

Renovations to:

158 Seneca Manor Dr.
Rochester, NY 14621



Architect's Project No. 68-26

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Not used

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END OF SECTION

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LIST OF DRAWINGS

1.01 DRAWINGS

- A. The Contract Drawings, which accompany this Project Manual and form a part of the Contract Documents, are listed below

1.01 DRAWINGS

- A. **CONTRACT DRAWINGS:** The Contract Drawings which accompany this Project Manual and form a part of the Contract Documents are listed by number below:

T-1	Title Sheet
A-1	Floor Plans
A-2	Elevations and Sections

END OF LIST

SECTION 011000

SUMMARY OF THE WORK

1.01 GENERAL

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including the General and Supplementary Conditions apply to this Section.

1.03 SUMMARY

- B. This Section includes the following:
 - 1. Work covered by the Contract Documents.
 - 2. Type of the Contract.
 - 3. Work phases.
 - 4. Work under other contracts.
 - 5. Products ordered in advance.
 - 6. Use of premises.
 - 7. Owner's occupancy requirements.
 - 8. Work restrictions.
 - 9. Specification formats and conventions.

1.04 WORK COVERED BY CONTRACT DOCUMENTS

- C. Project Identification:
 - 1. Project Location: Owner: Rochester Housing Authority
 - 2. Project Location: 158 Seneca Manor Dr. Rochester, NY 14621
 - 3. Owner's Representative: James Senger – Project Manager, RHA.
- D. Architect: Peter L. Morse & Associates – Architects AIA
- E. In paragraph and first subparagraph below, include an abbreviated summary of the Work for Project described above. See Evaluations.
- F. The Work consists of the following:
 - 1. The Work includes
 - a. Interior remodel work per specs, with preservation of existing incoming electrical, plumbing, with modifications for new connections as noted on plans.
 - b. Interior wood blocking, drywall, trim, base.
 - c. Selective removal of exterior items such as roofing, siding, rear door, and storm door.

SECTION 011000

SUMMARY OF THE WORK

1.2 TYPE OF CONTRACT

- A. Project will be constructed under a single contract.

1.3 WORK PHASES

- A. Before commencing Work of each phase, submit a schedule showing the sequence, commencement and completion dates, and move-out and -in dates of RHA's personnel for all phases of the Work.

1.4 WORK UNDER OTHER CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Coordinate the Work of this Contract with work performed under separate contracts.

1.5 USE OF PREMISES

- A. General: Contractor shall have full use of premises for construction operations, including use of Project site, during construction period. Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors on portions of Project.
- B. Use of Site: Limit use of premises to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 - 1. Limits: Confine constructions operations to fifty feet around the perimeter of the work area.
 - 2. Owner Occupancy: Allow for RHA's and the Architect's representative inspection of Project site. Keep general public away from the Project site by securing the site with temporary fencing.
 - 3. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances.
- C. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.6 OWNER'S OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: RHA will occupy this home only after construction has been completed and to the satisfaction of the staff. Cooperate with RHA during construction operations for inspections of the work.

SECTION 011000

SUMMARY OF THE WORK

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from RHA and authorities having jurisdiction.
 2. Provide not less than 24 hours' notice to RHA of activities that will affect RHA operations.
- B. Subparagraphs below describe procedures and requirements necessary before partial occupancy of portions of Project.
1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied before Owner occupancy.
 2. Obtain a Certificate of Occupancy from authorities having jurisdiction before occupancy.
 3. Before partial Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of building.
 4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of building.

1.7 WORK RESTRICTIONS

- A. On-Site Work Hours: Work shall be generally performed inside the existing building during normal business working hours of 7 a.m. to 5 p.m., Monday through Friday except otherwise indicated.
1. Weekend Hours: With RHA approval.
 2. Early Morning Hours: 7 am.
 3. Hours for Utility Shutdowns: as necessary.
- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
1. Notify the RHA representative not less than four days in advance of proposed utility interruptions.
 2. Do not proceed with utility interruptions without their written permission.

1.8 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 16-division format and CSI/CSC's "MasterFormat" numbering system.
1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.

SECTION 011000

SUMMARY OF THE WORK

2. Division 1: Section 1 in Division 1 govern the execution of the Work of all Sections in the Specifications.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.9 MISCELLANEOUS PROVISIONS

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012600

CONTRACT MODIFICATION PROCEDURES

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

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

1.2 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on ProCore Construction Management Software.

1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or 7 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Quotation Form: Use forms acceptable to RHA.
- B. Contractor-Initiated Work Change Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - 3. Indicate delivery charges, equipment rental, and amounts of trade discounts.
 - 4. Include costs of labor and supervision directly attributable to the change.

