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Refer to Specifications on MEP Drawings

END OF SECTION

SECTION 003126 - EXISTING HAZARDOUS MATERIAL INFORMATION

1.1 EXISTING HAZARDOUS MATERIAL INFORMATION

- A. This Document with its referenced attachments is part of the Procurement and Contracting Requirements for Project. They provide Owner's information for Bidders' convenience and are intended to supplement rather than serve in lieu of Bidders' own investigations. They are made available for Bidders' convenience and information, but are not a warranty of existing conditions. This Document and its attachments are not part of the Contract Documents.
- B. An existing asbestos report for Project will be provided by the owner prior to the commencement of work on the project.
- C. Related Requirements:
 - 1. Document 002113 "Instructions to Bidders" for the Bidder's responsibilities for examination of Project site and existing conditions.
 - 2. Document 003119 "Existing Condition Information" for information about existing conditions that is made available to bidders.
 - 3. Section 024119 "Selective Structure Demolition" for notification requirements if materials suspected of containing hazardous materials are encountered.

END OF SECTION 003126

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SECTION 011000 - SUMMARY OF WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Procurement and Contracting Requirements, General Conditions, and other Division 1 Specification Sections, apply to this Section.

1.02 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Project comprises interior renovations to Rust Manor in Leesburg, Virginia as indicated in the Contract Documents.

- 1. Project Location: 802 Childrens Center Rd, Leesburg, VA 20175
- 2. Owner: NOVA Parks
5400 Ox Road
Fairfax Station, Virginia 22039

- B. Contract Documents, with Project Manual dated July 18th and Drawings dated July 18th were prepared for the Project by:

Maginniss + del Ninno Architects
500 Montgomery Street, Suite 550
Alexandria, Virginia 22314

- C. The Work will be constructed under a single prime contract.

1.03 WORK SEQUENCE

- A. The Work to be completed in accordance to the following:

- 1. Coordinate the Construction Schedule and operations with the Owner. The fire alarm system shall not be taken out of operation without approval by the Fire Marshall, Owner and School Administration. The Contractor shall give the Owner a five (5) working day advance notice prior to such an occurrence.
- 2. Complete all construction work, be substantially complete and obtain necessary inspections for occupancy by the owner-provided construction deadline.

1.04 WORK SCHEDULE

- A. Obtain schedule from NOVA Parks and allow for any scheduled events that will affect construction.

1.05 CONTRACTOR USE OF PREMISES

- A. Use of the Site: Limit use of the premises to work in areas indicated. Confine operations to areas within work area indicated, or to construction support areas on the exterior of the building in areas designated and approved by the Owner. Do not disturb portions of the site beyond the areas in which the Work is indicated.

- 1. Storage of Materials: Do not unreasonably encumber the site with materials or equipment. The Owner will designate a staging and storage area for the Contractor's use on site. The Contractor shall assume full responsibility for

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protection of products, equipment and materials stored on site, in vehicles or in trailers. Confine stockpiling of materials and location of storage sheds to these areas. If additional storage is necessary, obtain and pay for such storage off site.

2. Driveways and Entrances: Keep driveways, fire lanes and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
 3. Contractor's or Worker Vehicles: Lock automotive vehicles, such as passenger cars and trucks and other mechanized or motorized equipment, when parked or unattended, so as to prevent unauthorized use. Do not leave any vehicles or equipment unattended with the motor running or the ignition key in place. Park all vehicles in paved parking lots, streets and alleys. Vehicle parking within the site areas designated for the Contractor's use shall be at the discretion of the Owner. No other parking area(s) is provided. Street parking as may be available is subject to posted regulations. No parking will be allowed on lawns, sidewalks or fields unless required by construction operations, specifically indicated in the Contract Documents or approved by the Owner's Representative. Repair any damage caused to lawns, sidewalks or playing fields caused as a result of construction operations.
- B. Use of the Existing Building: Maintain the existing building in a secure and weather tight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period. Repair any damage caused by construction operations to match existing conditions and finishes. Take all precautions necessary to protect the building and its occupants during the construction period.
1. Keep public areas such as hallways, stairs, and toilet rooms free from accumulation of waste material, rubbish or construction debris.
 2. Maintain area adjacent to construction neat and clean on a daily basis.
 3. Open fires will not be permitted within the building enclosure or on the premises at any time.
 4. Smoking shall not be allowed on the premises at any time.
 5. The possession and/or use of drugs or alcohol are strictly prohibited.
 6. Contractor shall provide temporary toilet facilities for use by personnel associated with the project.
 7. Secure and control points of access to the building when working during times when the building is closed.
- C. Related Requirements:
1. Section 017300 "Execution."
 2. Section 015000 "Temporary Facilities and Controls."
 3. Section 013516 "Alteration Project Requirements."

1.06 WORK UNDER SEPARATE CONTRACTS

- A. General: Cooperate fully and coordinate with separate contractors so work on this

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contract may be carried out smoothly, without interfering with or delaying Work under this contract or other contracts.

- B. Concurrent Work: Owner may award separate contracts for work in or adjacent to the area of work. Cooperate and coordinate work by other contractors.

1.07 OCCUPANCY REQUIREMENTS

- A. Owner Occupancy: The Owner reserves the right to occupy the building to place and install equipment in completed areas of the building prior to Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placing of equipment and partial occupancy shall not constitute acceptance of the total Work.

1.07 CONTRACTOR'S MANPOWER TO CONDUCT THE WORK

- A. Commencement of work shall not occur until sufficient materials and equipment are available and sufficient numbers of workmen are available to execute the work in the time period indicated.
- B. Multiple Work Shifts: Subject to compliance with hours of construction activity established and allowed by authorities having jurisdiction and in order to ensure completion of work during the time periods indicated, the contractor may operate two separate, full time, eight-hour shifts per day, six days per week, employing trades, skills, specialties, and supervision, subject to the following conditions:
 - 1. The Contractor shall have a qualified supervisor for each shift.
 - 2. All trades must have qualified supervision for each shift.
 - 3. All shifts during hours when the building is not normally occupied must be scheduled at least one week in advance with the Owner.
 - 4. To work during hours prohibited by the local ordinance the Contractor shall obtain a Noise Permit from the local Environmental Health Department.

1.08 OWNER'S REPRESENTATIVE

- A. NOVA Parks will designate an Owner's Representatives for the course of this work.

1.09 HAZARDOUS MATERIALS

- A. The Owner's representative will notify the Contractor of any asbestos or other hazardous materials that may be encountered in this building during the course of the contract, in compliance with AHERA regulations and the Virginia Occupational Safety and Health Program Hazard Communication standard.
- B. The General Contractor will schedule any required asbestos abatement work by its abatement contractor. The Contractor shall indicate in the Construction Schedule any abatement work.

1.10 BUILDING PERMITS

- A. The Owner will obtain a general building permit for the project. The Contractor shall provide the appropriate license and contact information to Loudoun County and secure the building permit. The Contractor shall obtain, prior to beginning work, all other permits necessary for the completion of this contract. Permits shall be clearly displayed at the project site and a copy delivered to the Owner's Representative prior to commencing work. All inspections required by Loudoun County shall be completed and certificates delivered to the Owner's Representative prior to Request for Final Payment.

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1.11 HEALTH AND SAFETY PROGRAM

- A. Contractor shall comply with and meet all NOVA Parks and OSHA standards during construction. Contractor shall provide Owner with a copy of a company wide Safety Program relating to this construction project. Periodic safety meetings will be held and all safety reports maintained at the construction site. Contractor shall provide Owner with a copy of HAZMAT Communications Program which includes labeling, MSDS, employee training and other right-to-know materials.

END OF SECTION

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SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 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.

1.3 ACTION SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
 - b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitutions 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.

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- 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 as well as 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. Cost information, including a proposal of change, if any, in the Contract Sum.
 - j. 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.
 - k. 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.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within three days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within seven days of receipt of request, seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.4 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.

1.5 PROCEDURES

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

1.6 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
 - 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

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- 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 has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.
 - f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.
 - h. 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: Architect will consider requests for substitution if received within 14 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.
1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
- a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
 - b. Requested substitution does not require extensive revisions to the Contract Documents.
 - c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - d. Substitution request is fully documented and properly submitted.
 - e. Requested substitution will not adversely affect Contractor's construction schedule.
 - f. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - g. Requested substitution is compatible with other portions of the Work.
 - h. Requested substitution has been coordinated with other portions of the Work.
 - i. Requested substitution provides specified warranty.
 - j. 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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 012600 - MODIFICATION PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing contract modifications.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Section 013300 "Submittal Procedures" for requirements for the Contractor's Construction Schedule.
 - 2. Section 012900 "Payment Procedures" for administrative procedures governing Applications for Payment.
 - 3. Section 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after award of the Contract.

1.03 CHANGE ORDER PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: The Architect will issue a detailed description of proposed changes in the Work that will require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal requests issued by the Architect are for information only. Do not consider them as an instruction either to stop work in progress or to execute the proposed change.
 - 2. Within seven days of receipt of a proposal request, submit an estimate of cost necessary to execute the change to the Architect for the Owner's review.
 - a. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include a statement indicating the effect the proposed change in the Work will have on the Contract Time.
- B. Contractor-Initiated Proposals: When latent or unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to the Architect.
 - 1. Include a statement outlining the 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 Contract Time.
 - 2. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to

substantiate quantities.

3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Comply with requirements in Section "Product Substitutions" if the proposed change requires substitution of one product or system for a product or system specified.

C. Proposal Request Form: Use AIA Document G709 for Change Order Proposal Requests.

1.04 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: When the Owner and the Contractor disagree on the terms of a Proposal Request or when a change must be implemented immediately so as not to delay the progress of work, the Architect may issue a Construction Change Directive on AIA Form G714. The Construction Change Directive instructs the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

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

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

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

1.05 CHANGE ORDER PROCEDURES

A. Upon the Owner's approval of a Proposal Request, the Architect will issue a Change Order for signatures of the Owner and the Contractor on AIA Form G701.

END OF SECTION

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section specifies administrative and procedural requirements governing the Contractor's Applications for Payment.

1.03 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative schedules and forms in AIA Document G702 format.
 - 2. Submit the Schedule of Values to the Architect at the earliest possible date but no later than fourteen days before the date scheduled for submittal of the initial Applications for Payment.
 - 3. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports.
 - 4. Round amounts to nearest whole dollar; the 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. No Payment will be made for equipment or materials stored off-site, unless delivery tickets and insurance certificates are provided.

1.04 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect and paid for by the Owner.
- B. Payment-Application Times: The date for each progress payment is the 10th day of each month; unless mutually agreed otherwise by the Contractor and Owner. The period covered by each Application for Payment starts on the day following the end of the preceding period and ends 15 days prior to the date for each progress payment.
- C. Payment-Application Forms: Use AIA Document G702 and Continuation Sheets G703 as the form for Applications for Payment.
- D. Application Preparation: Complete every entry on the form. Include notarization and execution by a person authorized to sign legal documents on behalf of the Contractor. The Architect will return incomplete applications without action.
 - 1. Include amounts of Change Orders and Construction Change Directives issued

prior to the last day of the construction period covered by the application.

- E. Transmittal: Submit three signed and notarized original copies of each Application for Payment to the Architect by a method ensuring receipt within 24 hours. One copy shall be complete, including waivers of lien and similar attachments, when required.
 - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the Architect.
- F. Waivers of Mechanics Lien: Where required by the General Conditions, submit waivers of mechanics liens from subcontractors, sub-subcontractors and suppliers for the construction period covered by the previous application.
 - 1. Submit partial waivers on each item for the amount requested, prior to deduction for retainage, on each item.
 - 2. The Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - 3. Waiver Delays: Submit each Application for Payment with the Contractor's waiver of mechanics lien for the period of construction covered by the application.
 - a. Submit final Applications for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 - 4. Waiver Forms: Submit waivers of lien on forms, and executed in a manner, acceptable to the Owner.
- G. Initial Application for Payment: Administrative actions and submittals, that must precede or coincide with submittal of the first Application for Payment, include the following:
 - 1. List of subcontractors and contact information
 - 2. List of principal suppliers and fabricators
 - 3. Schedule of Values
 - 4. Contractor's Construction Schedule
 - 5. Submittal Schedule
 - 6. List of Contractor's staff assignments and contact information
 - 7. Copies of authorizations and licenses from governing authorities for performance of the Work
 - 8. Initial progress report
 - 9. Report of preconstruction meeting
 - 10. Certificates of insurance and insurance policies
- H. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment.

1. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
 2. Administrative actions and submittals that shall precede or coincide with this application include:
 - a. Inspection certificates from City
 - b. Warranties (guarantees) and maintenance agreements
 - c. Test/adjust/balance records
 - d. Maintenance instructions
 - e. Startup performance reports
 - f. Changeover information related to Owner's occupancy, use, operation, and maintenance
 - g. Final cleaning
 - h. Advice on shifting insurance coverages
 - i. List of incomplete Work (punch list), recognized as exceptions to Architect's Certificate of Substantial Completion
- I. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following:
1. Completion of Project closeout requirements
 2. Completion of items specified for completion (punch list) after Substantial Completion.
 3. Release of liens and consent of surety to final payment on appropriate AIA forms.
 4. Affidavit of payment of all claims against the work on appropriate AIA forms.
 5. Transmittal of required Project construction records to the Owner.
 6. Proof that taxes, fees, and similar obligations were paid.
 7. Removal of temporary facilities and services.
 8. Removal of surplus materials, rubbish, and similar elements.

END OF SECTION

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SECTION 01300 – 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. RFIs.
 - 4. Project meetings.
- B. Related Requirements:
 - 1. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.

1.3 DEFINITIONS

- A. RFI: Request for Information. Request from Owner, Architect, 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. Include the following information in tabular form:
 - 1. Name, address, telephone number, and email address 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.

1.5 GENERAL COORDINATION PROCEDURES

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

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operations included in different Sections that depend on each other for proper installation, connection, and operation.

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. 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 construction schedule.
 2. Preparation of the schedule of values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Inspections
 8. Project closeout activities.
 9. Startup and adjustment of systems.

1.6 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely indicated on Shop Drawings, where limited space availability necessitates coordination, to indicate layout of systems in relation to existing conditions, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
 - a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
 - b. Indicate dimensions shown on Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternative sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.

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2. Review: Architect will review coordination drawings to confirm that in general the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility.
- C. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
1. File Preparation Format: DWG, Version , operating in Microsoft Windows operating system.
 2. File Submittal Format: Submit or post coordination drawing files using PDF format.

1.7 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
 2. 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.
 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: Software-generated form with substantially the same content as indicated above, acceptable to Architect.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect 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:

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- 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 Architect's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.
2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt by Architect of additional information.
3. Architect'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 012600 "Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within seven 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 at each progress meeting.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.

1.8 DIGITAL PROJECT MANAGEMENT PROCEDURES

- A. Use of Architect's Digital Data Files: Digital data files of Architect's CAD drawings will be available for Contractor's use during construction.
 1. Digital data files may be used by Contractor in preparing coordination drawings, Shop Drawings, and Project record Drawings.
 2. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.
 3. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to Owner and Architect.
- B. PDF Document Preparation: Where PDFs are required to be submitted to Architect, prepare as follows:
 1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.

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1.9 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
- B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 10 days after the Notice to Proceed.
 - 1. Attendees: Authorized representatives of Owner Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; 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.
 - 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Responsibilities and personnel assignments.
 - b. Tentative construction schedule.
 - c. Phasing.
 - d. Critical work sequencing and long lead items.
 - e. Designation of key personnel and their duties.
 - f. Lines of communications.
 - g. Procedures for processing field decisions and Change Orders.
 - h. Procedures for RFIs.
 - i. Procedures for testing and inspecting.
 - j. Procedures for processing Applications for Payment.
 - k. Distribution of the Contract Documents.
 - l. Submittal procedures.
 - m. Preparation of Record Documents.
 - n. Use of the premises.
 - o. Work restrictions.
 - p. Working hours.
 - q. Owner's occupancy requirements.
 - r. Responsibility for temporary facilities and controls.
 - s. Procedures for moisture and mold control.
 - t. Procedures for disruptions and shutdowns.
 - u. Construction waste management and recycling.
 - v. Parking availability.
 - w. Office, work, and storage areas.
 - x. Equipment deliveries and priorities.
 - y. First aid.
 - z. Security.
 - aa. Progress cleaning.
 - 3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity when required by other sections and when required for coordination with other construction.
- D. Progress Meetings: Conduct progress meetings at biweekly intervals.

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1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner and Architect, 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.
 - 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.
3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. 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 013100

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SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 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. Site condition reports.

1.2 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. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Event: The starting or ending point of an activity.
- E. 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.

