute; www.steelwindows.com.
184. SWPA - Submersible Wastewater Pump Association; www.swpa.org.
185. TCA - Tilt-Up Concrete Association; www.tilt-up.org.
186. TCNA - Tile Council of North America, Inc.; www.tileusa.com.
187. TEMA - Tubular Exchanger Manufacturers Association, Inc.; www.tema.org.
188. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); www.tiaonline.org.
189. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
190. TMS - The Masonry Society; www.masonrysociety.org.
191. TPI - Truss Plate Institute; www.tpinst.org.
192. TPI - Turfgrass Producers International; www.turfgrasssod.org.
193. TRI - Tile Roofing Institute; www.tileroofing.org.
194. UL - Underwriters Laboratories Inc.; www.ul.com.
195. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
196. USAV - USA Volleyball; www.usavolleyball.org.
197. USGBC - U.S. Green Building Council; www.usgbc.org.
198. USITT - United States Institute for Theatre Technology, Inc.; www.usitt.org.
199. WASTEC - Waste Equipment Technology Association; www.wastec.org.
200. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
201. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
202. WDMA - Window & Door Manufacturers Association; www.wdma.com.
203. WI - Woodwork Institute; www.wicnet.org.
204. WSRCA - Western States Roofing Contractors Association; www.wsrca.com.
205. WWPA - Western Wood Products Association; www.wwpa.org.

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

1. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.
2. ICC - International Code Council; www.iccsafe.org.
3. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.

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

1. COE - Army Corps of Engineers; www.usace.army.mil.
2. CPSC - Consumer Product Safety Commission; www.cpsc.gov.
3. DOC - Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
4. DOD - Department of Defense; www.quicksearch.dla.mil.
5. DOE - Department of Energy; www.energy.gov.
6. EPA - Environmental Protection Agency; www.epa.gov.
7. FAA - Federal Aviation Administration; www.faa.gov.
8. FG - Federal Government Publications; www.gpo.gov.
9. GSA - General Services Administration; www.gsa.gov.
10. HUD - Department of Housing and Urban Development; www.hud.gov.
11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; www.eetd.lbl.gov.
12. OSHA - Occupational Safety & Health Administration; www.osha.gov.
13. SD - Department of State; www.state.gov.
14. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; www.trb.org.
15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
16. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.
17. USDJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.
18. USP - U.S. Pharmacopeial Convention; www.usp.org.
19. USPS - United States Postal Service; www.usps.com.

E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CFR - Code of Federal Regulations; Available from Government Printing Office; www.gpo.gov/fdsys.
2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.quicksearch.dla.mil.
3. DSCC - Defense Supply Center Columbus; (See FS).
4. FED-STD - Federal Standard; (See FS).

5. FS - Federal Specification; Available from DLA Document Services;www.quicksearch.dla.mil.
   a. Available from Defense Standardization Program; www.dsp.dla.mil.
   b. Available from General Services Administration; www.gsa.gov.
   c. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org/ccb.
6. MILSPEC - Military Specification and Standards; (See DOD).
7. USAB - United States Access Board; www.access-board.gov.
8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).

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

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 42 00

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16. **SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

B. Related Requirements:

1. Section 01 11 00 "Summary of Work" for work restrictions and limitations on utility interruptions.
2. Section 01 53 00 “Airfield Temporary Markings and Barricades.”

1.3 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Architect/Engineer, occupants of Project, testing agencies, and authorities having jurisdiction.

B. Sewer Service: Pay fixed sewer-service use charge to the OWNER of $100.00 for sewer usage by all entities for construction operations.

C. Water Service: Pay fixed water-service use charge to the OWNER of $100.00 for water used by all entities for construction operations.

D. Electric Power Service: None – Contractor shall provide means to provide electricity for Contractor operations.

1.4 INFORMATIONAL SUBMITTALS

A. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

1.5 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits if applicable.

1.6 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

B. Keep temporary services and facilities clean and neat. Relocate temporary services and facilities as required by the progress of the Work. Do not allow dangerous, hazardous, or unsanitary conditions.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with Drawings and Specifications.

B. Water: Potable.

2.2 TEMPORARY FACILITIES

A. Field Office: Not required for this project.

B. Storage Trailers and Containers: Provide self-contained enclosed trailers or temporary shipping- style containers for to accommodate materials and equipment for construction operations.

1. Store combustible materials apart from building.

2.3 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

1. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary distribution from existing building system.

1. Any electrical usage needs shall be provided by the CONTRACTOR using generators or other portable generation.

B. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

1. Use of the permanent terminal restrooms and other facilities is prohibited.

C. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
2. Install shielded type lighting that prevents light spill and shine onto the Airfield Operations Area.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:
   1. Maintain support facilities until Architect/Engineer schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

C. Temporary Signs: Provide other signs as indicated and as required to inform the public, subcontractors, deliveries, and individuals seeking entrance to Project.
   1. Provide temporary, directional signs for construction personnel and visitors.
   2. Review and receive approval from Owner as to location prior to installation.

D. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 01 73 00 "Execution." Waste disposal containers shall be covered and maintained as such as all times.
   1. Contractor shall maintain a dumpster for collection and removal of waste and debris at each active job site/building location. Dumpster shall be covered at all times to prevent loose material and debris from blowing onto aircraft operation areas. Contractor shall immediately place trash and debris into dumpster and will not be permitted to have uncontained trash and debris on site.
   2. Contractor shall have a designated person to be responsible for monitoring trash and debris at each active job site/building.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Section 01 11 00 "Summary of Work."

C. Fences, Barricades, Warning Signs, and Lights: Coordinate requirements with the Owner and the Architect/Engineer.
   1. Extent of Fence: Provide barricades or security fence as required to enclose work area for safety and security.

D. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

E. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
   1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.

3.5 MOISTURE AND MOLD CONTROL

1. Not Used

3.6 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.
   1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
   1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
   2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 01 77 00 "Closeout Procedures."

END OF SECTION 01 50 00

17. **SECTION 01 60 00 - PRODUCT REQUIREMENTS**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

1.3 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.

2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.

3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.

2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
3. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
4. Protect stored products from damage and liquids from freezing.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Owner will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

3. Products:

   a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered unless otherwise indicated.

   b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.

4. Manufacturers:

   a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered unless otherwise indicated.

   b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.

5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's/Engineer’s sample", provide a product that complies with requirements and matches Architect's/Engineer’s sample. Architect's/Engineer’s decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 01 25 00 "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by ARCHITECT/ENGINEER from manufacturer's full range" or similar phrase, select a product that complies with requirements. ARCHITECT/ENGINEER will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration: ARCHITECT/ENGINEER will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, ARCHITECT/ENGINEER may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.

2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.

3. Evidence that proposed product provides specified warranty.

4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.

5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 60 00

18. **SECTION 01 73 00 - EXECUTION**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. Installation of the Work.
4. Cutting and patching.
5. Progress cleaning.
6. Starting and adjusting.
7. Protection of installed construction.

B. Related Requirements:

1. Section 01 11 00 "Summary of Work" for limits on use of Project site.
2. Section 01 33 00 "Submittal Procedures" for submitting surveys.
3. Section 01 77 00 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to ARCHITECT/ENGINEER for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to Owner that is necessary to adjust, move, or relocate existing utilities, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to ARCHITECT/ENGINEER according to requirements in Section 01 31 00 "Project Management and Coordination."

3.3 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.

2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.

3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.

4. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

D. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

G. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by ARCHITECT/ENGINEER.

2. Allow for building movement, including thermal expansion and contraction.

3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.4 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Temporary Support: Provide temporary support of work to be cut.

C. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

D. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 01 11 00 "Summary of Work."

E. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

F. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize

evidence of patching and refinishing.

a. Clean piping, conduit, and similar features before applying paint or other finishing materials.

b. Restore damaged pipe covering to its original condition.

3. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

G. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.5 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.

2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.

3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 01 74 19 "Construction Waste Management and Disposal."

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful or damaging exposure during the construction period.

3.6 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Adjust equipment for proper operation. Remove malfunctioning units, replace with new units, and retest.

3.7 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

END OF SECTION 01 73 00

19. **SECTION 01 74 19 - CONSTRUCTION WASTE MANAGEMENT ANDDISPOSAL**

PART 1 - GENERAL

1.1. RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2. SUMMARY

A. Section includes administrative and procedural requirements for the following:
   1. Recycling nonhazardous demolition and construction waste.
   2. Disposing of nonhazardous demolition and construction waste.

B. Related Requirements:
   1. Section 01 14 30 “Airport Project Procedures.”
   2. Section 01 50 00 “Temporary Facilities and Controls.”
   3. Section 02 41 19 "Selective Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements.

1.3. DEFINITIONS

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

1.4. ACTION SUBMITTALS

A. Waste Management Plan: Submit plan within 7 days of date established for the Notice to Proceed.

1.5. INFORMATIONAL SUBMITTALS

A. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

B. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

C. Qualification Data: For waste management coordinator and refrigerant recovery technician.

D. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.6. QUALITY ASSURANCE

A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.

B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

1.7. WASTE MANAGEMENT PLAN

A. General: Develop a waste management plan according to ASTM E 1609 and requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Distinguish between demolition and construction waste. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

1. Comply with operation, termination, and removal requirements in Section 01 50 00 "Temporary Facilities and Controls."

B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan. Coordinator shall be present at Project site full time for duration of Project.

C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.

1. Distribute waste management plan to everyone concerned within three days of submittal return.
2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
2. Comply with Section 01 50 00 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.

B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.

C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.

D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.

1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
    a. Inspect containers and bins for contamination and remove contaminated materials if found.
2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor.

3.3 RECYCLING DEMOLITION WASTE

A. Metals: Separate metals by type.

3.4 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION 01 74 19

20. **SECTION 01 77 00 - CLOSEOUT PROCEDURES**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final completion procedures.
3. Warranties.
4. Final cleaning.
5. Repair of the Work.