SECTION 012600

CONTRACT MODIFICATION PROCEDURES

5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in this section if the proposed change requires substitution of one product or system for product or system specified.
7. Work Change Proposal Request Form: Use RHA Change Order Forms.

1.4 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Changes Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on RHA Change Order forms.

1.5 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900

PAYMENT PROCEDURES

GENERAL

1.1 SUMMARY

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

1.2 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with continuation sheets.
 - b. Submittal schedule.
 - c. Items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
 - 1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Architect's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 - 2. Arrange schedule of values consistent with format of HUD form 51000.
 - 3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
 - a. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.
 - 4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 - 5. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - 6. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 - 7. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.

SECTION 012900

PAYMENT PROCEDURES

8. **Schedule Updating:** Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.3 APPLICATIONS FOR PAYMENT

- A. **Each Application for Payment** shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. **Payment Application Times:** The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. **Application for Payment Forms:** Use RHA approved forms as form for Applications for Payment.
- D. **Application Preparation:** Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. **Transmittal:** Submit a "Draft Application" to RHA Project Manager for review and approval.
- F. **Waivers of Mechanic's Lien:** With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. **Waiver Forms:** Submit executed waivers of lien on forms acceptable to Owner.
- G. **Initial Application for Payment:** Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Submittal schedule (preliminary if not final).
 5. List of Contractor's staff assignments.
 6. Copies of building permits.
 7. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.

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PAYMENT PROCEDURES

8. Certificates of insurance and insurance policies.
- H. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
 1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- I. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
 1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706-1994, "Contractor's Affidavit of Payment of Debts and Claims."
 5. AIA Document G706A-1994, "Contractor's Affidavit of Release of Liens."
 6. AIA Document G707-1994, "Consent of Surety to Final Payment."
 7. Evidence that claims have been settled.
 8. RHA will provide utilities for this project.
 9. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Requests for Information (RFIs).
 - 2. Project meetings.

1.2 DEFINITIONS

- A. RFI: Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

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

1.4 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 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. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

SECTION 013100

PROJECT MANAGEMENT AND COORDINATION

- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors 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. Project closeout activities.
 8. Startup and adjustment of systems.

1.5 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
 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 solution(s) 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: ProCore Construction Management software.
- 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 RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.

SECTION 013100

PROJECT MANAGEMENT AND COORDINATION

- c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Requests for interpretation of Architect's actions on submittals.
 - f. 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 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 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
 - b. RFI's will be tracked in Procore.

1.6 PROJECT MEETINGS

- A. General: The Owner or Architect will schedule and conduct meetings and conferences at Project site unless otherwise indicated.
 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 2. Agenda: The Owner or Architect will prepare the meeting agenda and distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned.
- B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, approximately 15 days before execution of the Agreement.
 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. Tentative construction schedule.
 - b. Critical work sequencing and long-lead items.
 - c. Designation of key personnel and their duties.
 - d. Procedures for processing field decisions and Change Orders.
 - e. Procedures for RFIs.
 - f. Procedures for testing and inspecting.
 - g. Procedures for processing Applications for Payment.
 - h. Distribution of the Contract Documents.
 - i. Submittal procedures.
 - j. Preparation of record documents.
 - k. Use of the premises.
 - l. Work restrictions.
 - m. Working hours.

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PROJECT MANAGEMENT AND COORDINATION

- n. Responsibility for temporary facilities and controls.
 - o. Procedures for disruptions and shutdowns.
 - p. Parking availability.
 - q. Office, work, and storage areas.
 - r. Equipment deliveries and priorities.
 - s. First aid.
 - t. Security.
 - u. Progress cleaning.
3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Progress Meetings: The Owner or Architect will conduct progress meetings at regular intervals.
- 1. 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.
 - 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Access.
 - 6) Site utilization.
 - 7) Temporary facilities and controls.
 - 8) Progress cleaning.
 - 9) Quality and work standards.
 - 10) Status of correction of deficient items.
 - 11) Field observations.
 - 12) Status of RFIs.
 - 13) Status of proposal requests.
 - 14) Pending changes.
 - 15) Status of Change Orders.
 - 16) Pending claims and disputes.
 - 17) Documentation of information for payment requests.
 - 3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.

SECTION 013100

PROJECT MANAGEMENT AND COORDINATION

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

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. Site condition reports.

1.2 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. Procore Construction Document Software.
- B. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
- C. Construction Schedule Updating Reports: Submit with Applications for Payment.
- D. Site Condition Reports: Submit at time of discovery of differing conditions.

1.3 COORDINATION

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

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of final completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each separate area as a separate numbered activity for each main element of the Work. Comply with the following:
 - 1. Activity Duration: Define activities so no activity is longer than 10 days, unless specifically allowed by Architect.