1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:

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1. PDF file.
 - B. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
 1. Submit a working digital copy of schedule, using software indicated, and labeled to comply with requirements for submittals.
 - C. Construction Schedule Updating Reports: Submit with Applications for Payment.
 - D. Site Condition Reports: Submit at time of discovery of differing conditions.
- 1.4 COORDINATION
- A. Coordinate Contractor's Construction Schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.
 1. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.
- 1.5 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL
- A. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
 1. Use Microsoft Project, Primavera, or Meridian Prolog, for current Windows operating system.
 - B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial 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.
 - C. Activities: Treat each main element of the Work as a separate numbered activity. 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 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with submittal schedule.
 4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.

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5. Punch List and Final Completion: Include not more than 14 days for completion of punch list items and final completion.
- D. 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. Phasing: Arrange list of activities on schedule by phase.
 2. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
- E. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update.
- F. Contractor's Construction Schedule Updating: At bi-weekly intervals, update schedule to reflect actual construction progress and activities. Issue schedule at 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.
- G. 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, equipment required to achieve compliance, and date by which recovery will be accomplished.
- H. Distribution: Distribute copies of approved schedule to Architect 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.

1.6 GANTT-CHART SCHEDULE REQUIREMENTS

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's Construction Schedule within 14 days of date established for the Notice to Proceed.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

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PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013200

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SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Submittal schedule requirements.
2. Administrative and procedural requirements for submittals.

1.2 DEFINITIONS

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

1.3 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit, as an action submittal, a list 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 and additional time for handling and reviewing submittals required by those corrections.

1.4 SUBMITTAL FORMATS

A. Submittal Information: Include the following information in each submittal:

1. Project name.
2. Date.
3. Name of Architect.
4. Name of Construction Manager.
5. Name of Contractor.
6. Name of firm or entity that prepared submittal.
7. Names of subcontractor, manufacturer, and supplier.
8. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier; and alphanumeric suffix for resubmittals.
9. Category and type of submittal.
10. Submittal purpose and description.

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11. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
 12. Drawing number and detail references, as appropriate.
 13. Indication of full or partial submittal.
 14. Location(s) where product is to be installed, as appropriate.
 15. Other necessary identification.
 16. Remarks.
 17. Signature of transmitter.
- B. Options: Identify options requiring selection by Architect.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. Paper Submittals:
1. Submit paper submittals only if PDF copies cannot be obtained.
 2. Place a permanent label or title block on each submittal item for identification; include name of firm or entity that prepared submittal.
 3. Provide a space approximately **6 by 8 inches** on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
 4. Action Submittals: Submit three paper copies of each submittal unless otherwise indicated. Architect will return two copies.
 5. Informational Submittals: Submit two paper copies of each submittal unless otherwise indicated. Architect will not return copies.
 6. Transmittal for Submittals: Assemble each submittal individually and appropriately for transmittal and handling.
- E. PDF Submittals: PDF submittals are preferred. Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

1.5 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Email: Prepare submittals as PDF package, and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect.
 2. Paper: Prepare submittals in paper form, and deliver to Architect.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

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2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 10 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Resubmittal Review: Allow 10 days for review of each resubmittal.
- D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

1.6 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams that show factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

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5. Submit Product Data before Shop Drawings, and before or concurrent with Samples.
- B. 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 unless submittal based on Architect's digital data drawing files is otherwise permitted.
1. General: Submit shop drawings in PDF format. If PDF copies are not available, submit paper copies.
 2. 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.
 3. Paper Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least **8-1/2 by 11 inches**, but no larger than **24 by 36 inches**.
 - a. Two opaque (bond) copies of each submittal. Architect will return one copy(ies).
- C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
 - a. Project name and submittal number.
 - b. Generic description of Sample.
 - c. Product name and name of manufacturer.
 - d. Sample source.
 - e. Number and title of applicable Specification Section.
 - f. Specification paragraph number and generic name of each item.
 3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.
 4. Paper Transmittal: Include paper transmittal including complete submittal information indicated.
 5. 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.
 - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.

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6. 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.
- D. 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:
- E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
 1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
 2. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
 3. 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.
 4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
 5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
 6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- H. Test and Research Reports:
 1. 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.

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2. 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.
3. 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.
4. 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.
5. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - a. Name of evaluation organization.
 - b. Date of evaluation.
 - c. Time period when report is in effect.
 - d. Product and manufacturers' names.
 - e. Description of product.
 - f. Test procedures and results.
 - g. Limitations of use.

1.7 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 insufficient 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 digitally signed PDF file 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.

1.8 CONTRACTOR'S REVIEW

- A. Action Submittals 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 stamp before submitting to Architect.

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- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
 - 1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.

1.9 ARCHITECT'S REVIEW

- A. Action Submittals: Architect will review each submittal, indicate corrections or revisions required, and return it.
 - 1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action.
 - 2. Paper Submittals: Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect 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.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Architect will discard submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

SECTION 013516 - ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes special procedures for alteration work.

1.2 DEFINITIONS

- A. Alteration Work: This term includes remodeling, renovation, repair, and maintenance work performed within existing spaces or on existing surfaces as part of the Project.
- B. Consolidate: To strengthen loose or deteriorated materials in place.
- C. Design Reference Sample: A sample that represents the Architect's prebid selection of work to be matched; it may be existing work or work specially produced for the Project.
- D. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- E. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by Architect.
- F. Refinish: To remove existing finishes to base material and apply new finish to match original, or as otherwise indicated.
- G. Repair: To correct damage and defects, retaining existing materials, features, and finishes. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.
- H. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.
- I. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.
- J. Reproduce: To fabricate a new item, accurate in detail to the original, and from either the same or a similar material as the original, unless otherwise indicated.
- K. Retain: To keep existing items that are not to be removed or dismantled.
- L. Restore: To return Work to its condition prior to disturbance.
- M. Strip: To remove existing finish down to base material unless otherwise indicated.

1.3 PROJECT MEETINGS FOR ALTERATION WORK

- A. Preliminary Conference for Alteration Work: Before starting alteration work, Architect will conduct conference at Project site.
 - 1. Attendees: In addition to representatives of Owner, Architect, and Contractor, as well as the HVAC, Electrical, Sprinkler, and Acoustical Ceiling sub-contractors, shall be represented at the meeting.
 - 2. Agenda: Discuss items of significance that could affect progress of alteration work, including review of the following:
 - a. Fire-prevention plan.
 - b. Governing regulations.
 - c. Areas where existing construction is to remain and the required protection.
 - d. Hauling routes.
 - e. Sequence of alteration work operations.
 - f. Storage, protection, and accounting for salvaged and specially fabricated items.
 - g. Existing conditions, staging, and structural loading limitations of areas where materials are stored.
 - 3. Reporting: Architect will record conference results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from conference.
- B. Coordination Meetings: Conduct coordination meetings with sub-contractors specifically for alteration work at weekly intervals. Coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.

1.4 MATERIALS OWNERSHIP

- A. Items of interest or value to Owner that may be encountered or uncovered during the Work, regardless of whether they were previously documented, remain Owner's property.

1.5 QUALITY ASSURANCE

- A. Title X Requirement: Each firm conducting activities that disturb painted surfaces shall be a "Lead-Safe Certified Firm" according to 40 CFR 745, Subpart E, and use only workers that are trained in lead-safe work practices.
- B. Alteration Work Program: Prepare a written plan for alteration work for whole Project, including each process and protection of surrounding materials during operations. Show compliance with indicated methods and procedures specified in this and other Sections. Coordinate this whole-Project alteration work program with specific requirements of programs required in other alteration work Sections.
- C. Safety and Health Standard: Comply with ANSI/ASSE A10.6.

1.6 STORAGE AND HANDLING OF SALVAGED MATERIALS

- A. Salvaged Materials:

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1. Clean loose dirt and debris from salvaged items unless more extensive cleaning is indicated.
 2. Protect items after cleaning; cushion against damage during handling. Label contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Protect items from damage during transport and storage.
- B. Salvaged Materials for Reinstallation:
1. Repair and clean items for reuse as indicated.
 2. Protect items after cleaning and repairing; cushion against damage during handling. Label contents of containers.
 3. Protect items from damage during transport and storage.
 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment unless otherwise indicated. Provide connections, supports, and miscellaneous materials to make items functional for use indicated.
- C. Existing Materials to Remain: Protect construction indicated to remain against damage and soiling from construction work. Where permitted by Architect, items may be dismantled and taken to a suitable, protected storage location during construction work and reinstalled in their original locations after alteration and other construction work in the vicinity is complete.
- D. Storage: Store items in a location where they are protected from moisture, weather, condensation, and freezing temperatures.

PART 2 - PRODUCTS - (Not Used)

PART 3 - EXECUTION

3.1 PROTECTION

- A. Protect persons, surrounding surfaces of building, from harm resulting from alteration work.
1. Use only proven protection methods, appropriate to each area and surface being protected.
 2. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where alteration work is being performed.
 3. Erect temporary barriers to form and maintain fire-egress routes.
 4. Contain dust and debris generated by alteration work, and prevent it from reaching the public or adjacent surfaces.
 5. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
 6. Protect floors and other surfaces along hauling routes from damage, wear, and staining.
- B. Temporary Protection of Materials to Remain:
1. Protect existing materials with temporary protections and construction. Do not remove existing materials unless otherwise indicated.

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2. Do not attach temporary protection to existing surfaces except as indicated as part of the alteration work program.
- C. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.
- D. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is functioning properly.
 1. Prevent solids such as adhesive or mortar residue or other debris from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from alteration work.
 2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

3.2 PROTECTION FROM FIRE

- A. General: Follow the following:
 1. Comply with NFPA 241 requirements unless otherwise indicated.
 2. Remove and keep area free of combustibles, including rubbish, paper, waste, and chemicals, unless necessary for the immediate work.
 - a. If combustible material cannot be removed, provide fire blankets to cover such materials.
- B. Heat-Generating Equipment and Combustible Materials: Comply with the following procedures while performing work with heat-generating equipment or combustible materials, including welding, torch-cutting, soldering, brazing, removing paint with heat, or other operations where open flames or implements using high heat or combustible solvents and chemicals are anticipated:
 1. Obtain Owner's approval for operations involving use of open-flame or welding or other high-heat equipment. Notify Owner at least 72 hours before each occurrence, indicating location of such work.
 2. Fire Watch: Before working with heat-generating equipment or combustible materials, station personnel to serve as a fire watch at each location where such work is performed. Fire-watch personnel shall have the authority to enforce fire safety.
- C. Fire-Control Devices: Provide and maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids. Maintain each as suitable for the type of fire risk in each work area.
- D. Sprinklers: Where sprinkler protection exists and is functional, maintain it without interruption while operations are being performed. If operations are performed close to sprinklers, shield them temporarily with guards.

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1. Remove temporary guards at the end of work shifts, whenever operations are paused, and when nearby work is complete.

3.3 GENERAL ALTERATION WORK

- A. Notify Architect of visible changes in the integrity of material or components whether from environmental causes or from structural defects including cracks, movement, or distortion.
 1. Do not proceed with the work in question until directed by Architect.

END OF SECTION 013516

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SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspection services may be 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. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 2. Requirements for Contractor to provide quality-assurance and quality-control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

1.2 DEFINITIONS

- A. Experienced: When used with an entity or individual, "experienced" unless otherwise further described means having successfully completed a minimum of **five** previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.
- B. Field Quality-Control Tests: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.
- D. 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.
- E. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Tests: Tests and inspections that are performed at the source; for example, plant, mill, factory, or shop.

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- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- H. 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.
- I. 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. Contractor's quality-control services do not include contract administration activities performed by Architect [**or Construction Manager**].

1.3 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.

1.4 CONFLICTING REQUIREMENTS

- A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements are specified and the standards or requirements 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 for direction 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 for a decision before proceeding.

1.5 ACTION SUBMITTALS

- A. Delegated-Design Services Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit a statement 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, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.6 INFORMATIONAL SUBMITTALS

- A. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

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- B. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.7 REPORTS AND DOCUMENTS

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

1.8 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, 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.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- F. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented according to **ASTM E329**; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

1.9 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.

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1. Engage a qualified testing agency to perform quality-control services.
- C. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- D. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.
 1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspection, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

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SECTION 015000 – TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

1.2 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 engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Architect, testing agencies, and authorities having jurisdiction.
- B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.3 INFORMATIONAL SUBMITTALS

- A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.
- B. Project Identification and Temporary Signs: Show location and message content.
- C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- D. Moisture-and Mold-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage and mold.
- E. Dust- and HVAC-Control Plan: Submit narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Include the following:

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1. Locations of dust-control partitions at each phase of work.
2. HVAC system isolation schematic drawing.
3. Location of proposed air-filtration system discharge.
4. Waste-handling procedures.
5. Other dust-control measures.

1.4 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.
- C. Accessible Temporary Egress: Comply with applicable provisions in the United States Access Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

1.5 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.

PART 2 - PRODUCTS

2.1 TEMPORARY FACILITIES

- A. Field Offices, General: Contractor may designate an area within the work area to place a lockable desk and file cabinet. Other lockable containers may be provided if approved by the owner.
- B. Project meetings may be held in the work area or at another location in the school.
- C. Common-Use Facilities: Of sufficient size to accommodate construction personnel as follows:
 1. Drinking water.
 2. First Aid equipment.
 3. Portable toilet located outside of the building in a location approved by the owner.
 4. Storage containers, if required, to be portable lockable units located outside of the building.

2.2 EQUIPMENT

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

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1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
2. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return-air grille in system and remove at end of construction and clean HVAC system as required in Section 017700 "Closeout Procedures."

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

3.2 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. Obtain owner's approval for the location of all facilities.
- B. 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.

3.3 TEMPORARY UTILITY INSTALLATION

- A. General: Connect to existing services.
- B. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel.
- C. Temporary Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- D. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
- E. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
- F. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations and inspections.
- G. Telephone Service: Provide cell phone telephone service for superintendent and assistant superintendent.

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- H. Electronic Communication Service: Provide a mobile computer for use by the Superintendent and Assistant Superintendent to access Project electronic documents and maintain electronic communications.

3.4 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
- B. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- C. Parking: Use designated areas of Owner's existing parking areas for construction personnel.
- D. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
 - 1. Temporary Signs: Provide signs as indicated and as required to inform public and individuals seeking entrance to Project. Obtain approval from owner for type and location.
- E. Waste Disposal Facilities: Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
- F. 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 017300 "Execution."
- G. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
 - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- H. Existing Elevator Use: Use of Owner's existing elevators will not be permitted
- I. Existing Stair Usage: Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.
 - 1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas so no evidence remains of correction work.

3.5 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.

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- 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.
- C. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using materials approved by authorities having jurisdiction.
- D. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- E. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- F. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner from fumes and noise.
 - 1. Construct dustproof partitions with gypsum wallboard or plywood with joints taped.
 - 2. Provide walk-off mats at each entrance through temporary partition.
- G. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.
 - 1. Prohibit smoking in construction areas. Comply with additional limits on smoking specified in other Sections.
 - 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.

3.6 MOISTURE AND MOLD CONTROL

- A. Contractor's Moisture-Protection Plan: Describe delivery, handling, storage, installation, and protection provisions for materials subject to water absorption or water damage.
 - 1. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.
 - 2. Indicate methods to be used to avoid trapping water in finished work.
- B. Controlled Construction Period: Prior to completion of the HVAC system work, maintain as follows:
 - 1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
 - 2. Use temporary or permanent HVAC system to control humidity within ranges specified for installed and stored materials.
 - 3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.

3.7 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. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

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SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 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. Installation of the Work.
 - 3. Cutting and patching.
 - 4. Progress cleaning.
 - 5. Starting and adjusting.
 - 6. Protection of installed construction.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for limits on use of Project site.
 - 2. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.

1.2 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
 - 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 - 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
 - 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

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 for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of 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 and water-service piping; underground electrical; and other utilities.
- 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. 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.

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- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. 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 according to requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings. If discrepancies are discovered, notify Architect promptly.
- B. General: Lay out the Work using accepted practices.
 - 1. Establish control points to set lines and levels of construction and elsewhere as needed to locate each element of Project.
 - 2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 - 3. Inform installers of lines and levels to which they must comply.
 - 4. Check the location, level and plumb, of every major element as the Work progresses.
 - 5. Notify Architect when deviations from required lines and levels exceed allowable tolerances.

3.4 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.
- 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: Where possible, select tools or equipment that minimize production of excessive 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 portions of the Work to

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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.
 - 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. Remove and replace damaged, defective, or non-conforming Work.

3.5 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. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. 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.
- E. 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 011000 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to [**minimize**] [**prevent**] interruption to occupied areas.
- G. 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.
- H. 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.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.6 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 (27 deg C).
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

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- 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.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
 - 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. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in [**Section 015000 "Temporary Facilities and Controls."**] [**Section 017419 "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 ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.
- 3.7 STARTING AND ADJUSTING
- A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."
 - B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
 - C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

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- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.8 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.
- B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- C. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

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SECTION 017419 – CONSTRUCTION WASTE MANAGEMENT DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

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

1.2 DEFINITIONS

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, acceptable to authorities having jurisdiction.
- C. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- D. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- E. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.3 ACTION SUBMITTALS

- A. Waste Management Plan: Provide a written description of the Waste Management Plan indicating compliance before beginning work.