B. Related Requirements:

1. Section 01 73 00 "Execution" for progress cleaning of Project site.
2. Section 01 78 23 "Operation and Maintenance Data" for operation and maintenance manual requirements.
3. Section 01 78 39 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
4. Section 01 79 00 "Demonstration and Training" for requirements for instructing Owner's personnel.

1.3 ACTION SUBMITTALS

A. Product Data:.

B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.4 CLOSEOUT SUBMITTALS

A. Certificates of Release: From authorities having jurisdiction.

B. Certificate of Insurance: For continuing coverage.

C. Field Report: For pest control inspection.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
2. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
3. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by ARCHITECT/ENGINEER. Label with manufacturer's name and model number where applicable.
    a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's/Engineer’s signature for receipt of submittals.
4. Submit test records.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Perform preventive maintenance on equipment used prior to Substantial Completion.
2. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
3. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

1.7 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Section 01 29 00 "Payment Procedures."

2. Certified List of Incomplete Items: Submit certified copy of Architect's/Engineer's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by ARCHITECT/ENGINEER. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, ARCHITECT/ENGINEER will either proceed with inspection or notify Contractor of unfulfilled requirements. ARCHITECT/ENGINEER will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Include the following information at the top of each page:

a. Project name.

b. Date.

c. Name of ARCHITECT/ENGINEER.

d. Name of Contractor.

1.9 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of ARCHITECT/ENGINEER for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

1. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

2. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of

contents at beginning of document.

C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 – PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Final Cleaning: Employ experienced workers for final cleaning. Prior to Substantial Completion, clean each surface or area affected by the project work, to the condition expected in an average commercial building cleaning and maintenance program.

1. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.

2. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.

3. Remove tools, construction equipment and surplus material from Project site.

4. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.

5. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, and similar spaces.

6. Sweep concrete floors broom clean in unoccupied spaces.

C. Construction Waste Disposal: Comply with waste disposal requirements in Section 01 74 19 "Construction Waste Management and Disposal."

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements.

END OF SECTION 01 77 00

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21. **SECTION 01 78 39 - PROJECT RECORD DOCUMENTS**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for project record documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.
4. Miscellaneous record submittals.

B. Related Requirements:

1. Section 01 73 00 "Execution" for final property survey.
2. Section 01 77 00 "Closeout Procedures" for general closeout procedures.
3. Section 01 78 23 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.3 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit copies of record Drawings as follows:

a. Initial Submittal:

1) Submit PDF electronic files of scanned record prints and one of file prints.
2) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.

b. Final Submittal:

1) Submit PDF electronic files of scanned record prints and three sets of prints.
2) Print each drawing, whether or not changes and additional information were recorded.

B. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit one copy of each submittal.

1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record- keeping requirements and submittals in connection with various construction activities. Submit one copy of each submittal.

E. Reports: Submit written report weekly indicating items incorporated into project record documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.

1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
b. Accurately record information in an acceptable drawing technique.
c. Record data as soon as possible after obtaining it.
d. Record and check the markup before enclosing concealed installations.
e. Cross-reference record prints to corresponding archive photographicdocumentation.

2. Content: Types of items requiring marking include, but are not limited to, the following:

a. Dimensional changes to Drawings.
b. Revisions to details shown on Drawings.
c. Depths of foundations below first floor.
d. Locations and depths of underground utilities.
e. Revisions to routing of piping and conduits.
f. Revisions to electrical circuitry.
g. Actual equipment locations.
h. Duct size and routing.
i. Locations of concealed internal utilities.
j. Changes made by Change Order or Construction Change Directive.
k. Changes made following Architect's/Engineer’s written orders.
l. Details not on the original Contract Drawings.
m. Field records for variable and concealed conditions.

n. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with ARCHITECT/ENGINEER. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:

1. Format: Annotated PDF electronic file with comment function enabled.
2. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
3. Refer instances of uncertainty to ARCHITECT/ENGINEER for resolution.
4. ARCHITECT/ENGINEER will furnish Contractor one set of digital data files of the Contract Drawings for use in recording information.
   a. See Section 01 33 00 "Submittal Procedures" for requirements related to use of Architect's/Engineer’s digital data files.
   b. ARCHITECT/ENGINEER will provide data file layer information. Record markups in separate layers.

C. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Format: Annotated PDF electronic file with comment function enabled.
3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
4. Identification: As follows:
   a. Project name.
   b. Date.
   c. Designation "PROJECT RECORD DRAWINGS."
   d. Name of ARCHITECT/ENGINEER.
   e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
5. Note related Change Orders, record Product Data, and record Drawings where applicable.

B. Format: Submit record Specifications as annotated PDF electronic file or scanned PDF electronic file(s) of marked-up paper copy of Specifications.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, record Specifications, and record Drawings where applicable.

B. Format: Submit record Product Data as annotated PDF electronic file or scanned PDF electronic file(s) of marked-up paper copy of Product Data.

1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

B. Format: Submit miscellaneous record submittals as PDF electronic file or scanned PDF electronic file(s) of marked-up miscellaneous record submittals.

1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.

B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's/Engineer’s reference during normal working hours.

END OF SECTION 01 78 39