SECTION 013200

CONSTRUCTION PROGRESS DOCUMENTATION

- 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.
2. Startup and Testing Time: Include no fewer than 10 days for startup and testing.
 3. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for RHA's administrative procedures necessary for certification of Substantial Completion.
 4. Punch List and Final Completion: Include not more than 5 days for completion of punch list items and final completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Work under More Than One Contract: Include a separate activity for each contract.
 2. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Use of premises restrictions.

2.2 REPORTS

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

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At bi-weekly intervals, update schedule to reflect actual construction progress and activities. Issue schedule 3 days before each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate final completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END

SECTION 013300

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's 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."
- C. ProCore Construction Management software shall be the method of delivery of all information.

1.4 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
 - 1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
 - 2. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal category: Action; informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Architect's final release or approval.
 - g. Scheduled date of fabrication.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will not be provided by Architect for Contractor's use in preparing submittals.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

SECTION 013300

SUBMITTAL PROCEDURES

1. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 2. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 3. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
 4. Initial Review: Allow 15 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.
 5. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 6. Resubmittal Review: Allow 10 days for review of each resubmittal.
 7. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.
- C. Electronic Submittals: Identify and incorporate information in each electronic submittal file 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.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).
 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
 4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to RHA and to the Architect, containing the following information:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name of Contractor.
 - e. Name of firm or entity that prepared submittal.
 - f. Names of subcontractor, manufacturer, and supplier.
 - g. Category and type of submittal.
 - h. Submittal purpose and description.
 - i. Specification Section number and title.
 - j. Specification paragraph number or drawing designation and generic name for each of multiple items.
 - k. Drawing number and detail references, as appropriate.
 - l. Location(s) where product is to be installed, as appropriate.
 - m. Related physical samples submitted directly.
 - n. Indication of full or partial submittal.
 - o. Transmittal number, numbered consecutively.

SECTION 013300

SUBMITTAL PROCEDURES

- p. Submittal and transmittal distribution record.
- q. Other necessary identification.
- r. Remarks.
- 5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
 - a. Project name.
 - b. Number and title of appropriate Specification Section.
 - c. Manufacturer name.
 - d. Product name.
- D. Options: Identify options requiring selection by Architect.
- E. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- F. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 - 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- G. 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.
- H. 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.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
 - 1. Submit electronic submittals via ProCore Construction Management software.
 - a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
 - 2. Certificates and Certifications Submittals: Provide 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.
 - a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
 - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

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SUBMITTAL PROCEDURES

- B. 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 not suitable 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 showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 5. Submit Product Data before or concurrent with Samples.
 6. Submit Product Data in the following format:
 - a. ProCore Construction Management software.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. 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 30 by 42 inches.
 3. Submit Shop Drawings in the following format:
 - a. ProCore Construction Management software.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.

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SUBMITTAL PROCEDURES

2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 - e. Specification paragraph number and generic name of each item.
 3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
 4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 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.
 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.
 - a. Number of Samples: Submit one set of Samples. Architect will retain Sample set;
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
 5. Submit product schedule in the following format:
 - a. ProCore Construction Management software.

SECTION 013300

SUBMITTAL PROCEDURES

- F. 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.
- G. 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.
- H. 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.
- I. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- J. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- K. 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.
- L. 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.
- M. 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:
 - 1. Name of evaluation organization.
 - 2. Date of evaluation.
 - 3. Time period when report is in effect.
 - 4. Product and manufacturers' names.
 - 5. Description of product.
 - 6. Test procedures and results.
 - 7. Limitations of use.
- N. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

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SUBMITTAL PROCEDURES

- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file and three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, 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.

3.2 ARCHITECT'S ACTION

- A. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. 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. Submittals not required by the Contract Documents may be returned by the Architect without action.

END OF SECTION 013300

SECTION 014000

QUALITY REQUIREMENTS

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 inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 2. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
 - 3. Specific test and inspection requirements are not specified in this Section.

1.2 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- D. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- E. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- F. 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, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- G. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project;

SECTION 014000

QUALITY REQUIREMENTS

being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.4 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Field Reports: Prepare written information documenting tests and inspections specified in other Sections. Include the following:
 - 1. Name, address, and telephone number of representative making report.
 - 2. Statement on condition of substrates and their acceptability for installation of product.
 - 3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 - 4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - 5. Other required items indicated in individual Specification Sections.
- C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee

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QUALITY REQUIREMENTS

payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.5 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.
- 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, 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. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. Manufacturer's Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 - 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.