1.4 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to requirements in this Section.
- B. Waste Identification: Indicate anticipated types and quantities of waste generated by the Work.

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PART 2 - PRODUCTS

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

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 or engage a certified waste disposal contractor that used single stream recycling.
 - 1. Remove recyclable waste from Owner's property and transport to recycling receiver or processor as often as required to prevent overfilling bins.

3.3 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged or recycled, 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. General: Except for items or materials to be salvaged or recycled, remove waste materials and legally dispose of at designated spoil areas on Owner's property.

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- C. Burning: Do not burn waste materials.

3.4 ATTACHMENTS

END OF SECTION 017419

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout including, but not limited to, the following:
 - 1. Inspection procedures
 - 2. Project record document submittal
 - 3. Operation and maintenance manual submittal
 - 4. Submittal of warranties
 - 5. Final cleaning
- B. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions 2 through 16, and on the HVAC, Plumbing and Electrical Drawings.

1.03 SUBSTANTIAL COMPLETION

- A. These procedures apply to substantial completion of a phase or substantial completion of the completed project.
- B. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
 - 1. Prepare a “pre-punch” list for each room or area for the work and distribute it to subcontractors for correction.
 - 2. Obtain inspections from the City of Alexandria and provide evidence of approval of the work for occupancy.
 - 3. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed.
 - 4. Obtain and submit releases enabling the Owner unrestricted use of the Work. Include occupancy permits, operating certificates, and similar releases.
- C. Inspection Procedures: On receipt of a request for inspection, the Architect will either proceed with inspection or advise the Contractor of unfilled requirements. Following inspection, the Architect will prepare the Certificate of Substantial Completion together with a list of minor corrective work (punch list) or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.
- D. Refer to Payment Procedures Section 012900 and Instructions to items required in conjunction with Bidders Application for Payment.

1.04 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.
 - 1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.

2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
 3. Submit a certified copy of the Architect's final inspection list of items to be completed or corrected, endorsed and dated by the Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by the Architect.
 4. Submit consent of surety to final payment.
 5. Submit a final liquidated damages settlement statement.
 6. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Reinspection Procedure: The Architect will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Architect.
1. Upon completion of reinspection, the Architect will prepare a certificate of final acceptance. If the Work is incomplete, the Architect will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
 2. If necessary, reinspection will be repeated.
- C. Refer to Application for Payment Procedures Section 012900 and Instruction to Bidders for items required in conjunction with Application for Payment.

1.05 RECORD DOCUMENT SUBMITTALS

- A. General: Do not use record documents for construction purposes. Protect record documents from deterioration and loss in a secure, fire-resistant location. Provide access to record documents for the Architect's reference during normal working hours.
- B. Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark which drawing is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
1. Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
 2. Mark new information that is important to the Owner but was not shown on Contract Drawings or Shop Drawings.
 3. Note related change-order numbers where applicable.
 4. Organize record drawing sheets into manageable sets. Bind sets with durable-paper cover sheets; print suitable titles, dates, and other identification on the cover of each set.
- C. Record Specifications: Maintain one complete copy of the Project Manual, including addenda. Include with the Project Manual one copy of other written construction documents, such as Change Orders and modifications issued in printed form during construction.
1. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications.
 2. Give particular attention to substitutions and selection of options and information on concealed construction that cannot otherwise be readily discerned later by direct observation.

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3. Note related record drawing information and Product Data.
 4. Upon completion of the Work, submit record Specifications to the Architect for the Owner's records.
- D. Record Product Data: Maintain one copy of each Product Data submittal. Note related Change Orders and markup of record drawings and Specifications.
1. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site and from the manufacturer's installation instructions and recommendations.
 2. Give particular attention to concealed products and portions of the Work that cannot otherwise be readily discerned later by direct observation.
 3. Upon completion of markup, submit complete set of record Product Data to the Architect for the Owner's records.
- E. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order. Identify miscellaneous records properly and bind or file, ready for continued use and reference. Submit to the Architect for the Owner's records.
- F. Maintenance Manuals: See Section 017823, "Operating and Maintenance Data".

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.01 CLOSEOUT PROCEDURES

- A. Operation and Maintenance Instructions: Arrange for each Installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures. Include a detailed review of the following items:
1. Maintenance manuals
 2. Record documents
 3. Spare parts and materials
 4. Tools
 5. Lubricants
 6. Fuels
 7. Identification systems
 8. Control sequences
 9. Hazards
 10. Cleaning
 11. Warranties and bonds
 12. Maintenance agreements and similar continuing commitments
- B. As part of instruction for operating equipment, demonstrate the following procedures:
1. Startup
 2. Shutdown
 3. Emergency operations
 4. Noise and vibration adjustments
 5. Safety procedures

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6. Economy and efficiency adjustments
7. Effective energy utilization

C. Ceiling Concealment Inspection.

1. General: Prior to installation of ceiling panels, an inspection shall be conducted to ascertain the quality and degree of completion of all work above the finished ceiling and to record any discrepancies in the Contract Documents. The inspection shall be conducted by representatives of the Architect, Owner and the Contractor and the results recorded in an Inspection Report prepared by the Contractor.
2. Ceiling Suspension System: Grilles, registers, diffusers, light fixtures and cut panels around fixtures may be installed prior to the inspection, however, ceiling panels shall not be laid in place until after the inspection and all discrepancies have been corrected.
3. Copies of the Inspection Report: Reports shall be prepared by the Contractor with copies to the Owner and Architect. The inspection report shall be annotated as each discrepancy is corrected and any discrepancy remaining at the time of the Final Inspection shall be included on the punch list.

3.02 CLEANING

- A. General: The General Conditions require general cleaning during construction. Regular site cleaning is included in Section 015000 "Temporary Facilities and Controls."
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for each phase of work.
 - a. Remove labels that are not permanent labels.
 - b. Replace chipped or broken glass and other damaged transparent materials.
 - c. Leave tile and concrete floors broom clean. Vacuum carpeted surfaces.
 - d. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean light fixtures and lamps.
 - e. Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances. Sweep paved areas broom clean; remove stains, spills, and other foreign deposits. Rake grounds that are neither paved nor planted to a smooth, even-textured surface. Remove mud and dirt from pavement.
- C. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.
- D. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of lawfully.
 1. Where extra materials of value remain after completion of associated Work, they become the Owner's property. Dispose of these materials as directed by the Owner.

END OF SECTION

SECTION 017823- OPERATING AND MAINTENANCE DATA

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of Contract, including General Conditions and other Division 1 Specification Sections, apply to the Work of this Section, with special attention to the following:

1.02 DESCRIPTION OF WORK

- A. Compile product data and related information appropriate for Owner's record, maintenance and operation of products, equipment, materials and systems furnished under the Contract.
- B. Prepare record, operating and maintenance data as specified in this Section and as referenced in other pertinent sections of Specifications.
- C. All information shall be organized into a Record and Information Booklet.

1.03 SUBMITTAL PROCEDURES

- A. Prepare one (1) complete hardcopy and one (1) PDF digital copy of the Record and Information Booklet and deliver to the Architect.
- B. The Architect shall review the booklet for compliance to the requirements specified in this section. If found to be non-complying, the booklet shall be returned to the Contractor for corrections.
- C. The Architect shall indicate approval of the booklet by review stamp on each copy and shall forward the booklet and digital copy to the Owner. The Owner shall not accept the booklets unless they have been reviewed and stamped as approved.

PART 2 - PRODUCTS

2.01 FORM OF SUBMITTALS

- A. Prepare data in the form of an instructional manual for use by Owner's personnel.
- B. Format:
 - 1. Size: 8 1/2" x 11".
 - 2. Paper: 20 pound, minimum, white, for typed pages.
 - 3. Text: Manufacturer's printed data, or neatly typewritten. All catalog, data, maintenance and cleaning instructions shall be on manufacturer's letterhead, or have other identification indicating the manufacturer as source of information.
- C. Drawings:

1. Provide reinforced punched binder tab, bind in with text.
 2. Fold larger Drawings to the size of the text pages.
- D. Provide flyleaf for each separate product, or each piece of operating equipment.
1. Provide typed description of product and major component parts of equipment.
 2. Provide indexed tabs.
- E. Cover: Identify each volume with typed or printed title "RECORD AND INFORMATION BOOKLET", and the name of the project.
- F. Identify on each volume a list of general subject matter covered in the manual.

2.02 BINDERS

- A. Commercial quality three-ring binders with durable and cleanable plastic covers.
- B. Maximum ring size: 3 inches
- C. When multiple binders are used, correlate the data into related, consistent groupings. Mark binders in sequence.

2.03 CONTENT OF BOOKLET

- A. Neatly typewritten table of contents for each volume, arranged in a systematic order by specifications divisions.
- B. Indicate contractor, name of responsible principal, address and telephone number.
- C. List each product material, piece of equipment, and system required to be included, indexed to the content of the volume. Include serial and/or model numbers of equipment where appropriate, in order to specifically identify such items.
- D. List with each product material, piece of equipment and system as appropriate, the name, address and telephone number of the following with the area of responsibility clearly identified for each:
1. Manufacturer.
 2. Representative.
 3. Subcontractor or installer.
 4. Maintenance Contractor as appropriate.
- E. Indicate local source of supply for parts and replacement.
- F. Identify each product-by-product name and other identifying symbols a set forth in Contract Documents.
- G. Include operating, cleaning and maintenance information.
- H. Include copies of each warranty, bond and service contract issued.

I. Information Sheet: Provide information sheet on manufacturer's letterhead indicating the following:

1. Proper procedures in the event of equipment or systems failure.
2. Conditions that may affect the validity of warranties or bonds.

2.04 PRODUCT DATA

A. Include only those sheets that are pertinent to the specific product.

B. Annotate each sheet to:

1. Clearly identify the specific product or part installed.
2. Clearly identify the data applicable to the installation.
3. Delete references to inapplicable information.

2.05 DRAWINGS

A. Supplement product data with Drawings as necessary to clearly illustrate:

1. Relations of component parts of equipment and systems.
2. Control and flow diagrams.

B. Coordinate drawings with information in "as-built" drawings, shop submittals or other project record information to assure correct illustration of completed installation.

C. Do not use project record information as operating and maintenance drawings.

D. Organize in a consistent format under separate headings for different procedures.

E. Provide a logical sequence of instructions for each procedure.

F. Items included in each Booklet: The Booklet shall contain a complete description of all products materials, equipment and systems as outlined in Part 3.

PART 3 - EXECUTION

3.01 PRODUCT, MATERIALS, EQUIPMENT AND SYSTEMS DESCRIPTIONS

A. Division 1 - General Requirements

1. Warranties and Bonds: Provide a copy of each warranty specified, bond and service contract issued. Execute warranties and bonds in accordance with provisions of Section 01740.

B. Division 3 - Concrete

1. None

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- C. Division 4 - Masonry
 - 1. None
- D. Division 5 - Metals
 - 1. None.
- E. Division 6 – Wood
 - 1. None.
- F. Division 7 - Thermal and Moisture Protection
 - 1. Fire Stopping: Identify system type and system components.
- G. Division 8 - Doors and Windows
 - 1. Wood Doors: Provide manufacturer's warranty and maintenance information.
 - 2. Coiling Doors and Shutters: Provide manufacturer's warranty and maintenance information.
- H. Division 9 - Finishes
 - 1. Acoustical Tile Ceilings: Identify type of grid and each type of panel.
 - 2. Resilient Flooring, Resilient Tile and Base:
 - a. Identify each type, provide manufacturer's catalog number and name of each color or pattern.
 - b. Provide manufacturer's recommended maintenance and cleaning instructions.
 - 3. Paint and Coatings: Identify each type of paint color and coating by schedule.
 - 4. Ceramic Tile:
 - a. Provide list of tile colors, shapes and sizes.
 - b. Provide list of grout colors.
- I. Division 10 - Specialties
 - 1. Toilet Accessories and Partitions: Provide manufacturer's warranty and maintenance information for each type.
- J. Division 11 – Equipment
 - 1. Food Service Equipment: Provide manufacturer's warranty and maintenance information.
- K. Division 12 - Furnishings

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1. None

L. Division 14 - Conveying Systems

1. None

M. Division 15 – Mechanical

1. Plumbing

- a. Provide manufacturer's warranty and maintenance information for each piece of equipment.

2. Heating and air conditioning systems: Include the following:

- a. Provide manufacturer's warranty and maintenance information for each piece of equipment.
- b. List of manufacturer's identifications of diffusers and grilles.

N. Division 16 - Electrical

1. Power, Lighting and Special Systems: Include the following:

- a. Manufacturer's catalog data and parts list for each item of electrical sub-distribution equipment, along with preventative maintenance instructions.
- b. Manufacturer's catalog data, "equipment cuts", fixture lamping schedule and parts list for all lighting fixtures; indicate installed locations.
- c. Manufacturer's catalog data, "equipment cuts", parts list and "as built" wiring diagrams for all components of all special systems: fire alarm system.

END OF SECTION

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SECTION 024119 - SELECTIVE DEMOLITION

PART 2 - GENERAL

2.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Salvage of existing items to be reused or recycled.
3. Asbestos Abatement

2.2 MATERIALS OWNERSHIP

- ###### A.
- Unless otherwise indicated, demolition waste becomes property of Contractor.

2.3 INFORMATIONAL SUBMITTALS

- ###### A.
- Proposed Protection Measures: Indicate the measures proposed for protecting individuals and property, for dust control and, for noise control. Indicate proposed locations and construction of barriers.
- ###### B.
- Schedule of selective demolition activities with starting and ending dates for each activity.
- ###### C.
- Abatement - Submit to the VA a minimum of 14 days prior to the pre-start meeting the following for review and approval. Meeting this requirement is a prerequisite for the pre-start meeting for this project:
- ###### D.
- Submit a detailed work schedule for the entire project reflecting contract documents and the phasing/schedule requirements from the CPM chart.
- ###### E.
- Submit a staff organization chart showing all personnel who will be working on the project and their capacity/function. Provide their qualifications, training, accreditations, and licenses, as appropriate. Provide a copy of the "Certificate of Worker's Acknowledgment" and the "Affidavit of Medical Surveillance and Respiratory Protection" for each person.
- ###### F.
- Submit Asbestos Hazard Abatement Plan developed specifically for this project, incorporating the requirements of the specifications, prepared, signed and dated by the CPHI/CIH.

2.4 FIELD CONDITIONS

- ###### A.
- Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- ###### B.
- Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

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- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is expected that hazardous materials will be encountered in the Work and removal will become a part of the General Contract.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.
- G. Arrange selective demolition schedule so as not to interfere with Owner's operations.

2.5 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties.

PART 3 - PRODUCTS

3.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.
- C. Asbestos Abatement responsibility and liability for compliance with all applicable Federal, State and Local regulations related to any and all aspects of the asbestos abatement project. The Contractor is responsible for providing and maintaining training, accreditations, medical exams, medical records, personal protective equipment (PPE) including respiratory protection including respirator fit testing, as required by applicable Federal, State and Local regulations. The Contractor shall hold the VA and VPIH/CIH consultants harmless for any Contractor's failure to comply with any applicable work, packaging, transporting, disposal, safety, health, or environmental requirement on the part of himself, his employees, or his subcontractors. The Contractor will incur all costs of the CPIH/CIH, including all sampling/analytical costs to assure compliance with OSHA/EPA/State requirements related to failure to comply with the regulations applicable to the work.

3.2 STANDARDS

- A. Standards which govern asbestos abatement activities include, but are not limited to, the following:

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1. American National Standards Institute (ANSI) Z9.2-79 -Fundamentals Governing the Design and Operation of Local Exhaust Systems and ANSI Z88.2 - Practices for Respiratory Protection.
2. Underwriters Laboratories (UL) 586-90 - UL Standard for Safety of HEPA Filter Units, 7th Edition.

Standards which govern encapsulation work include, but are not limited to the following:

1. American Society for Testing and Materials (ASTM)

Standards which govern the fire and safety concerns in abatement work include, but are not limited to, the following:

1. National Fire Protection Association (NFPA) 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations.
2. NFPA 701 - Standard Methods for Fire Tests for Flame Resistant Textiles and Film.
3. NFPA 101 - Life Safety Code

EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Survey condition of area of work.

3.2 NOTICES

- A. State and Local agencies: Send written notification as required by state and local regulations including the local fire department prior to beginning any work on ACM as follows:
- B. Copies of notifications shall be submitted to the VA for the facility's records in the same time frame notification are given to EPA, State, and Local authorities.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

1. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
2. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.