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QUALITY REQUIREMENTS

- b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - c. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
 - d. When testing is complete, remove test specimens, assemblies, and mockups; do not reuse products on Project.
2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

1.6 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.
- 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
 - 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
- 1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 - 2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 - 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 - 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 - 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a manufacturer's representative to observe and inspect the Work. Manufacturer's representative's services include examination of substrates and conditions, verification of materials, inspection of completed portions of the Work, and submittal of written reports.
- D. 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.
- E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

SECTION 014000

QUALITY REQUIREMENTS

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform any duties of Contractor.
- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Delivery of samples to testing agencies.
 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.7 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Owner will engage a qualified testing agency and special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, and as follows:
1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.
 2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
 3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
 4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
 5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
 6. Retesting and reinspecting corrected work.

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QUALITY REQUIREMENTS

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
 - 1. Date test or inspection was conducted.
 - 2. Description of the Work tested or inspected.
 - 3. Date test or inspection results were transmitted to Architect.
 - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."
- 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

SECTION 015000

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Temporary facilities and utilities required for the execution of the Work.
- B. Unless otherwise specified herein, temporary facilities shall not be required for this project.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Materials may be new or used, but must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.

2.02 TEMPORARY OFFICE

- A. The Contractor shall not be required to provide an office at the site, but shall be available at all times during business hours to answer questions from the Architect, and RHA
- B. Telephone: The Contractor shall provide and maintain a telephone fax machine and answering machine. This telephone shall be provided until the Work is completed.

2.03 TEMPORARY ACCESS

- A. The Contractor shall be responsible for locating, providing and maintaining all temporary access to the construction site where such access will not interfere with the progress of the Work. The temporary access shall be for the free use of all, including Subcontractors, vendors, the Owner and the Architect. The temporary access shall be adequate to sustain the loads to be carried and shall be maintained in a useable condition at all times and not interfere with business operations.

2.04 TEMPORARY UTILITIES

- A. **Sanitary Facilities**
 - 1. The Contractor can use the existing water and toilets on premises. Bathrooms and sinks are to be kept clean.

2.05 TEMPORARY CONSTRUCTION

- A. The Contractor shall maintain equipment such as barricades, runways, derricks, chutes and the like, as required for proper execution of the Work. Such apparatus, equipment and construction shall be as required by all State and local laws applicable thereto.

2.06 TEMPORARY STORAGE

- A. The Contractor and each Subcontractor shall provide storage off site as their needs may require. All

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CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

materials shall be stored on the floor. Subcontractors shall coordinate the location of their sheds with the Contractor. No temporary structures shall be erected at the job site.

2.07 SIGNS

- A. No signs, billboards or other advertisements shall be erected on the premises without the prior permission and approval of RHA.
- B. The Contractor shall erect signs where directed and remove at completion of project.
- C. The Contractor shall furnish and maintain all necessary temporary signs required for the performance of the Work such as "Office", "Men", "Women", "Danger", "High Voltage", etc.
- D. Project sign shall be erected by the Contractor as directed by the Owner.

2.09 FIRST AID FACILITIES

- A. The Contractor shall provide and maintain adequate first aid services at all times during construction in accordance with Liability Insurance standards.

2.10 TEMPORARY CONTROLS

- A. The Contractor shall be responsible for the maintenance of the following protection/control:
 - 1. Site access.
 - 2. Fire protection.
 - 3. Dust control.
 - 4. Protection of adjacent floors
 - 5. Barricades.
 - 6. Security.
 - 8. Site safety.

PART 3 - EXECUTION

Not Used

END

SECTION 016000

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

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

1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

SECTION 016000

PRODUCT REQUIREMENTS

1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
 - 1. Store products to allow for inspection and measurement of quantity or counting of units.
 - 2. Store materials in a manner that will not endanger Project structure.
 - 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 - 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 - 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 - 6. Protect stored products from damage and liquids from freezing.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.

SECTION 016000

PRODUCT REQUIREMENTS

2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
3. Refer to other Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Architect will make selection.
 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
- B. Product Selection Procedures:
1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 3. Products:
 - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.
 - b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
 4. Manufacturers:
 - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.

SECTION 016000

PRODUCT REQUIREMENTS

- b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
- 5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
- C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
 - 1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
 - 1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 - 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - 3. Evidence that proposed product provides specified warranty.
 - 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 - 5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION

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. Progress cleaning.
 - 4. Starting and adjusting.
 - 5. Protection of installed construction.
 - 6. Correction of the Work.

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, and other construction affecting the Work.
 - 1. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

SECTION 017300

EXECUTION

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility to Moziac that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect 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, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.
- B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.
 - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 - 2. Establish limits on use of Project site.
 - 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 - 4. Inform installers of lines and levels to which they must comply.
 - 5. Check the location, level and plumb, of every major element as the Work progresses.
 - 6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

SECTION 017300

EXECUTION

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. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. 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.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. 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.
- I. 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.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

SECTION 017300

EXECUTION

3.5 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- 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.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.6 STARTING AND ADJUSTING

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

SECTION 017300

EXECUTION

- B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements"

3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION

SECTION 017329

CUTTING AND PATCHING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Contractor and their subcontractors shall be responsible for doing his own cutting and patching
- B. Execute cutting, fitting or patching work as required to:
 - 1. Make several parts fit properly.
 - 2. Uncover work to provide for installation of ill-timed work.
 - 3. Remove and replace defective work
 - 4. Remove and replace work not conforming to requirements of Contract Documents.
 - 5. Remove samples of installed work as specified for testing.
 - 6. Install specified work in existing construction.
 - 7. Removed sample to verify existing conditions and or materials to be replaced.
- C. In addition to Contract Requirements, upon written instructions of Architect:
 - 1. Uncover work to provide for Architect's observation of covered work.
 - 2. Remove samples of installed materials for testing.
 - 3. Remove work to provide for alteration of existing work.
- D. Do not endanger any work by cutting or altering work or any part of it.
- E. Do not cut, or alter work of another contractor, or subcontractor without permission of said contractor or written consent or architect, or unless otherwise noted in the contract documents.

1.02 SUBMITTALS

- A. Prior to cutting which affects structural safety or Project or work of another contractor, submit written notice to architect requesting consent to proceed with cutting, including:
 - 1. Identification of Project
 - 2. Description of affected work.
 - 3. Necessary for cutting.
 - 4. Affect on other work, on structural integrity of Project.
 - 5. Description of proposed work; designate:
 - a. Scope of cutting and patching.
 - b. Products proposed to be used.
 - c. Extent of refinishing.
- B. Prior to cutting and patching done on instruction of architect, submit cost estimate if work is not a part of the contract agreement.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. For replacement of work removed, comply with specifications for type of work to be done.
- B. Where no materials for replacement are specified, submit to architect written notice of similar and/or compatible material which contractor intends to use for approval prior to commencement of the work.

SECTION 017329

CUTTING AND PATCHING

PART 3 - EXECUTION

3.01 INSPECTION

- A. Inspect existing conditions of work, including elements subject to movement or damage during cutting and patching.
- B. After uncovering work, inspect conditions affecting installation of new products.

3.02 PREPARATION

- A. Prior to cutting:
 - 1. Provide shoring, bracing, and support as required to maintain structural integrity of project.
 - 2. Provide protection for other portions of the project.
 - 3. Provide protection from the elements.

3.03 PERFORMANCE

- A. Execute fitting and adjustment of products to provide finished installation to comply with specified tolerances and finishes.
- B. Execute cutting and demolition by methods which will prevent damage to other work and will provide proper surfaces to receive installation of repairs and new work.
- C. Restore work which has been cut or removed; install new products to provide complete work in accordance with requirements of Contract Documents.
- D. Refinish entire surfaces; to the nearest intersections.

END OF SECTION

SECTION 017423

PRE- OCCUPANCY CLEANING

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 017700 Contract Closeout.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 PRE-OCCUPANCY CLEANING

- A. Perform the pre-occupancy cleaning when directed by the RHA Representative.
- C. Perform the pre-occupancy cleaning within the minimum standards specified, including but not limited to the following requirements.
 - 1. Floor Maintenance:
 - a. Do not splash, disfigure, or damage baseboards, walls, stair risers, furniture or equipment during these operations.
 - b. Take proper precautions to advise building occupants of wet and/or slippery floor conditions during the cleaning operations.
 - c. Be responsible for the security of equipment, materials, tools, etc. The Owner's Representative (if space is available) will assign storage area(s) for the neat storage of tools and equipment.
 - d. Sweeping and Damp Mopping:
 - 1) Thoroughly sweep the floors to remove visible dirt and debris. Remove all visible paint marks, tar and similar substances from the floor surface.
 - 2) After sweeping and damp mopping operations, all floors shall be clean and free of dirt streaks; no dirt shall be left in corners, behind radiators, under furniture, behind doors, on stair landings and treads. Entrances and all similar areas shall be swept clean of all dirt and trash. No dirt shall be left where sweepings have been picked up. There shall be no dirt, trash or foreign in the project area.
 - e. Wet Mopping and Scrubbing:
 - 1) Properly prepare the floors, thoroughly sweep to remove all visible dirt and debris. Remove all paint spots, wads of gum, tar and similar substances from the floor surface. On completion of the mopping and scrubbing, the floors shall be clean and free of dirt, water streaks, mop marks, string, etc., properly rinsed, and dry mopped

SECTION 017423

PRE- OCCUPANCY CLEANING

to present an overall appearance of cleanliness. All surfaces shall be dry and corners and cracks clean after the wet mopping or scrubbing. Scrubbing shall be accomplished by machine or by hand with a brush.