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- a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
- b. Equipment to Be Removed: Disconnect and cap services and remove equipment.
- c. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
- d. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
- e. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.

3.4 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
- C. Remove temporary barricades and protections where hazards no longer exist.

3.5 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 3. Do not use cutting torches if at all possible. If necessary, clear area of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 4. Maintain fire watch during and after flame-cutting operations.
 5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 6. Comply with requirements in Section 017419 "Construction Waste Management and Disposal."

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- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
 - 1. Clean salvaged items and protect.
 - 2. Store items in a secure area until delivery to Owner.
 - 3. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
 - 1. Clean and repair items to functional condition adequate for intended reuse.
 - 2. Protect items from damage during transport and storage.
 - 3. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.6 CLEANING

- A. Remove demolition waste materials from Project site.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
- B. Burning: Do not burn demolished materials.
- C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

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SECTION 061053 - CARPENTRY

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of contract, including General Conditions and Division One, Specification Sections, apply to the Work of this Section.

1.02 WORK INCLUDED

- A. Blocking, rough framing, grounds and nailers.

1.03 REFERENCE STANDARDS

- A. FS TT-W-571 - Wood Preservation: Treating Practices.
- B. APA - American Plywood Association.

1.04 RELATED WORK

- A. Bolts and other fasteners: See Section 055000, Metal Fabrications.
- B. Sealants: See Section 079200, Sealants.

1.05 GRADING RULES

- A. Grading of lumber of various species in accordance with American Softwood Lumber Standard PS 20-70, U.S. Department of Commerce (National Grading Rule).
- B. Each piece of yard, structural lumber shall bear official grade mark of appropriate inspection bureau or association.

1.06 SUBMITTAL

- A. Submit manufacturer's information for products.

1.07 WARRANTY

- A. Provide manufacturer's standard national warranty.

PART 2 - PRODUCTS

2.01 WOOD

- A. Interior grounds, nailers, furring and blocking: No. 2 dimension Southern Yellow Pine,

RUST MANOR – INTERIOR RENOVATIONS

fire-retardant treated.

B. Plywood: DOCPS 1.

1. Backing Panels: 3/4" thick APA INT BC fire retardant treated for telephone and electrical backboards.

2.02 LUMBER SIZE AND MOISTURE CONTENT

A. Lumber: Surfaced 4 sides (S4S).

B. Board, dimension lumber: Either air or kiln dried with moisture content in accordance with National Grading Rule but not exceeding 19 percent for dimension lumber and board lumber 8 inch or less in width.

2.03 PRESERVATIVE TREATMENT

A. Lumber in contact with masonry, concrete, earth or roof cants: Preservative treated.

B. Preservative treat by pressure method; F.S. TT-W-571 H, table III, C.C.A. 0.40 pounds retention per cu. ft.

C. Season treat lumber after preservative treatment to moisture content specified for non-treated lumber.

D. Label treated lumber except furring and grounds with name of treater and type of preservative used.

E. Complete fabrication of treated items prior to treatment, where possible. If cut after treatment, coat cut surfaces with heavy brush coat of same chemical used for treatment. Inspect each piece of lumber after drying and discard damaged or defective pieces.

2.04 FIRE-RETARDANT TREATMENT

A. Fire-retardant treated lumber or plywood: AWWA standards for pressure impregnation with fire-retardant chemicals to achieve flame spread rating of not more than 25; UL Test 723, ASTM E84 or NFPA Test 355.

B. Provide UL label on each piece of fire-retardant treated item.

C. Season treat items after fire retardant treatment to moisture content specified for non-treated items.

2.05 MISCELLANEOUS MATERIALS

A. Provide fasteners and anchorages of size and type as indicated and recommended by applicable standards, complying with federal specifications for nails, screws, staples, bolts, nuts, washers and anchoring devices.

B. Fasteners for Pressure Treated Lumber: Non-corrosive, self drilling screws.

PART 3 - EXECUTION

3.01 INSTALLATION GENERAL

- A. Frame, fit closely, set framing accurately to required lines levels. Secure rigidly in place. Size blocking to give true surface for finishing. Provide special blocking for construction not indicated or specified but required to complete work.
- B. Provide wood grounds nailers, blocking, as indicated for screeding or attachment of other work. Form to shapes indicated and cut as required to maintain tolerances specified for work to be attached. Coordinate location with adjoining work. Secure to substrate as required to support applied loading. Counter-sink bolts and nuts flush with surface.

END OF SECTION

SECTION 064116 - PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS AND COUNTERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Plastic-laminate-clad architectural cabinets.
2. Plastic-laminate counters.
3. Metal-laminate-clad architectural cabinets.
4. Metal-laminate counters
5. Wood furring, blocking, shims, and hanging strips for installing plastic-laminate-clad architectural cabinets that are not concealed within other construction.

1.2 ACTION SUBMITTALS

A. Shop Drawings:

1. Include plans, elevations, sections, and attachment details.

B. Samples: For each exposed product and for each color and texture specified.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer.

B. Research reports.

1.4 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

PART 2 - PRODUCTS

2.1 PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

- A. Quality Standard: Unless otherwise indicated, comply with the Architectural Woodwork Standards for grades of cabinets indicated for construction, finishes, installation, and other requirements.
- B. Architectural Woodwork Standards Grade: Premium.
- C. Type of Construction: Face frame.
- D. Door and Drawer-Front Style: Flush overlay.
- E. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or if not indicated, as required by quality standard.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Wilsonart LLC.
 - b. Formica Corporation.
- F. Laminate Cladding for Exposed Surfaces:
 - 1. Horizontal Surfaces: Grade HGS.
 - 2. Vertical Surfaces: Grade HGS.
 - 3. Edges: PVC edge banding, 3.0 mm thick, matching laminate in color, pattern, and finish.
 - 4. Pattern Direction: Vertically for drawer fronts, doors, and fixed panels.
- G. Concealed Backs of Panels with Exposed Plastic-Laminate Surfaces: High-pressure decorative laminate, NEMA LD 3, Grade BKL.
- H. Drawer Construction: Fabricate with exposed fronts fastened to subfront with mounting screws from interior of body.
 - 1. Join subfronts, backs, and sides with glued rabbeted joints supplemented by mechanical fasteners or glued dovetail joints.
- I. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:
 - 1. As indicated by laminate manufacturer's designations.
 - 2. As selected by Architect from laminate manufacturer's full range of colors.
- J. Countertops: High pressure decorative laminate, NEMA LD3-1995 HGS .050" thick, solid color, horizontal grade. Provide HPDL Manufacturer's full range of standard colors for selection. All countertop edges shall have 3mm edge banding.

- K. Balancing sheet: White or neutral colored, .020” cabinet liner, NEMA CL-20 for balanced construction.

2.2 WOOD MATERIALS

- A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated.

- 1. Wood Moisture Content: 5 to 10 percent.

2.3 CABINET HARDWARE AND ACCESSORIES

- A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets.
- B. Frameless Concealed Hinges (European Type): ANSI/BHMA A156.9, B01602, 170 degrees of opening, self-closing.
- C. Back-Mounted Pulls: ANSI/BHMA A156.9, B02011.
- D. Wire Pulls: Back mounted, solid metal, 5 inches long, and 5/16 inch wide in diameter.
- E. Adjustable Shelf Standards and Supports: ANSI/BHMA A156.9, B04102; with shelf brackets, B04112.
- F. Shelf Rests: ANSI/BHMA A156.9, B04013; metal.
- G. Drawer Slides: ANSI/BHMA A156.9.

- 1. Grade 1 and Grade 2: Side mounted and extending under bottom edge of drawer.

- a. Type: Full extension.
 - b. Material: Zinc-plated steel with polymer rollers.

- H. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with ANSI/BHMA A156.18 for ANSI/BHMA finish number indicated.

- 1. Satin Chromium Plated: ANSI/BHMA 626 for brass or bronze base; ANSI/BHMA 652 for steel base.

- I. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in ANSI/BHMA A156.9.

2.4 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.

- B. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide metal expansion sleeves or expansion bolts for post-installed anchors. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.

2.5 FABRICATION

- A. Complete fabrication, including assembly and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
- B. Shop-cut openings to maximum extent possible to receive hardware, appliances, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Before installation, condition cabinets to humidity conditions in installation areas for not less than 72 hours.
- B. Architectural Woodwork Standards Grade: Install cabinets to comply with quality standard grade of item to be installed.
- C. Anchor cabinets to anchors or blocking built in or directly attached to substrates. Secure with wafer-head cabinet installation screws.
- D. Install cabinets level, plumb, and true in line to a tolerance of **1/8 inch in 96 inches** using concealed shims.
 - 1. Scribe and cut cabinets to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
 - 2. Install cabinets without distortion so doors and drawers fit openings and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.
 - 3. Fasten wall cabinets through back, near top and bottom, and at ends not more than **16 inches** o.c. with No. 10 wafer-head screws sized for not less than **1-1/2-inch** penetration into wood framing, blocking, or hanging strips.

END OF SECTION

SECTION 079200 - SEALANTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of Contract, including General Conditions and other Division 1 Specification Sections, apply to the Work of this Section.

1.02 RELATED WORK

- B. Section 061053 – Miscellaneous Rough Carpentry

1.03 REFERENCE STANDARDS

- A. FS TT-S-230 - Sealing Compounds, Synthetic Single Component, Chemically Curing.
- B. ASTM C834 - Latex Sealing Compounds.

1.04 SUBMITTALS

- A. Submit manufacturers' catalog data, including surface preparation and installation instructions.
- B. Submit 2 samples of sealant colors.
- C. Submit UL penetration assembly as part of Fire Stop Sealant Assembly data.

1.05 GUARANTEE

- A. Provide a two (2) year written guarantee for materials and installation.

PART 2 - PRODUCTS

2.01 SEALANT MANUFACTURERS

- A. The materials specified in 2.02 are products manufactured by Pecora Corporation, unless otherwise noted. Equivalent products by other manufacturers are acceptable, Tremco, Sonneborn, Sika, etc.

2.02 SEALANT MATERIALS

- A. Type 1: "AC-20+Silicone"; one part, non-sag, acrylic latex caulk, complying with ASTM C834-86.
- C. Type 2: "AC-20FTR"; one part, modified acrylic latex acoustical sealant, complying with ASTM C834-86.
- D. Type 3: Sanitary SCS 1700; mildew resistant silicone rubber sealant complying with ASTM C-920, Type S, NS, Class 25.
- E. Type 4: "Dynatrol II"; two part urethane, non-sag, 50% maximum movement capability for extension/compression; complying with FS TT-S-230C, TT-S-00227E, Type II and ASTM C920, Type M, Grade NS.
- C. Type 5: "Urexpan NR-201"; one part urethane, self-leveling (Type I), 25% maximum

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movement capability for extension/compression; complying with FS TT-S-230C, ASTM C920.

- E. Provide exterior sealant in color to match adjacent surfaces.

2.03 ACCESSORIES

- A. Primer: Non-staining type, as recommended by sealant manufacturer for type of sealant, joint substrate, and size of joint.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Backer Rod: Round, closed cell polyethylene or "Denver Foam" polyurethane foam rod as required by manufacturer for type of sealant; oversize 30 to 50 percent.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.
- E. Masking Tape: To prevent application of sealant on surfaces not scheduled to receive it. Tape shall be removable without damage to substrate.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify that joint dimensions, physical and environmental conditions are acceptable to receive work of this Section.
- B. Beginning of installation implies acceptance of condition of substrate and of adjacent work.

3.02 PREPARATION

- A. Clean, prepare, and size joints in accordance with manufacturer's instructions. Remove any loose materials and other foreign matter which might impair adhesion of sealant.
- B. Verify that joint shaping materials and release tapes are compatible with sealant.
- C. Examine joint dimensions and size materials to achieve required width/depth ratios.
- D. Use backer rod to achieve required joint depths, and to allow sealants to perform properly.
- E. Use bond breaker tape where recommended by the sealant manufacturer and where indicated on the Drawings.

3.03 INSTALLATION

- A. Seal exterior joints subject to moisture penetration and interior joints exposed to view with sealant.
- B. Perform work in accordance with latest ASTM requirements for type of sealant and type of application.
- C. Install sealant in accordance with manufacturer's instructions.

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- D. Apply sealant within manufacturer's recommended temperature ranges. Consult manufacturer prior to installation when sealant cannot be applied within recommended temperature ranges.
- E. Tool joints to a concave profile.
- F. Joints shall be free of air pockets, foreign embedded matter, ridges, and sags.
- G. Installation of Elastic Expansion Joints: Clean joint with alcohol as necessary to clean joint surfaces. Install compression seal and manufacturer's approved silicone sealant at sides of expansion joint.

3.04 SCHEDULE

- A. Type 1: Interior non-moving joint applications.
 - 1. Extent: Provide acrylic latex sealant for all interior joints, except where silicone rubber sealant is indicated.
- C. Type 2: Interior acoustical applications.
- D. Type 3: Interior joints, moving.
 - 1. Extent: Provide silicone rubber sealant for all interior joints around plumbing fixtures, for all joints and seams between different materials or between equipment and adjacent surfaces, and control joints not on walking surfaces.
- E. Type 4: Exterior vertical surface applications, and interior moving joint applications.
- C. Type 5: Exterior horizontal surface applications.

3.05 CLEAN-UP

- A. Clean adjacent surfaces of excess sealant and sealant droppings as the work progresses, using solvents or cleaning agents recommended by manufacturer for surfaces to be cleaned.
- B. Upon completion of sealant installation, remove all associated debris, empty containers and surplus sealant from the job site. Do not leave "attic stock" on the premises.

END OF SECTION

SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Five-ply flush wood veneer-faced doors for transparent finish.
2. Factory fitting flush wood doors to frames and factory machining for hardware.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product, including the following:

1. Door core materials and construction.
2. Door edge construction
3. Door face type and characteristics.
4. Door louvers.
5. Door trim for openings.
6. Door frame construction.
7. Factory-machining criteria.
8. Factory- finishing specifications.

B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each type of door; construction details not covered in Product Data; and the following:

1. Door schedule indicating door and frame location, type, size, and swing.
2. Door elevations, dimension and locations of hardware, lite and louver cutouts, and glazing thicknesses.
3. Details of frame for each frame type, including dimensions and profile.
4. Details of electrical raceway and preparation for electrified hardware, access control systems, and security systems.
5. Dimensions and locations of blocking for hardware attachment.
6. Clearances and undercuts.
7. Requirements for veneer matching.

C. Samples: For factory-finished doors.

PART 2 - PRODUCTS

2.1 FLUSH WOOD DOORS, GENERAL

- A. Quality Standard: In addition to requirements specified, comply with "Architectural Woodwork Standards."

2.2 SOLID-CORE, FIVE-PLY FLUSH WOOD VENEER-FACED DOORS FOR TRANSPARENT FINISH

A. Interior Doors:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Eggers Industries.
 - b. Oshkosh Door Company.
 - c. VT Industries Inc.
 - d. Other, pending approval.
2. Performance Grade:
 - a. ANSI/WDMA I.S. 1A Heavy Duty: toilets, janitor's closets, and exits.
3. Architectural Woodwork Standards Grade: Premium.
4. Faces: Single-ply wood veneer not less than 1/50 inch thick.
 - a. Species: Red oak.
 - b. Cut: Quarter sliced.
 - c. Match between Veneer Leaves: Book match.
 - d. Assembly of Veneer Leaves on Door Faces: Center-balance match.
 - e. Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.
5. Exposed Vertical and Top Edges: Same species as faces or a compatible species - Architectural Woodwork Standards edge Type A.
6. Core for Non-Fire-Rated Doors:
 - a. ANSI A208.1, Grade LD-1 particleboard.
 - 1) Blocking: Provide wood blocking in particleboard-core doors as needed to eliminate through-bolting hardware. follows:
 - a) 5-inch top-rail blocking, in doors indicated to have closers.
 - b) 5-inch bottom-rail blocking, in exterior doors and doors indicated to have kick, mop, or armor plates.
 - c) 5-inch midrail blocking, in doors indicated to have exit devices.
7. Construction: Five plies, hot-pressed bonded (vertical and horizontal edging is bonded to core), with entire unit abrasive planed before veneering.

2.3 LIGHT FRAMES

- A. Wood Beads for Light Openings in Wood Doors: Provide manufacturer's standard wood beads unless otherwise indicated.

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1. Wood Species: Same species as door faces.
2. Profile: Flush rectangular beads.

2.4 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated.
 1. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
- B. Factory machine doors for hardware that is not surface applied.
 1. Locate hardware to comply with DHI-WDHS-3.
 2. Comply with final hardware schedules, door frame Shop Drawings, ANSI/BHMA-156.115-W, and hardware templates.
 3. Coordinate with hardware mortises in metal frames, to verify dimensions and alignment before factory machining.
- C. Openings: Factory cut and trim openings through doors.
 1. Light Openings: Trim openings with moldings of material and profile indicated.
 2. Glazing: Provide ¼ inch clear safety glass.