2. Damp Wiping: Use a clean damp cloth or sponge to remove all dirt, spots, streaks and smudges from walls, doors (both wood and metal), glass and other specified surfaces. When dry, the surfaces shall have a polished appearance. The wetting solution shall contain an appropriate cleaning agent. When damp wiping in toilet areas, a multi-purpose (disinfectant-deodorizer) cleaner shall be used.
3. Bright Metal Polishing: Polish bright metal by damp wiping and drying with a suitable cloth. If a polished appearance is not thereby produced, apply the appropriate metal polish.
4. Spot Cleaning: Following this operation, smudges, marks or spots shall have been removed from the designated areas without causing unsightly discoloration.
5. Trash Removal:
 - a. Collect and remove all refuse, debris, rubbish and trash throughout the entire building. Unless otherwise directed by the Director's Representative all collected matter shall be deposited in dumpsters of sanitation trucks provided by the Contractor, and removed from the site.
 - b. Collect and remove all refuse, debris, rubbish and trash from the interior of the air handling unit enclosures under each window or wherever located. Vacuum the interior of each unit. This will require the removal and replacement of cover plates. Personnel will be made available to demonstrate the proper procedure for the removal and replacement of the cover plates.

END OF SECTION

SECTION 017700

CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 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.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Warranties.
 - 3. Final cleaning.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases permitting RHA unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs damage or settlement surveys, property surveys, and similar final record information.
 - 6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 - 7. Make final changeover of permanent locks and deliver keys to RHA.
Advise RHA personnel of changeover in security provisions.
 - 8. Complete startup testing of systems.
 - 9. Submit test/adjust/balance records.
 - 10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.

SECTION 017700

CONTRACT CLOSEOUT

11. Submit changeover information related to RHA's occupancy, use, operation, and maintenance.
 12. Complete final cleaning requirements, including touchup painting.
 13. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
 2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, the Contractor, RHA or the Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

SECTION 017700

CONTRACT CLOSEOUT

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize list of spaces in sequential order,
 - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 - 3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Architect
 - d. Name of Contractor.
 - e. Page number.

1.6 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

SECTION 017700

CONTRACT CLOSEOUT

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - g. Sweep concrete floors broom clean in unoccupied spaces.
 - h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.

SECTION 017700

CONTRACT CLOSEOUT

- i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - j. Remove labels that are not permanent.
 - k. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 - l. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - m. Replace parts subject to unusual operating conditions.
 - n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - p. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - q. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - r. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

SECTION 017839

PROJECT RECORD DOCUMENTS

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.

1.2 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit copies of record Drawings as follows:
 - a. Submit PDF electronic files of scanned record prints and three set(s) of paper prints.
- B. Record Specifications: Submit one paper copy of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit PDF electronic files of scanned record product data and one set of paper copy.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised Drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Record data as soon as possible after obtaining it.
 - c. Record and check the markup before enclosing concealed installations.
 - 2. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 - 3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 - 4. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

SECTION 017839

PROJECT RECORD DOCUMENTS

- B. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 - 1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 - 2. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect.
 - e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 - 4. Note related Change Orders, record Product Data, and record Drawings where applicable.

2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders, record Specifications, and record Drawings where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

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

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

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

SECTION 017839

PROJECT RECORD DOCUMENTS

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

END OF SECTION 017839

SELECTIVE DEMOLITION

SECTION 024119

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Selective demolition which meets the certification goals as established by the Rochester Housing Authority Program for the individual Project requirements, of the following types.
- B. Section Includes:
 - 1. Demolition and removal of selected portions of building. Demolition includes the specifically the following items.
 - a. Remove all damaged metal trim noted.
 - b. Remove all noted metal studs
 - c. Remove all unused wiring and electrical devices. Review with RHA.
 - 2. Salvage of existing items noted to be reused or recycled.
 - 3. Protecting existing work to remain.
 - 4. Cleaning soiled materials that are to remain.
 - 5. Disconnecting and capping utilities.
 - 6. Removing debris and equipment.
- C. Related Requirements:
 - 1. Section 011000 "Summary of the Work" for restrictions on the use of the premises, Owner-occupancy requirements, and phasing requirements.
 - 2. Section 017329 "Cutting and Patching" procedures.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall here indicated.
- C. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

SELECTIVE DEMOLITION

SECTION 024119

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Ownership of Materials: Except for items or materials indicated to be reused, salvaged, or otherwise indicated to remain RHA's property, demolished materials shall become the Contractor's property and shall be removed from the site with further disposing at the Contractor's option.