2.5 FACTORY FINISHING

- A. Comply with referenced quality standard for factory finishing.
 1. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
 2. Finish faces, all four edges, edges of cutouts, and mortises.
 3. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.
- B. Factory finish doors where indicated in schedules or on Drawings as natural factory finished.
- C. Transparent (Natural) Finish:
 1. Architectural Woodwork Standards Grade: Premium.
 2. Finish: Manufacturer's standard system.
 3. Staining: As selected by Architect from manufacturer's full range.
 4. Effect: Filled finish.
 5. Sheen: Satin.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Hardware: For installation, see Section 087100 "Door Hardware."

- B. Install doors and frames to comply with manufacturer's written instructions and referenced quality standard, and as indicated.
- C. Install frames level, plumb, true, and straight.
 - 1. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.
 - 2. Anchor frames to anchors or blocking built in or directly attached to substrates.
 - a. Secure with countersunk, concealed fasteners and blind nailing.
 - b. Use fine finishing nails for exposed fastening, countersunk and filled flush with woodwork.
 - 1) For factory-finished items, use filler matching finish of items being installed.
- D. Job-Fitted Doors:
 - 1. Align and fit doors in frames with uniform clearances and bevels as indicated below.
 - a. Do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors.
 - 2. Machine doors for hardware.
 - 3. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.
 - 4. Clearances:
 - a. Provide 1/8 inch at heads, jambs, and between pairs of doors.
 - b. Provide 1/4 inch from bottom of door to top of decorative floor finish or covering unless otherwise indicated on Drawings.
- E. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.2 FIELD QUALITY CONTROL

- A. Repair or remove and replace installations where field inspection indicate that they do not comply with specified requirements.

3.3 ADJUSTING

- A. Operation: Rehang or replace doors that do not swing or operate freely.
- B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION

SECTION 087100 DOOR HARDWARE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of the Contract, including General Conditions and Division One Specification Sections, apply to the Work of this Section.

1.02 REFERENCE STANDARDS

- A. The Americans with Disabilities Act Accessibility Guidelines (ADAAG) and CABO/ANSI A117.1 (1992).
- B. BHMA – Builders Hardware Manufacturers Association
- C. DHI – Door and Hardware Institute
- D. NFPA – National Fire Protection Association
 - 1. NFPA 80 – Fire Doors and Windows
 - 2. NFPA 101 – Life Safety Code
 - 3. NFPA 252 – Fire Tests of Door Assemblies
- E. UL – Underwriters Laboratories
 - 1. UL 10C – Fire Tests of Door Assemblies (Positive Pressure)
 - 2. UL 305 – Panic Hardware
- F. WHI – Warnock Hersey Incorporated
- G. SDI – Steel Door Institute
- H. WDI – Wood Door Institute
- I. AWI – Architectural Woodwork Institute
- J. NAAM – National Association of Architectural Metal Manufacturers

1.03 RELATED WORK

- A. Shop Drawings, Product Data and Samples: Section 013300
- B. Hollow Metal Frames: Section 081213.
- C. Flush Wood Doors: Section 081416

1.04 WORK DESCRIPTION

- A. The work of this section includes, but is not limited to, the following:
 - 1. All door hardware.
- B. Contractor shall provide all labor necessary to install hardware and accessories.
- C. Provide hardware for all new doors as indicated on the drawings and/or shown in the

door schedule.

1.05 DESCRIPTION OF HARDWARE

A. The required types of hardware include (but are not necessarily limited to) the following:

1. Lever lock and latch sets.
2. Lock Cylinders and Keys
3. Closers

1.06 QUALITY ASSURANCE

- A. Qualifications of Manufacturers: Products used in the Work of this Section shall be produced by manufacturers regularly engaged in manufacture of similar items and with a history of successful production acceptable to the Architect and Owner.
- B. Qualifications of Hardware Supplier: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.
- C. Hardware: New, free from defects, blemishes and excessive play. Each kind of hardware shall be supplied from a single manufacturer.
- D. Accessibility Compliance: Comply with ANSI A117.1,
- E. Departures from Approval Materials: Substitutions shall not be allowed.
- F. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- G. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.
- H. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
- I. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.
- J. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.

1.07 SUBMITTALS

- A. Submit copies of hardware schedule in accordance with Section 013300. Organize vertically formatted schedule into "Hardware Sets" with index of doors and headings, indicating complete designations of every item required for each door or opening. Include the following information:
1. Type, style, function, size, quantity and finish of hardware items. Use BHMA finish codes per ANSI A156.18.
 2. Name, part number and manufacturer of each item.

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3. Fastenings and other pertinent information.
4. Location of hardware set coordinated with floor plans and door schedule.
5. Explanation of abbreviations, symbols, and codes contained in schedule.
6. Mounting locations for hardware.
7. Door and frame sizes, materials and degrees of swing.
8. Catalog cuts.
9. Manufacturer's technical data templates and installation instructions with copy of transmittal indicating applicable data has been distributed to the installer.
10. Key control schedule for all locksets.
11. Guarantees

1.08 PRODUCT HANDLING AND STORAGE

- A. Packing and Marking: Individually package each unit of finish hardware, complete with proper fastenings and appurtenances, clearly marked on the outside to indicate the contents and specific locations in the Work.
- B. Protection: Provide secure lock-up for hardware delivered to the project, but not yet installed. Contractor shall exercise care in the handling and installation of hardware items that are not immediately replaceable, so that the completion of the work will not be delayed by hardware losses, both before and after installation.
 1. Permanent keys and cores: Provide secure delivery direct to Owner. (Keying Requirements, 2.03)
- C. Replacements: In the event of damage after delivery, the Contractor shall make all repairs and replacements necessary at no additional cost to the Owner.

1.09 SEQUENCING AND COORDINATION

- A. Verify proper wall reinforcement. Coordinate floor mounted hardware with finish floor materials and floor substrates. Furnish manufacturer templates to door and frame fabricators.
- B. Provide door and opening frame submittals to hardware supplier to confirm that adequate provisions are made to ensure proper hardware installation.

1.10 WARRANTIES

- A. Special Warranty Periods:
 1. Ten years for mortise locks and latches.
 2. Ten years for extra heavy duty cylindrical (bored) locks and latches.
 3. Five years for exit hardware.
 4. Twenty five years for manual surface door closer bodies.
 5. Five years for motorized electric latch retraction exit devices.
 6. Two years for electromechanical door hardware.

1.11 HARDWARE MOUNTING HEIGHTS

- A. Mounting heights of hardware from standing level shall be as follows:
 1. Levers: 36"
 2. Panic Rim Device :42"

PART 2 - PRODUCTS

2.01 GENERAL

1.2 A. SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.
- B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
 - 1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.
- C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

1.3 HANGING DEVICES

- A. Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles as specified in the Door Hardware Sets.
 - 1. Quantity: Provide the following hinge quantity, unless otherwise indicated:
 - a. Two Hinges: For doors with heights up to 60 inches.
 - b. Three Hinges: For doors with heights 61 to 90 inches.
 - c. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
 - 2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
 - a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
 - b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.
 - 3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:

- a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
 - b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
- 4. Hinge Options: Comply with the following:
 - a. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.
- 5. Acceptable Manufacturers:
 - a. Bommer Industries (BO).
 - b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK).
 - c. Stanley Hardware (ST).
- B. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 certified continuous geared hinge. with minimum 0.120-inch thick extruded 6060 T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cut-outs.
 - 1. Acceptable Manufacturers:
 - a. Bommer Industries (BO).
 - b. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE).
 - c. Stanley Hardware (ST).

1.4 POWER TRANSFER DEVICES

- A. Concealed Quick Connect Electric Power Transfers: Provide concealed wiring pathway housing mortised into the door and frame for low voltage electrified door hardware. Furnish with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.
 - 1. Acceptable Manufacturers:
 - a. Securitron (SU) - EL-CEPT Series.
- B. Electric Door Wire Harnesses: Provide electric/data transfer wiring harnesses with standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Provide sufficient number and type of concealed wires to accommodate electric function of specified hardware. Provide a connector for through-door electronic locking devices and from hinge to junction box above the opening. Wire nut connections

are not acceptable. Determine the length required for each electrified hardware component for the door type, size and construction, minimum of two per electrified opening.

1. Provide one each of the following tools as part of the base bid contract:
 - a. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - Electrical Connecting Kit: QC-R001.
 - b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - Connector Hand Tool: QC-R003.
2. Acceptable Manufacturers:
 - a. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) – QC-C Series.
- C. Provide mortar guard enclosure on steel frames installed at masonry openings for each electrical hinge specified.

1.5 DOOR OPERATING TRIM

- A. Flush Bolts and Surface Bolts: ANSI/BHMA A156.3 and A156.16, Grade 1, certified.
 1. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.
 2. Furnish dust proof strikes for bottom bolts.
 3. Surface bolts to be minimum 8" in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.
 4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.
 5. Acceptable Manufacturers:
 - a. Door Controls International (DC).
 - b. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
 - c. Trimco (TC).
- B. Door Push Plates and Pulls: ANSI/BHMA A156.6 certified door pushes and pulls of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.
 1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
 2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.
 3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.

4. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets.
5. Acceptable Manufacturers:
 - a. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).

1.6 CYLINDERS AND KEYING

- A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.
- B. Source Limitations: Obtain each type of keyed cylinder and keys from the same source manufacturer as locksets and exit devices, unless otherwise indicated.
 1. Acceptable Manufacturers:
 - a. Corbin Russwin Hardware (RU).
 - b. No Substitution.
- C. Cylinders: Original manufacturer cylinders complying with the following:
 1. Mortise Type: Threaded cylinders with rings and cams to suit hardware application.
 2. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
 3. Bored-Lock Type: Cylinders with tailpieces to suit locks.
 4. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
 5. Keyway: Match Facility Standard.
- D. Keying System: Each type of lock and cylinders to be factory keyed.
 1. Conduct specified "Keying Conference" to define and document keying system instructions and requirements.
 2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
 3. Existing System: Key locks to Owner's existing system.
- E. Key Quantity: Provide the following minimum number of keys:
 1. Change Keys per Cylinder: Two (2)
 2. Master Keys (per Master Key Level/Group): Five (5).
- F. Key Registration List (Bitting List):
 1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
 2. Provide transcript list in writing or electronic file as directed by the Owner.

1.7 MECHANICAL LOCKS AND LATCHING DEVICES

A. Tubular Locksets, Grade 2

1. Acceptable Manufacturers:

- a. Schlage ALX Series grade 2 lock, RHO lever in Satin 626 finish
- b. No Substitution.

1.8 AUXILIARY LOCKS

A. Narrow Case Deadlocks and Deadlatches: ANSI/BHMA 156.13 Series 1000 Grade 1 certified narrow case deadlocks and deadlatches for swinging or sliding door applications. All functions shall be manufactured in a single sized case formed from 12 gauge minimum, corrosion resistant steel (option for fully stainless steel case and components). Provide minimum 2 7/8" throw laminated stainless steel bolt. Bottom rail deadlocks to have 3/8" diameter bolts.

1. Acceptable Manufacturers:

- a. Adams Rite Manufacturing (AD) - MS1850S / MS1950 Series.

1.9 LOCK AND LATCH STRIKES

A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:

1. Strikes for Mortise Locks and Latches: BHMA A156.13.
2. Strikes for Bored Locks and Latches: BHMA A156.2.
3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
4. Dustproof Strikes: BHMA A156.16.

1.10 ELECTRIC STRIKES

A. Standard Electric Strikes: Heavy duty, cylindrical and mortise lock electric strikes conforming to ANSI/BHMA A156.31, Grade 1, UL listed for both Burglary Resistance and for use on fire rated door assemblies. Stainless steel construction with dual

interlocking plunger design tested to exceed 3000 lbs. of static strength and 350 ft-lbs. of dynamic strength. Strikes tested for a minimum 1 million operating cycles. Provide strikes with 12 or 24 VDC capability and supplied standard as fail-secure unless otherwise specified. Option available for latchbolt and latchbolt strike monitoring indicating both the position of the latchbolt and locked condition of the strike.

1. Acceptable Manufacturers:

a. HES (HS).

1.11 DOOR CLOSERS

A. All door closers specified herein shall meet or exceed the following criteria:

1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers including installation and adjusting information on inside of cover.
2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
3. Cycle Testing: Provide closers which have surpassed 15 million cycles in a test witnessed and verified by UL.
4. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the physically handicapped, provide units complying with ANSI ICC/A117.1.
5. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
6. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
7. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

B. Door Closers, Surface Mounted (INTERIOR): ANSI/BHMA A156.4, Grade 1 surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.

1. Acceptable Manufacturers:

- a. Corbin Russwin Hardware (RU) – DC6000 Series.
 - b. Norton Door Controls (NO) - 7500 Series.
- C. Door Closers, Surface Mounted (EXTERIOR): Unitrol arms to have door stop mechanism to absorb dead stop shock on arm and top hinge. Hold-open arms to have a spring loaded mechanism in addition to shock absorber assembly. Arms to be provided with rigid steel main arm and secondary arm lengths proportional to the door width.
 - 1. Acceptable Manufacturers:
 - a. Corbin Russwin Hardware (RU) - Unitrol Series.
 - b. Norton Door Controls (NO) - Unitrol Series.

1.12 ARCHITECTURAL TRIM

- A. Door Protective Trim
 - 1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
 - 2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1" LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
 - 3. Where plates are applied to fire rated doors with the top of the plate more than 16" above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer's catalog and template book for specific requirements for size and applications.
 - 4. Protection Plates: ANSI/BHMA A156.6 certified protection plates (kick, armor, or mop), fabricated from the following:
 - a. Stainless Steel: 300 grade, .050-inch thick.
 - 5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
 - 6. Acceptable Manufacturers:
 - a. Burns Manufacturing (BU).
 - b. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
 - c. Trimco (TC).

1.13 DOOR STOPS AND HOLDERS

- A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

- B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.
 - 1. Acceptable Manufacturers:
 - a. Burns Manufacturing (BU).
 - b. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
 - c. Trimco (TC).
- C. Overhead Door Stops and Holders: ANSI/BHMA A156.6, Grade 1 certified overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.
 - 1. Acceptable Manufacturers:
 - a. Rixson Door Controls (RF).

1.14 ARCHITECTURAL SEALS

- A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.
- B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.
 - 1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.
- C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.
 - 1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.
- D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.
- E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

F. Acceptable Manufacturers:

1. National Guard Products (NG).
2. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE).
3. Reese Enterprises, Inc. (RE).

1.15 FABRICATION

- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

1.16 FINISHES

- A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware
- C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. All finish hardware shall be furnished and packaged with all necessary screws, bolts, and other fasteners of suitable sizes and type to anchor the hardware in position for long life under hard use.
- D. Furnish fastenings where necessary using expansion shields, toggle bolts, sex bolts and other anchors approved by the Engineer, compatible with the material to which the hardware is to be applied, and in conformance with the recommendations of the hardware manufacturer.
- E. All fastenings shall match the hardware material and finish.
- F. Finishes: Take special care to coordinate all of the various manufactured items furnished under this Section. Where practical, ensure uniform finish of all the various hardware components.
1. Unless noted otherwise, all hardware shall have US26 satin chrome finish.

2.02 LOCK CYLINDERS AND KEYING

- A. Keying System: To be verified with Owner.
1. Provide removeable cores and 3 keys for each lockset.
- B. Lock cylinders shall be 6 pin removable core.
- C. Equip locks with cylinders for interchangeable-core pin tumbler inserts. Furnish only temporary inserts for the construction period, and remove these when directed.

1. Permanent keying to be coordinated by the Owner.
- D. Equip locks with high-security cylinders that comply with performance requirements for Grade 1 cylinders as listed in ANSI/BHMA A156.5 and that have been tested for pick, and drill resistance requirements of UL 437 and are UL listed.
- E. Metals: Construct lock cylinder parts from brass or bronze, stainless steel, or nickel silver.
- F. Comply with Owner's instructions for master keying and, except as otherwise indicated, Provide individual change key for each lock that is not designated to be keyed alike with a group of related locks.
 - i. Permanently inscribe each key with number of lock that identifies cylinder manufacturer's key symbol, and notation, "DO NOT DUPLICATE."
- G. Key Material: Provide keys of nickel silver only.

2.03 KEY CONTROL SYSTEM

- A. Provide a key control system including envelopes, labels, and tags.

2.04 LOCKS, LATCHES, AND BOLTS

- A. Strikes: Provide manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame, finish to match hardware set, unless otherwise indicated.
 1. Provide flat lip strikes for locks with 3-piece, antifriction latchbolts as recommended by manufacturer.
 2. Provide recess type top strikes for bolts locking into head frames, unless otherwise indicated.
 3. Provide dust-proof strikes for foot bolts, except where special threshold construction provides nonrecessed strike for bolt.
- B. Lock Throw: Provide 5/8-inch minimum throw of latch on pairs of doors. Comply with UL requirements for throw of bolts and latch bolts on rated fire openings.
 1. Provide 1/2-inch minimum throw latch for other bored and preassembled types of locks and 3/4-inch minimum throw of latch for mortise locks. Provide 1-inch minimum throw for all dead bolts.