1.5 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including drawings if required, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and, for noise control. Indicate proposed locations and construction of barriers.
- B. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's, staff, and clientele on-site operations are uninterrupted.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Use of elevator and stairs.
 - 5. Coordination of RHA's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- C. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start
- D. Pre-demolition Photographs (or Video): Submit before Work begins. (Required).
- E. Warranties: Documentation indicated that existing warranties are still in effect after completion of selective demolition.

1.7 QUALITY ASSURANCE

- A. Carefully perform demolition work, by skilled workers experienced in building demolition procedures, using appropriate tools and equipment. Perform work, at all times, under the direct supervision of a supervisor approved by RHA's Project Manager.
- B. Coordinate demolition with other trades to ensure correct sequence, limits, and methods of proposed demolitions. Schedule work to create least possible inconvenience to the public and to facility operations.

1.9 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties. Notify warrantor before proceeding. Existing warranties include the following:

SELECTIVE DEMOLITION

SECTION 024119

- B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review record documents of existing construction provided by RHA and the Architect does not guarantee that existing conditions are same as those indicated in record documents.
- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Survey of Existing Conditions: Record existing conditions by use of measured drawings.

3.2 GENERAL

- A. Protection:
 - 1. Do not begin demolition until safety partitions, barricades, warning signs and other forms of protection are installed.
 - 2. Provide safeguards, including warning signs, lights and barricades, for protection of occupants and the general public during demolition.
 - 3. Provide and maintain fire extinguishers onsite. Comply with requirements of governing authorities.
 - 4. Maintain existing utilities which are to remain in service and project from damage during operations.
- B. Safety: If at any time safety of existing construction appears to be endangered, take immediate measures to correct such conditions; cease operations and immediately notify the Owner Inspector. Do not resume demolition until directed by RHA's Inspector.

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- C. Dust Control: Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations. Do not

create hazardous or objectionable conditions, such as flooding and pollution, when using water.

- D. Debris Removal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grades level.
- E. Progress Cleaning: Clean adjacent buildings and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing before start of demolition.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/ systems indicated to remain and protect them against damage.

3.4 PREPARATION

- A. 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.
 - 1. Comply with requirements for access and protection specified in Section 015000 "Temporary Facilities and Controls."
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

3.5 SELECTIVE DEMOLITION, GENERAL

- 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.
- B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by RHA 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 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Drywall. All drywall was removed under abatement.

SELECTIVE DEMOLITION

SECTION 024119

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off RHA's property and legally dispose of them

3.8 PATCHING AND RESTORATION

- A. Patching: Where removals leave holes and damaged surfaces that will be exposed in the completed construction, such holes and damaged surfaces shall be patched and resorted to match adjacent finished surfaces.
- B. Restoration of Building Finishes: Touch up scratched finishes as recommended by manufacturer of original finish.
- C. Restoration of Site Finishes at interior.
 - 1. Restore any damaged drywall.

3.9 CLEANING

- A. 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

SECTION 024200

DISPOSAL OF NON- HAZARDOUS WASTE

PART 1 GENERAL

1.01 REFERENCES

- A. Remove, and dispose of the materials in accordance with all applicable local and state governmental agency codes, rules, and regulations.

1.02 DESCRIPTION

- A. Removal of all construction debris materials from the work area on a daily basis.
- B. Remove construction debris via Dumpster/ Roll off on a weekly basis.

1.03 SUBMITTALS

- A. Detailed step by step procedure indicating how the Work is to be accomplished.

1.04 QUALITY ASSURANCE

- A. Before the Work of this Section is scheduled to commence an RHA Representative shall discuss and review the Work procedures.

1.05 PROJECT CONDITIONS

- A. Environmental Requirements:
 - 1. Comply with all applicable governmental agency codes, rules, and regulations for handling non-hazardous industrial, commercial and non-industrial waste.

END OF SECTION

SECTION 061000

ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Framing with dimension lumber.
 - 2. Truss reinforcement.
 - 3. Interior infill wood studs.

1.3 FRAMING LUMBER:

AWPA Hem-fir # 2 grade or better. Exterior walls are 2 x 6 studs at 16" o.c. Bottom plate shall be pressure treated on continuous sill sealer.

- A. Interior infill blocking partitions: 2 x 4's at 16" o.c. (insulate all interior walls with sound batts).
- B. Replacement Roof Rafters: add 2 x 10's at 24" o.c.
- C. Roof rafter sistering of existing fire damaged trusses.
- D. New Roof sheathing: 7/16" CDX OSB Board. Provide ply-clips at non-supported areas of sheathing. Apply to entire roof.
 - 1. Specialty wood products: LP Smart Side exterior trim boards, and with solid sheets for all fascia, window, and soffit. Paint all surfaces to match windows.
- B. Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.
- C. Lumber grading agencies, and the abbreviations used to reference them, include the following:
 - 1. WCLIB: West Coast Lumber Inspection Bureau.
 - 2. WWPA: Western Wood Products Association.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
 - 3. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

SECTION 061000

ROUGH CARPENTRY

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
 - 3. Provide dressed lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWP A U1; Use Category UC2.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
 - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 - 2. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 DIMENSION LUMBER FRAMING

- A. Non-Load-Bearing Interior Partitions: Construction or No. 2 grade.
 - 1. Application: Interior partitions not indicated as load-bearing.
 - 2. Species:
 - a. Hem-fir; WCLIB, or WWP A.