2.05 CLOSERS AND DOOR CONTROL DEVICES

- A. Size of Units: Except as otherwise specifically indicated, comply with the manufacturer's recommendations for size of door control unit depending on size of door, exposure to weather, and anticipated frequency of use.
 1. Where parallel arms are indicated for closers, provide closer unit one size larger than recommended for use with standard arms.
 2. Provide parallel arms for all overhead closers, except as otherwise indicated.
- B. Access-Free Manual Closers: Where manual closers are indicated for doors required to be accessible to the physically handicapped, provide adjustable units complying with ADA provisions for door opening force and delayed action closing.

- C. Combination Door Closers and Holders: Provide units designed to hold door in open position under normal usage and to release and close door automatically under fire conditions. Incorporate an integral electromagnetic holder mechanism designed for use with UL listed fire detectors, provided with normally closed switching contacts.

2.06 DOOR TRIM UNITS

- A. Fasteners: Provide manufacturer's standard exposed fasteners for door trim units consisting of either machine screws or self-tapping screws.
- B. Fabricate edge trim of stainless steel to fit door thickness in standard lengths or to match height of protection plates.
- C. Fabricate protection plates not more than 1-1/2-inches less than door width on hinge side and not more than 1/2-inch less than door width on pull side by height indicated.
 - 1. Metal Plate: Stainless steel, 0.050-inch (U.S. 18 gage).

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Coordinate hardware installation with other work. Supply information related to the approved hardware schedule, and include basic installation instructions.
- B. Install hardware per manufacturer's instructions and recommendations. Upon completion of the installation, and as a condition of its acceptance, visually inspect all finish hardware furnished under this Section and place in optimum working condition. Do not install surface-mounted items until finishes have been completed on substrate. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate for proper installation and operation.
 - 1. When hardware is to be attached to existing metal surface and insufficient reinforcement exists, use RivNuts, NutSerts or similar anchoring device for screws.
- C. Drill pilot holes for fasteners.

3.02 ADJUSTING

- A. Adjust and check for proper operation and function. Replace units, which cannot be adjusted to operate freely and smoothly.
 - 1. Hardware damaged by improper installation or adjustment methods shall be repaired or replaced at no extra cost to Owner.

3.03 PROTECTION AND CLEANING

- A. Cover installed hardware, protect from paint, cleaning agents, weathering, carts/barrows, etc. until accepted by Owner. Remove covering materials and clean hardware just prior to substantial completion.
- B. At completion of each segment of installation in a room or space, promptly remove all scraps, debris, and surplus materials from the work area and dispose of legally.
- C. Clean adjacent wall, frame and door surfaces soiled from installation/reinstallation

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process.

3.04 INSPECTION

- A. Inspection: Conduct with hardware supplier and Owner's Representative.

3.05 SIX-MONTH ADJUSTMENT

- A. Approximately six months after the date of substantial completion, the installer shall inspect all hardware schedule items, adjust hardware as required and replace faulty items.

3.06 HARDWARE SCHEDULE

- A. See drawings for hardware sets that are cross-referenced by set number to the Door/Opening Schedule

END OF SECTION

SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Non-load-bearing steel framing systems for interior partitions.
2. Suspension systems for interior ceilings and soffits.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of code-compliance certification for studs and tracks.

1.4 QUALITY ASSURANCE

A. Code-Compliance Certification of Studs and Tracks: Provide documentation that framing members are certified according to the product-certification program of the Certified Steel Stud Association, the Steel Framing Industry Association, or the Steel Stud Manufacturers Association.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics:** For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated, according to ASTM E119 by an independent testing agency.
- B. STC-Rated Assemblies:** For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated on Drawings, according to ASTM E90 and classified according to ASTM E413 by an independent testing agency.

2.2 FRAMING SYSTEMS

A. Framing Members, General: Comply with ASTM C754 for conditions indicated.

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1. Steel Sheet Components: Comply with ASTM C645 requirements for steel unless otherwise indicated.
 2. Protective Coating: ASTM A653/A653M, G40, hot-dip galvanized unless otherwise indicated.
- B. Studs and Tracks: ASTM C645. Use embossed, high-strength steel studs and tracks.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. ClarkDietrich Building Systems.
 - b. MarinoWARE.
 2. Minimum Base-Steel Thickness: As required by performance requirements for horizontal deflection, minimum 0.0179 inch.
 3. Depth: As indicated on Drawings.
- C. Slip-Type Head Joints: Where indicated, provide one of the following:
1. Clip System: Clips designed for use in head-of-wall deflection conditions that provide a positive attachment of studs to tracks while allowing up to 1-1/2-inch vertical movement.
 2. Single Long-Leg Track System: ASTM C645 top track with 2-inch- deep flanges in thickness not less than indicated for studs, installed with studs friction fit into top track and with continuous bridging located within 12 inches of the top of studs to provide lateral bracing.
 3. Deflection Track: Steel sheet top track manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.
- D. Flat Strap and Backing Plate: Steel sheet for blocking.
- E. Cold-Rolled Channel Bridging: Steel, 0.0538-inch minimum base-steel thickness, with minimum 1/2-inch- wide flanges.
1. Depth: 1-1/2 inches.
 2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches, 0.068-inch- thick, galvanized steel.
- F. Hat-Shaped, Rigid Furring Channels: ASTM C645.
1. Minimum Base-Steel Thickness: 0.0296 inch.
 2. Depth: 7/8 inch.
- G. Cold-Rolled Furring Channels: 0.053-inch uncoated-steel thickness, with minimum 1/2-inch-wide flanges.
1. Depth: 3/4 inch.
 2. Furring Brackets: Adjustable, corrugated-edge-type steel sheet with minimum uncoated-steel thickness of 0.0329 inch.

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3. Tie Wire: ASTM A641/A641M, Class 1 zinc coating, soft temper, 0.062-inch- diameter wire, or double strand of 0.048-inch- diameter wire.

2.3 SUSPENSION SYSTEMS

- A. Tie Wire: ASTM A641/A641M, Class 1 zinc coating, soft temper, 0.062-inch- diameter wire, or double strand of 0.048-inch- diameter wire.
- B. Wire Hangers: ASTM A641/A641M, Class 1 zinc coating, soft temper, 0.16 inch in diameter.
- C. Flat Hangers: Steel sheet, 1 by 3/16 inch by length indicated.
- D. Carrying Channels (Main Runners): Cold-rolled, commercial-steel sheet with a base-steel thickness of 0.0538 inch and minimum 1/2-inch- wide flanges.
 1. Depth: 1-1/2 inches.
- E. Furring Channels (Furring Members):
 1. Cold-Rolled Channels: 0.0538-inch uncoated-steel thickness, with minimum 1/2-inch-wide flanges, 3/4 inch deep.
 2. Steel Studs and Tracks: ASTM C645. Use either conventional steel studs and tracks or embossed, high-strength steel studs and tracks.
 - a. Minimum Base-Steel Thickness: 0.0179 inch.
 - b. Depth: 1-5/8 inches.
 3. Hat-Shaped, Rigid Furring Channels: ASTM C645, 7/8 inch (22 mm) deep.
 - a. Minimum Base-Steel Thickness: 0.0179 inch.

2.4 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards.
 1. Fasteners for Steel Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.
- B. Isolation Strip at Exterior Walls: Provide one of the following:
 1. Asphalt-Saturated Organic Felt: ASTM D226/D226M, Type I (No. 15 asphalt felt), nonperforated.
 2. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C754.
- B. Install framing and accessories plumb, square, and true to line, with connections securely fastened.
- C. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- D. Install bracing at terminations in assemblies.
- E. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.2 INSTALLING FRAMED ASSEMBLIES

- A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
- B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- C. Install studs so flanges within framing system point in same direction.
- D. Install tracks at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts that penetrate partitions above ceiling.
 - 1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
 - 2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint in finished assembly.
 - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
 - 3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.

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4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.
 - a. Firestop Track: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.
- E. Direct Furring:
 1. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.
- F. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch (3 mm) from the plane formed by faces of adjacent framing.

3.3 INSTALLING CEILING SUSPENSION SYSTEMS

- A. Install suspension system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
- B. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.
- C. Suspend hangers from building structure as follows:
 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.
 - a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.
 3. Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail.
 4. Flat Hangers: Secure to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
 5. Do not connect or suspend steel framing from ducts, pipes, or conduit.
- D. Fire-Resistance-Rated Assemblies: Wire tie furring channels to supports.

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- E. Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

END OF SECTION

SECTION 092300 – GYPSUM PLASTERING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Interior vertical plasterwork, new and patching.
 - 2. Preparing surfaces where plaster work is required.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each type of factory-prepared finish coat.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance Ratings: Where indicated or required to preserve existing ratings, provide cement plaster assemblies identical to those of assemblies tested for fire resistance according to ASTM E 119 by a qualified testing agency.

2.2 ACCESSORIES

- A. General: Comply with ASTM C 1063, and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.
- B. Metal Accessories:
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. ClarkDietrich Building Systems.
 - b. Marino\WARE.
 - 2. Cornerite: Fabricated from metal lath with ASTM A 653/A 653M, **G60 (Z180)**, hot-dip galvanized-zinc coating.
 - 3. External- (Outside-) Corner Reinforcement: Fabricated from metal lath with ASTM A 653/A 653M, **G60 (Z180)**, hot-dip galvanized-zinc coating.

4. Cornerbeads: Fabricated from zinc-coated (galvanized) steel.
5. Casing Beads: Fabricated from zinc-coated (galvanized) steel; square-edged style; with expanded flanges.

2.3 MISCELLANEOUS MATERIALS

- A. Water for Mixing and Finishing Plaster: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.
- B. Fiber for Base Coat: Alkaline-resistant glass or polypropylene fibers, **1/2 inch** long, free of contaminants, manufactured for use in cement plaster.
- C. Bonding Compound: ASTM C 932.
- D. Fasteners for Attaching Metal Lath to Substrates: ASTM C 1063, 26 ga. or heavier.

2.4 PLASTER MATERIALS

- A. Gypsum Plaster:: ASTM C 28. Neat plaster for hand application of scratch coat over metal lath, concrete, and SMU shall contain not less than 0.01 percent by weight of synthetic or vegetable fibers or not less than 0.02 percent by weight of mineral fibers.
- B. Bond Compound: A plaster bonding compound having special bonding properties shall be used for application to concrete or CMU surfaces where a mechanical key can be achieved.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Larsen Mfg.Co., Plaster Weld.
- C. Plaster Crack Patching Compound: Ready mixed all-purpose joint compound.
- D. Finishing Hydrated Lime: ASTM C 206.
- E. Sand Aggregate: ASTM C 35 graduated for plaster.

2.5 PLASTER MIXES

- A. Base-Coat Mixes for Use over Unit Masonry: Single base (scratch) coat for two-coat plasterwork on low-absorption plaster bases as follows:
- B. According to ASTM C 926, mixes in "Portland Cement Mix," "Portland and Masonry Cement Mix," and "Plastic Cement Mix" subparagraphs below are suitable for use over "low-absorption" plaster bases, such as brick, concrete, and dense, smooth clay tile. Coordinate with requirements retained in "Plaster Materials" Article.

- C. Mix Additives: Use accelerators and retarders, if required by Project conditions, according to manufacturer's written instructions.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Contractor shall survey the areas requiring plaster work and verify surfaces and conditions affecting the work.
- B. Prepare smooth, solid substrates for plaster according to ASTM C 926.
- C. Fire-Resistance-Rated Assemblies: Install components according to requirements for design designations from listing organization and publication indicated on Drawings.

3.2 INSTALLING ACCESSORIES

- A. Install according to ASTM C 841 and at locations indicated on Drawings.
- B. Reinforcement for External (Outside) Corners:
 - 1. Install cornerbead at interior locations.
- C. Control Joints: Locate as indicated on Drawings.

3.3 PLASTER APPLICATION

- A. General: Comply with ASTM C 842.
- B. Bonding Compound: Apply on unit masonry substrates for direct application of plaster.
- C. Base-Coat Plaster:
 - 1. Over Expanded-Metal Lath:
 - a. Scratch Coat: Gypsum neat plaster with job-mixed sand.
 - b. Brown Coat: Gypsum neat plaster with job-mixed sand.
 - 2. Over Unit Masonry: Gypsum neat plaster with job-mixed sand.
 - 3. Over Monolithic Concrete: Gypsum neat plaster with job-mixed sand.
- D. Finish Coats:
 - 1. Smooth-Troweled Finishes: Gypsum gaging plaster and lime putty or gypsum ready-mixed finish plaster.
 - 2. Float Finishes: Gypsum gaging plaster and lime putty.

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- E. Plaster Finish Coats: Apply to provide trowelled finish to match existing plaster walls.

3.4 PLASTER REPAIRS

- A. Repair or replace work to eliminate cracks, dents, blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.

END OF SECTION

RUST MANOR – INTERIOR RENOVATIONS

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Interior gypsum board.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E90 and classified according to ASTM E413 by an independent testing agency.

2.2 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

A. Gypsum Wallboard: ASTM C1396/C1396M.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. Georgia-Pacific Gypsum LLC.
 - b. National Gypsum Company.
 - c. USG Corporation.
2. Thickness: 5/8" inch unless noted otherwise.

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3. Long Edges: Tapered.

B. Gypsum Board, Type X: ASTM C1396/C1396M.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Georgia-Pacific Gypsum LLC.
 - b. National Gypsum Company.
 - c. USG Corporation.
2. Thickness: 5/8 inch.
3. Long Edges: Tapered.

C. Gypsum Ceiling Board: ASTM C1396/C1396M.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Georgia-Pacific Gypsum LLC.
 - b. National Gypsum Company.
 - c. USG Corporation.
2. Thickness: 1/2 inch.
3. Long Edges: Tapered.

D. Abuse-Resistant Gypsum Board: ASTM C1396/C1396M gypsum board, tested according to ASTM C1629/C1629M.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Georgia-Pacific Gypsum LLC.
 - b. National Gypsum Company.
 - c. USG Corporation.
2. Core: 5/8 inch, regular type.
3. Surface Abrasion: ASTM C1629/C1629M, meets or exceeds Level 3 requirements.
4. Indentation: ASTM C1629/C1629M, meets or exceeds Level 1 requirements.
5. Soft-Body Impact: ASTM C1629/C1629M, meets or exceeds Level 1 requirements.
6. Long Edges: Tapered.
7. Mold Resistance: ASTM D3273, score of 10 as rated according to ASTM D3274.

2.4 TILE BACKING PANELS

A. Glass-Mat, Water-Resistant Backing Board: ASTM C1178/C1178M, with manufacturer's standard edges.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

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- a. CertainTeed Corporation.
 - b. Georgia-Pacific Gypsum LLC.
 - c. National Gypsum Company.
 - d. USG Corporation.
2. Core: 5/8 inch, Type X.
3. Mold Resistance: ASTM D3273, score of 10 as rated according to ASTM D3274.

2.5 TRIM ACCESSORIES

- A. Interior Trim: ASTM C1047.
 1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.
 2. Shapes:
 - a. Cornerbead.
 - b. Bullnose bead.
 - c. L-Bead: L-shaped; exposed long flange receives joint compound.
 - d. Expansion (control) joint.

2.6 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C475/C475M.
- B. Joint Tape:
 1. Interior Gypsum Board: Paper.
- C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.
 1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
 3. Fill Coat: For second coat, use setting-type, sandable topping compound.
 4. Finish Coat: For third coat, use setting-type, sandable topping compound.
 5. Skim Coat: For final coat of finish, use setting-type, sandable topping compound.

2.7 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
- B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

- C. Steel Drill Screws: ASTM C1002 unless otherwise indicated.
 - 1. Use screws complying with ASTM C954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
 - 2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.
- D. Sound-Attenuation Blankets: ASTM C665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.

PART 3 - EXECUTION

3.1 APPLYING AND FINISHING PANELS

- A. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- B. Comply with ASTM C840.
- C. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide ¼ wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- D. For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- E. Prefill open joints and damaged surface areas.
- F. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- G. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C840:
 - 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
 - 2. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
 - a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

3.2 PROTECTION

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period. Remove and replace panels that are wet, moisture damaged, and mold damaged.

END OF SECTION

SECTION 093013 - CERAMIC TILING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Glazed wall tile.
2. Metal tiling accessories
3. Crack isolation membrane

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples:

1. Each type and composition of tile and for each color indicated in the Finish Schedule.
2. Each type of metal accessory.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Data: For each type of product.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed for each type, composition, color, pattern, and size indicated.

1.5 QUALITY ASSURANCE

A. Installer Qualifications:

1. Installer is recognized regional installer with minimum five years of experience.

PART 2 - PRODUCTS

2.1 PRODUCTS, GENERAL

- A. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCNA installation methods specified in tile installation schedules, and other requirements specified.

2.2 TILE PRODUCTS

- A. Porcelain Tile Type PT-1: Square-edged floor tile.
 - 1. Manufacturers: Subject to compliance with requirements provide product by the following:
 - a. Daltile – Basis-of-Design
 - 2. Module Size: 12 inches by 24 inches.
 - 3. Tile Color and Pattern: Daltile SS7 Tundra Sand
 - 4. Grout Color: TBD
- B. Ceramic Tile Type CT-2: Square-edged wall tile.
 - 1. Manufacturers: Subject to compliance with requirements provide product by the following:
 - a. Daltile – Basis-of-Design
 - 2. Module Size: 3 inches by 6 inches.
 - 3. Tile Color and Pattern: Daltile semi-gloss, White #0100;.
 - 4. Grout Color: TBD
- C. Ceramic Tile Type CT-3: Accent wall tile.
 - 1. Manufacturers: Subject to compliance with requirements provide product by the following:
 - a. Daltile – Basis-of-Design
 - 2. Module Size: 4 inches by 12 inches.
 - 3. Tile Color and Pattern: Daltile Wave Crest MY94 CYCLADE.
 - 4. Grout Color: TBD

2.3 SETTING MATERIALS

- A. Improved Modified Dry-Set Mortar (Thinset): ANSI A118.15, or other approved TCNA setting method and material for proposed substrate.

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1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Bostik, Inc.
 - b. Custom Building Products
 - c. MAPEI Corporation.
2. Provide prepackaged, dry-mortar mix combined with liquid-latex additive at the Project site.

2.4 GROUT MATERIALS

- A. High-Performance Tile Grout: ANSI A118.7.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Bostik, Inc.
 - b. Custom Building Products
 - c. LATICRETE SUPERCAP, LLC
 - d. MAPEI Corporation.
- B. Provide prepackaged, dry-mortar mix combined with liquid-latex additive at the Project site.

2.5 MISCELLANEOUS MATERIALS

- A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations, indicated.
- B. Metal Cove and Edge Strips: Height to match tile and setting bed thickness, metallic design designed specifically for applications
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Schluter Systems, L.P.
 2. Shapes: Provide appropriate shapes and trim pieces to finish corners and exposed edges of tile work.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

1. Verify that substrates for setting tile are firm; dry; clean; free of coatings that are incompatible with tile-setting materials, including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.
2. Verify that concrete substrates for tile floors installed with adhesives or thinset mortar comply with surface finish requirements in ANSI A108.01 for installations indicated.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove mastic and remove any bumps in existing concrete floors scheduled for tile by grinding.
- B. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thinset mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.
- C. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

3.3 CERAMIC TILE INSTALLATION

- A. Comply with TCNA's "Handbook for Ceramic, Glass, and Stone Tile Installation" for TCNA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 series "Specifications for Installation of Ceramic Tile" that are referenced in TCNA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.
- B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
- C. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- D. Provide manufacturer's standard trim shapes or metal trim pieces where necessary to eliminate exposed tile edges.
- E. Jointing Pattern: Lay tile in pattern indicated on the Drawings. Joint Widths: As selected by the Architect. Joint widths in subparagraphs below are examples only and are based on widths recommended by American Olean for its products. Retain one width for each tile type below, or revise after verifying widths with tile manufacturers for products selected. Coordinate joint widths with grout selections and module sizes specified in "Tile Products" Article.

3.4 INTERIOR CERAMIC TILE INSTALLATION SCHEDULE

A. Interior Wall Installations:

1. Ceramic Tile Installation: W244C or TCNA W244F; thinset mortar.
 - a. Thinset Mortar: Improved modified dry-set mortar.
 - b. Grout: High-performance Water-cleanable grout.

END OF SECTION

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Standard rubber base.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified.

PART 2 - PRODUCTS

2.1 RUBBER BASE

- A. Wall Base
 - 1. Manufacturer: Johnsonite
- B. Product Standard: ASTM F1861, Type TP (rubber, thermoplastic).
 - 1. Group: I , solid, homogeneous).
 - 2. Style and Location:
 - a. Style B, Cove: Provide in areas with resilient floor coverings or where scheduled.
- C. Thickness: 0.125 inch.
- D. Height: 4 inches.
- E. Lengths: Coils in manufacturer's standard length.
- F. Outside Corners: Preformed.
- G. Inside Corners: Preformed.
- H. Colors: Johnsonite, TBD.

2.2 ACCESSORIES

A. Reducer Strip:

1. Manufacturer: Johnsonite
1. Reducer, RRS-XX-C, 1 inch thick to floor, Color 21 Platinum

2.3 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.
- B. Wall Base Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.
 1. Johnsonite 960 Cove Base Adhesive
 2. Johnsonite 946 Premium Contact Bond Adhesive

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
- C. Do not install resilient products until materials are the same temperature as space where they are to be installed.
- D. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

3.2 RESILIENT BASE INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient base.
- B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.

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- D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- E. Do not stretch resilient base during installation.
- F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.
- G. Preformed Corners: Install preformed corners before installing straight pieces.
- H. Job-Formed Corners:
 - 1. Outside Corners: Use straight pieces of maximum lengths possible and form with returns not less than **3 inches** in length.
 - a. Form without producing discoloration (whitening) at bends.
 - 2. Inside Corners: Use straight pieces of maximum lengths possible and form with returns not less than **3 inches** in length.
 - a. Miter or cope corners to minimize open joints.

3.3 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.
- B. Perform the following operations immediately after completing resilient product installation.
 - 1. Remove adhesive and other blemishes from exposed surfaces.
 - 2. Damp-mop surfaces to remove marks and soil.
- C. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION

SECTION 096516 - RESILIENT SHEET FLOORING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Unbacked vinyl sheet flooring.
 - 2. Vinyl sheet flooring with backing.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color, texture, and pattern specified.

1.3 CLOSEOUT SUBMITTALS

- A. Maintenance data.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are competent in techniques required by manufacturer for resilient sheet flooring installation and seaming method indicated.
 - 1. **Engage an installer who employs workers for this Project who are trained or certified by resilient sheet flooring manufacturer for installation techniques required.**

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: For resilient sheet flooring, as determined by testing identical products according to ASTM E648 or NFPA 253 by a qualified testing agency.
 - 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

2.2 UNBACKED VINYL SHEET FLOORING

- A. Manufacturer: Subject to compliance with requirements, provide product, or product meeting the following:
 - 1. Polyflor Ltd. (Halstead Flooring Co.), Vernona Pur, Slip Resistant
- B. Product Standard: ASTM F 1303, ASTM E648, Class 1 and ASTM E662 Class I/A.
- C. Thickness: 0.080 inch.
- D. Wearing Surface: Quartz, aluminum oxide, and silicon carbide particles embedded in vinyl, HSE compliant – 36+ RRL Pendulum (wet test).
- E. Sheet Width: 6.6 feet.
- F. Seamless-Installation Method: Heat welded.
- G. Colors and Patterns: Rock Salt #5231

2.3 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by resilient sheet flooring manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by flooring and adhesive manufacturers to suit resilient sheet flooring and substrate conditions indicated.
- C. Seamless-Installation Accessories:
 - 1. Heat-Welding Bead: Manufacturer's solid-strand product for heat welding seams.
 - a. Colors: As selected by Architect from manufacturer's full range to Match flooring.
- D. Integral-Flash-Cove-Base Accessories:
 - 1. Cove Strip: 1-inch radius provided or approved by resilient sheet flooring manufacturer.
 - 2. Corners: Molded resilient tile or metal inside and outside corners and end stops provided or approved by resilient sheet flooring manufacturer.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prepare substrates according to resilient sheet flooring manufacturer's written instructions to ensure adhesion of resilient sheet flooring.
- B. Concrete Substrates: Prepare according to ASTM F710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
 2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by resilient sheet flooring manufacturer. Do not use solvents.
 3. Alkalinity, Adhesion, and Moisture Testing: Perform tests recommended by resilient sheet flooring manufacturer to confirm conditions meet manufacturer's standards.
- C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
- D. Do not install resilient sheet flooring until materials are the same temperature as space where they are to be installed.
1. At least 48 hours in advance of installation, move flooring and installation materials into spaces where they will be installed.
- E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient sheet flooring.

3.2 RESILIENT SHEET FLOORING INSTALLATION

- A. **Comply with manufacturer's written instructions for installing resilient sheet flooring.**
- B. Unroll resilient sheet flooring and allow it to stabilize before cutting and fitting.
- C. Lay out resilient sheet flooring as follows:
1. Maintain uniformity of flooring direction.
 2. Minimize number of seams; place seams in inconspicuous and low-traffic areas, at least 6 inches away from parallel joints in flooring substrates.
 3. Match edges of flooring for color shading at seams.
 4. Avoid cross seams.
- D. Scribe and cut resilient sheet flooring to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.
- E. Extend resilient sheet flooring into toe spaces, door reveals, closets, and similar openings.
- F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on resilient sheet flooring as marked on substrates. Use chalk or other nonpermanent marking device.
- G. Install resilient sheet flooring on covers for and similar items in installation areas. Maintain overall continuity of color and pattern between pieces of flooring installed on covers and adjoining flooring. Tightly adhere flooring edges to substrates that abut covers and to cover perimeters.
- H. Adhere resilient sheet flooring to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

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- I. Seamless Installation:
 - 1. Heat-Welded Seams: Comply with ASTM F1516. Rout joints and heat weld with welding bead to fuse sections permanently into a seamless flooring installation. Prepare, weld, and finish seams to produce surfaces flush with adjoining flooring surfaces.
- J. Integral-Flash-Cove Base: Cove resilient sheet flooring **6 inches** up vertical surfaces. Support flooring at horizontal and vertical junction with cove strip. Butt at top against cap strip.
 - 1. Install metal corners at inside and outside corners or provide manufacturer's standard inside and outside corner treatment.
- K. Protection: Fully protect flooring during equipment installation

END OF SECTION

SECTION 099000 - PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and the application of paint systems on interior substrates.

1.2 PAINTING

- A. Unless otherwise noted, paint all items except pre-finished items. Painting work includes the filling, sanding and other preparation work necessary to assure a smooth uniform surface. Apply the minimum coats listed below, or as many coats as are required to provide a uniform surface finish. Apply paint to all surfaces of items scheduled for painting, such as tops, bottoms and end of doors. Paint all miscellaneous exposed items. Use paint products by Glidden, Benjamin Moore, or Pratt and Lambert in colors selected by the Architect. Use only low VOC paint products. In general, select painting systems recommended by the manufacturer for the substrate, or as follows:
 - 1. For interior painted (P-1) GWB surfaces, non-wet areas:
 - a. One coat wall primer.
 - b. Two coats acrylic emulsion, flat finish.
- B. Paint systems in this article are based on "MPI Architectural Painting Specification Manual." For renovation projects, consult "MPI Maintenance Repainting Manual" and revise paint systems accordingly.

END OF SECTION

RUST MANOR – INTERIOR RENOVATIONS

SECTION 101400 - SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Room signage.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include data for fire-retardant treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements.
- B. Shop Drawings: For all signage.
 - 1. Include plans, elevations, sections, and attachment details.
- C. Samples: For each exposed product and for each color and texture specified.
 - 1. Assume five colors of plastic laminate and plastic letters to be selected by the Architect from the mid-price range of color and pattern offerings.

1.3 INFORMATIONAL SUBMITTALS

- A. Product certificates.
- B. Quality Standard Compliance Certificates: AWI Quality Certification Program.

1.4 WARRANTY

- A. Warranty period: Five years.

PART 2 - PRODUCTS

2.1 PANELING, GENERAL

- A. Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standards" for grades of plastic-laminate-faced wood paneling (decorative laminate surfacing) indicated for construction, finishes, installation, and other requirements.

2.2 DOOR SIGNAGE

- A. Provide Signage to comply with applicable provisions of the Americans with Disabilities Act (ADA), including but not limited to, the following. 1/32" high raised letters, numerals and Grade 2 Braille in type, style and sizes as defined in ADA standards for every room. (Braille not required for doors serving utility spaces). Locate on latch side of doors; except at door pairs, locate on nearest adjacent wall.
- B. Plaque: Basic stock shall be 1/8" thick, melamine laminate or matte acrylic with face and backplate; provide radiused corners.
- C. Characters: Provide 3/4" raised letters, 1" numerals, and braille characters where required on background stock by means of a blast process or by chemically welding characters to stock. In English and Welsh.
- D. Raised Copy: Provide up to seventeen (17) characters for letters, up to three (3) characters for numbers. Provide accompanying raised braille.
- E. Character Type: Upper case, sans serif or simple serif.

2.3 INSTALLATION MATERIALS

- A. Hardware: Clips, hangers, metal channels, stainless steel cables, and other installation hardware.
- B. Installation Adhesive: Product recommended by panel fabricator for each substrate for secure anchorage.

2.4 FABRICATION

- A. Complete fabrication, including assembly, to maximum extent possible, before shipment to Project site.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Protect panels during shipping and installation.
- B. Grade: Install signage to comply with quality standard grade of paneling to be installed.
- C. Install paneling level, plumb, true in line, and without distortion. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches. Install with no more than 1/16 inch in 96-inch vertical cup or bow and 1/8 inch in 96-inch horizontal variation from a true plane.

END OF SECTION

SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Public-use washroom accessories.
 - 2. Custodial accessories.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each finish specified, full size.
 - 1. Approved full-size Samples will be returned and may be used in the Work.
- C. Delegated-Design Submittal: For grab bars.
 - 1. Include structural design calculations indicating compliance with specified structural-performance requirements.

1.3 INFORMATIONAL SUBMITTALS

- A. Sample warranties.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance data.

1.5 WARRANTY

- A. Manufacturer's Special Warranty for Mirrors: Manufacturer agrees to repair or replace mirrors that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Design accessories and fasteners to comply with the following requirements:

1. Grab Bars: Installed units are able to resist **250 lbf** concentrated load applied in any direction and at any point.

2.2 WASHROOM ACCESSORIES

- A. Grab Bar:

1. **Basis** of Design: Bobrick 6806 Series
2. Mounting: Flanges with concealed fasteners.
3. Material: Stainless steel, **0.05 inch** thick.
 - a. Finish: Smooth, ASTM A480/A480M No. 4 finish (satin) on ends and slip-resistant texture in grip area.
4. Outside Diameter: **1-1/4 inches**.
5. Configuration and Length: As indicated on Drawings.

- B. Mirror Unit:

1. Basis of Design: Bobrick B-16S-1830
2. Frame: Stainless steel channel.
 - a. Corners: Manufacturer's standard.
3. Size: 18"x30".

- C. Soap dispenser: basis of design "Deb ProLine White Soap Dispenser 9121".

- D. Recessed paper towel dispenser and waste receptacle (all locations): B-3803

- E. Sanitary Napkin Disposal:

1. Basis of Design: Bobrick B-254
 - a. Surface mounted.
2. Size: 11"x15".

- F. Toilet tissue dispenser: 565728 Tork Twin Bath Tissue Roll Dispenser for OptiCore available at www.torkusa.com

2.3 CUSTODIAL ACCESSORIES

A. Custodial Utility Shelf at each Janitor sink:

1. **Basis** of Design: Bobrick B 295x16
2. Description: With exposed edges turned down not less than **1/2 inch** and supported by two triangular brackets welded to shelf underside.
3. Size: **16 inches** long by **6 inches** deep.
4. Material and Finish: Not less than nominal **0.05-inch-thick** stainless steel, ASTM A480/A480M No. 4 finish (satin).

B. Custodial Mop and Broom Holder at each Janitor sink:

1. **Basis** of Design: Bobrick 9983
2. Description: Unit with shelf, hooks, and holders.
3. Hooks: Three.
4. Mop/Broom Holders: Four, spring-loaded, rubber hat, cam type.
5. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin).
 - a. Shelf: Not less than nominal **0.05-inch-** thick stainless steel.
 - b. Rod: Approximately **1/4-inch-** diameter stainless steel.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
 1. Remove temporary labels and protective coatings.
- B. Grab Bars: Install to comply with specified structural-performance requirements.

END OF SECTION

SECTION 114000 - FOODSERVICE EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes equipment for foodservice facilities.
- B. Equipment to be salvaged and reinstalled: Where indicated, disconnect, store, and reinstall existing equipment.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For fabricated equipment. Include plans, elevations, sections, roughing-in dimensions, fabrication details, utility service requirements, and attachments to other work.
- C. Samples for Initial Selection: For units with factory-applied color finishes.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: For foodservice facilities.
 - 1. Indicate locations of foodservice equipment and connections to utilities.
 - 2. Key equipment using same designations as indicated on Drawings.
 - 3. Include plans and elevations; clearance requirements for equipment access and maintenance; details of equipment supports; and utility service characteristics.
- B. Record Documents: Shop drawings, final warranties, manufacturer's data, and maintenance instructions.
- C. Sample warranties.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

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1.6 WARRANTY

- A. Refrigeration Compressor Warranty: Manufacturer agrees to repair or replace compressors that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Five years from date of Substantial Completion.
- B. Equipment and Fabricated Items Warranty: Manufacturer agrees to repair or replace equipment or items that malfunction or fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period Equipment: Manufacturer's standard warranty or two years from date of Substantial Completion.
 - 2. Warranty Period Fabricated Items: Fabricator's standard warranty or two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. NSF Standards: Provide equipment that bears NSF Certification Mark or UL Classification Mark certifying compliance with applicable NSF standards.
- B. UL Certification: Provide electric and fuel-burning equipment and components that are evaluated by UL for fire, electric shock, and casualty hazards according to applicable safety standards, and that are UL certified for compliance and labeled for intended use.
- C. Regulatory Requirements: Install equipment to comply with the following:
 - 1. ASHRAE 15, "Safety Code for Mechanical Refrigeration."
 - 2. NFPA 54, "National Fuel Gas Code."
 - 3. NFPA 70, "National Electrical Code."
 - 4. NFPA 96, "Ventilation Control and Fire Protection of Commercial Cooking Operations."

2.2 FABRICATED EQUIPMENT

- 1. General Requirements: Remove burrs from cut edges of metal, ease corners and make smooth to eliminate cutting hazard. Bend metal sheets at not less than minimum radius required to avoid grain separation. Maintain flat, smooth surfaces.
- 2. Reinforce metal at locations of hardware, anchorages, and accessory attachment, where metal is of less than 14 gauge, or mortised condition exists. Conceal reinforcement.
- 3. Fastenings: Machine screws capped with acorn nuts unless fully concealed. Provide nuts and lockwashers unless metal to be fastened is at least 12 gauge. Fastener heads and nuts shall be of the same alloy as the metal to be fastened.
- 4. Welding: Arc-weld fabricated items using stainless steel electrodes. Welds to be free of

pits and flaws, peened to remove flux, and ground smooth.

1. Where components of metal work are to be galvanized, and involve welding or machining of minimum 16 gauge metal, hot-dip galvanize such components subsequent to fabrication to the greatest extent possible. Comply with applicable requirements of ASTM A 123.
5. Provide removable panels for access to concealed mechanical and electrical service connections, where such connections are not otherwise accessible.
6. Minimum metal gauges: Except as otherwise specified, fabricate exposed metal work of stainless steel, and of the following gauges; in no case shall metal be less than 20 gauge:
 1. Table tops: 14 gauge
 2. Table frames: 1 5/8" O. D. tubing
 3. Counter tops: 14 gauge
 4. Shelves: 16 gauge, except 18 gauge if less than 12 wide
 5. Front Drawer/Door Panels: 18 gauge, double pan type
 6. Single pan Doors and Drawer Fronts: 16 gauge
 7. Enclosed base cabinets: 18 gauge
 8. Enclosed wall cabinets: 18 gauge
 9. Sinks and drainboards: 14 gauge
 10. Sink compartment covers: 16 gauge
 11. Exhaust Hoods: 18 gauge
 12. Pan type Insets and Trays: 16 gauge
 13. Removable covers and panels: 18 gauge
 14. Skirts/Enclosure panels: 18 gauge
 15. Closures and trim strips: 18 gauge
 16. Hardware reinforcement: 12 gauge
 17. Gusset plates: 10 gauge
 18. Tray Slide: 14 gauge
- G. Work Surfaces: Fabricate to provide seamless construction, ground and polished. Reinforce work surfaces 30" o. c. both ways. Reinforce edges not self-reinforced by forming. Sound-deaden the underside of work surfaces, including sinks.
- H. Structural Framing: Except as otherwise specified, provide framing of minimum 1" round pipe or tube, with mitered and welded joints and gusset plates, ground smooth. Use stainless steel tube for exposed framing and galvanized steel tube for concealed areas.
- I. Shop Painting: Clean and prepare metal surfaces to be painted; remove rust and dirt. Apply treatment to zinc-coated surfaces that have not been mill-phosphatized. Coat welded and abraded areas of zinc-coated surfaces with galvanized touch-up paint.
- A. Stainless Steel Sinks and Washroom Related Counters:
 1. Description: Fabricate units of welded stainless steel, sound deadened.
 - a. Bowls: Stainless steel, Type 304, 0.062 inch thick.
 - b. Integral Drainboards: Stainless steel, Type 304, 0.062 inch thick.

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- c. Body: Stainless steel, Type 304, 0.062 inch thick.
 - d. Sink and Drainboard Features:
 - 1) Back Splash: 10 inches
 - 2) Side Splash: 10 inches.
 - 3) Raised Edges: 1 ½" rolled edge on front (work) side.
 - 4) Rounded internal sink corners.
 - 5) Undershelves: Stainless steel Type 304, 0.05 inch thick.
 - e. Legs and Feet: Stainless steel tubing legs with adjustable bullet feet.
 - f. Wheels: Provide 5" lockable wheels where indicated.
 - g. Accessories: Provide accessories indicated and listed in the Foodservice Equipment Schedule.
- 2. Stainless Steel Sheet: ASTM A240/A240M, austenitic stainless steel, type as indicated.
 - 3. Fabrication: Prepare sink for installation of the equipment or items indicated and listed in the Foodservice Equipment Schedule.
 - 4. Stainless Steel Finish: Directional satin finish, ASTM A480/A480M, No. 4.

B. Stainless Steel Tables:

- 1. Description: Flat-countertop Prep and Work tables.
 - a. Tops: Stainless steel, Type 304, 0.062 inch thick, reinforced and sound deadened.
 - 1) Back Splash: As indicated and listed in the Foodservice Equipment Schedule.
 - 2) Edge: Bullnose on front and back edges, straight on sides.
 - b. Adjustable Undershelf: Stainless steel, Type 304, 0.050 inch thick.
 - c. Crossbracing: Stainless steel tubing, welded to legs.
 - d. Sink: Stainless steel as specified here.
 - e. Legs: Stainless steel tubing.
 - f. Feet: Stainless steel adjustable bullets or wheels where indicated and listed in the Foodservice Equipment Schedule
 - g. Accessories:
 - 1) Control panel.
 - 2) Control bracket for food waste disposer controls.
 - 3) Aluminum pan rack slides, six slides each.
 - 4) Urn trough.
 - 5) Spice bins.
- 2. Materials:
 - a. Stainless Steel Sheet: ASTM A240/A240M, austenitic stainless steel, type as indicated.

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- b. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B, with minimum G90 coating.
- 3. Fabrication: Prepare table for installation of the following equipment items:
 - a. Drawers: Stainless steel with heavy duty self-closing extensions guides.
 - b. Undercounter channel guides for storing cutting board.
- 4. Stainless Steel Finish: Directional satin finish, ASTM A480/A480M, No. 4.

2.3 MISCELLANEOUS MATERIALS

- A. Installation Accessories, General: NSF certified for end-use application indicated.
- B. Elastomeric Joint Sealant: ASTM C920; silicone. Type S (single component), Grade NS (nonsag), Class 25, Use NT (nontraffic) related to exposure, and Use M, G, A, or O as applicable to joint substrates indicated.
 - 1. Public Health and Safety Requirements:
 - a. Sealant is certified for compliance with NSF standards for end-use application indicated.
 - b. Washed and cured sealant complies with the FDA's regulations for use in areas that come in contact with food.
 - 2. Cylindrical Sealant Backing: ASTM C1330, Type C, closed-cell polyethylene, in diameter greater than joint width.

2.4 FINISHES

- A. Stainless Steel Finishes: Remove tool and die marks and stretch lines, or blend into finish. Grind and polish surfaces to produce uniform finish, free of cross scratches.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install foodservice equipment level and plumb, according to manufacturer's written instructions.
 - 1. Connect equipment to utilities.
 - 2. Provide cutouts in equipment, neatly formed, where required to run service lines through equipment to make final connections.
- B. Complete equipment assembly where field assembly is required.
 - 1. Provide closed butt and contact joints that do not require a filler.
 - 2. Grind field welds on stainless steel equipment until smooth and polish to match adjacent finish.

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- C. Install equipment with access and maintenance clearances that comply with manufacturer's written installation instructions and with requirements of authorities having jurisdiction.
- D. Install closure-trim strips and similar items requiring fasteners in a bed of sealant.
- E. Install joint sealant in joints between equipment and abutting surfaces with continuous joint backing unless otherwise indicated. Produce airtight, watertight, vermin-proof, sanitary joints.

3.2 CLEANING AND PROTECTING

- A. After completing installation of equipment, repair damaged finishes.
- B. Clean and adjust equipment as required to produce ready-for-use condition.
- C. Protect equipment from damage during remainder of the construction period.

3.3 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain foodservice equipment.

PART 4 – FOODSERVICE EQUIPMENT SCHEDULE

Refer to Equipment Schedule in drawing for more information.

ITEM NO. K01 – REFRIGERATOR

- A. Refer to Equipment Schedule. Provide reach-in refrigerator. True T-49-HC or similar.

ITEM NO. K02 - FREEZER

- A. Refer to Equipment Schedule. Provide reach-in freezer. True T23F-HC or similar.

ITEM NO. K03 – ICE MAKER

- A. Refer to Equipment Schedule. stainless steel evaporator; audible alarm when in need of service; removable/cleanable air filters; (3) year parts and labor warranty on entire machine; five year parts and labor warranty on Evaporator; 5 year parts warranty on compressor and air-cooled condenser; R404A refrigerant; Energy Star Certified.
- B. Mounted in an accessible location, provide Everpure Filter EV932401-L003. Includes (1) quick change CFS8112-S 1- micron graded density modified carbon block for sediment and chlorine reduction plus premium performance scale inhibitor; reduces particles down 1 micron; ANSI/NSF listed for Standard 42- Chlorine, Taste / Odor Reduction Class I; Standard 42, Particulate Reduction Class II. Filter to mount in cabinet below ice maker / dispenser.

ITEM NO. K04 - ICE STORAGE BIN

- A. Refer to Equipment Schedule. Stainless steel exterior; plastic finish awning door; non-corrosives polyethylene sanitary bin liner; polyurethane insulation in bin walls, bottom and door panel 6" high legs.

ITEM NO. K05 – WARMING CABINET

- A. Refer to Equipment Schedule. Provide Vulcan VBP15 or similar.
- B. Limited lifetime warranty.

ITEM NO. K06 – HAND SINK

- A. Refer to Equipment Schedule. Includes: galvanized steel mounting bracket; splash mounted faucet; 1-1/2" flat top strainer; single-pedal mixing valve; towel dispenser; soap dispenser; and, trash receptacle. Provide with the following;
 - 1. Tailpiece for drain.
 - 2. Side mounting wall brackets for added strength 7-PS-20.

ITEM NO. K07 – DISHWASHER

- A. Refer to Equipment Schedule.
- B. Free-standing.
- C. Side laminate or panel options provided.

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D. Sanitizing.

ITEM NO. K08 – THREE COMPARTMENT SINK

- A. Refer to Equipment Schedule. Construct per specifications with standard edge at front, back, and ends, provide 10"H x 2'D sloped backsplash.
- B. Refer to Equipment Schedule. with 10"H x 2" sloped backsplash; 1- 1/2" rolled rim at exposed sides. Construct in accordance with specifications for rolled rim sinks.
- C. Starting from left end, provide approximately 36"W left end drainboard, three (3) wash sink bowls, each 1'8"W. X 2'-2 1/2"D. X 14"H, and approximately a 9" drain board that will be welded to Item D-4 to provide a continuous counter surface.
- D. Centered behind the sinks, punch the backsplash face and provide a backsplash mount spring type pre-rinse Spray; 8" centers dual valve back splash mount, flexible stainless-steel hose wrapped with stainless steel support spring with wall bracket to adjacent wall. Maximum water use of 1.4 GPM.
 - 1. Fisher Model 13390; 1.15 GPM consumption with Ultra Spray Valve.
 - 2. Provide the spray valve with 2949-9001 scrub brush.
- E. Provide centered on the wash sink partitions, Two (2) 3/4" x 8"O.C. Open Body Back Splash Faucets, with 10" or 12" swing spout, chrome finish;
 - a. Fisher Mfg. Co. Model (10" swing spout)
- F. Provide wash sink bowls with 2" rough chrome rotary action lever drains having stainless steel bar and flat stainless-steel strainer plate. Provide each with 6" tail piece.
 - a. Fisher Mfg. Co., 22209.
- G. Base shall be standard open frame type construction.
- H. Provide Eagle Group FN2060-3-24-14/3 or similar.
- I. Counter depth shall be 2'-0".
- J. Drain is required to be open-site. See Plumbing Drawings.

ITEM NO. K09 – PREP TABLE

- A. Refer to Equipment Schedule. Construct per specifications with standard edge at front, back, and ends, provide 10"H x 2'D sloped backsplash.
- B. On the left and right of the sinks provide 10"W X 4'-0"L X 1 3/4" stainless-steel shelves elevated 16" above counters on 1 inch diameter stainless-steel posts.
- C. Provide (2) standard 15" x 15" x 5" undercounter drawers.
- D. Provide open frame base and standard stationary under shelf to the left and right of the sinks.
- E. Counter depth shall be 2'-0".

ITEM NO. K10 – BUILT-IN MICROWAVE AND OVEN

- A. Refer to Equipment Schedule. Provide GE PT7800SHSS or similar. Wall mount into cabinet, provide bracing and support required for GE PT7800SHSS or similar.

ITEM NO. K11 - WALL MOUNTED OSCILLATING FAN

- A. Refer to Equipment Schedule on the Drawings.

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ITEM NO. J01 – JANITORS MOP SINK

- A. Refer to Equipment Schedule on the Drawings. Provide Advance Tabco 9-op-20 or similar.
- B. Provide threaded faucet and hose for sink.

ITEM NO. J02 – MOP-BROOM HOLD

- A. Refer to Equipment Schedule on the Drawings. Bradley 9955 or similar.
- B. See manufacturer's instructions for mounting height.

END OF SECTION

RUST MANOR – INTERIOR RENOVATIONS

SECTION 123661.16 - SOLID SURFACING COUNTERTOPS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid surface material countertops.
2. Solid surface material backsplashes.
3. Solid surface material end splashes.
4. Solid surface material apron fronts.

1.2 ACTION SUBMITTALS

- A. Product Data: For countertop materials
- B. Shop Drawings: For countertops. Show materials, finishes, edge and backsplash profiles, methods of joining, and cutouts for plumbing fixtures.
- C. Samples: For each type of material exposed to view.

PART 2 - PRODUCTS

2.1 SOLID SURFACE COUNTERTOP MATERIALS

- A. Solid Surface Material: Homogeneous-filled plastic resin complying with ISFA 2-01.
 1. Type: Provide Standard type unless Special Purpose type is indicated.
 2. Colors and Patterns: Refer to Drawings.
- B. Particleboard: ANSI A208.1, [**Grade M-2**] [**Grade M-2-Exterior Glue**].
- C. Plywood: Exterior softwood plywood complying with DOC PS 1, Grade C-C Plugged, touch sanded.

2.2 FABRICATION

- A. Fabricate countertops according to solid surface material manufacturer's written instructions and to the AWI/AWMAC/WT's "Architectural Woodwork Standards."
- B. Configuration: Refer to Drawings
- C. Backsplashes: Refer to Drawings.
 1. Fabricate countertops without joints.

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D. Cutouts and Holes:

1. Undercounter Plumbing Fixtures: Make cutouts for fixtures using template or pattern furnished by fixture manufacturer. Form cutouts to smooth, even curves.

2.3 INSTALLATION MATERIALS

- A. Adhesive: Product recommended by solid surface material manufacturer.
- B. Sealant for Countertops: Comply with applicable requirements in Section 079200 "Joint Sealants."

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Fasten subtops to cabinets by screwing through subtops into cornerblocks of base cabinets. Shim as needed to align subtops in a level plane.
- B. Secure countertops to subtops with adhesive according to solid surface material manufacturer's written instructions.
- C. Install backsplashes and end splashes by adhering to wall and countertops with adhesive.
- D. Install aprons to backing and countertops with adhesive.
- E. Complete cutouts not finished in shop. Mask areas of countertops adjacent to cutouts to prevent damage while cutting. Make cutouts to accurately fit items to be installed, and at right angles to finished surfaces unless beveling is required for clearance. Ease edges slightly to prevent snipping.
- F. Apply sealant to gaps at walls; comply with Section 079200 "Joint Sealants."

END OF SECTION 123661.16