SECTION 061000

ROUGH CARPENTRY

- B. Load-Bearing Partitions: No. 2 grade.
 - 1. Application: Exterior walls and interior load-bearing partitions.
 - 2. Species:
 - a. Hem-fir; WCLIB or WWP.
- C. Ceiling Joists: Construction or No. 2 grade.
 - 1. Species:
 - a. Hem-fir; WCLIB or WWP.

2.4 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking, and for handicapped handrails.
 - 2. Nailers for attaching doors, windows.
 - 3. $\frac{3}{4}$ wood sheathing at floor infill.
- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber and the following species:
 - 1. Hem-fir; WCLIB or WWP.
- C. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 - 1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Lag Bolts: ASME B18.2.1.
- F. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.

SECTION 061000

ROUGH CARPENTRY

- G. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry assemblies and equal to four times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
 - 1. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2.

2.6 METAL FRAMING ANCHORS

- A. 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:
 - 1. Phoenix Metal Products, Inc.
 - 2. Simpson Strong-Tie Co., Inc.
 - 3. USP Structural Connectors.
- B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation.
 - 1. Use for interior locations unless otherwise indicated.
- C. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A 653/A 653M; structural steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 coating designation; and not less than 0.036 inch thick.
 - 1. Use for wood-preserved-treated lumber and where indicated.
- D. Rafter Tie-Downs: Bent strap tie for fastening rafters or roof trusses at each rafter to wall studs below, 1-1/2 inches wide by 0.050 inch thick. Tie fastens to side of rafter or truss, face of top plates, and side of stud below.
- E. Wall Bracing: T-shaped bracing made for letting into studs in saw kerf, 1-1/8 inches wide by 9/16 inch deep by 0.034 inch thick with hemmed edges.

2.7 MISCELLANEOUS MATERIALS

- A. Sill-Sealer Gaskets: (At new exterior wood framing plates) Closed-cell neoprene foam, 1/4 inch thick, selected from manufacturer's standard widths to suit width of sill members indicated.
- B. Water-Repellent Preservative: NWWDA-tested and -accepted formulation containing 3-iodo-2-propynyl butyl carbamate, combined with an insecticide containing chlorpyrifos as its active ingredient.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.

SECTION 061000

ROUGH CARPENTRY

- B. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- C. Metal Framing Anchors: Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- D. Install sill sealer gasket to form continuous seal between sill plates and foundation walls.
- E. Do not splice structural members between supports unless otherwise indicated.
- F. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
- G. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:
 - 1. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than 96 inches o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2-inch nominal- thickness.
 - 2. Fire block concealed spaces behind combustible cornices and exterior trim at not more than 20 feet o.c.
- H. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- I. Comply with AWP A M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use copper naphthenate for items not continuously protected from liquid water.
- J. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in Building Code of New York State (ICC's International Building Code).
- K. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

SECTION 061000

ROUGH CARPENTRY

- C. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

3.3 WALL AND PARTITION FRAMING INSTALLATION

- A. General: Provide single bottom plate and double top plates using members of 2-inch nominal thickness whose widths equal that of studs, except single top plate may be used for non-load-bearing partitions. Fasten plates to supporting construction unless otherwise indicated.
- B. Construct corners and intersections with three or more studs.
- C. Frame openings with multiple studs and headers. Provide nailed header members of thickness equal to width of studs. Support headers on jamb studs.
 - 1. For non-load-bearing partitions, provide double-jamb studs and headers not less than 4-inch nominal depth for openings 48 inches and less in width, 6-inch nominal depth for openings 48 to 72 inches in width, 8-inch nominal depth for openings 72 to 120 inches in width, and not less than 10-inch nominal depth for openings 10 to 12 feet in width.
 - 2. For load-bearing walls, provide double-jamb studs for openings 60 inches and less in width, and triple-jamb studs for wider openings. Provide headers of depth indicated.
- D. Provide diagonal bracing in exterior walls, at both walls of each external corner, at 45-degree angle, full-story height unless otherwise indicated. Use 1-by-4-inch nominal- size boards, let-in flush with faces of studs or metal wall bracing, let into studs in saw kerf.

3.4 PROTECTION

- A. Protect rough carpentry from weather.

END OF SECTION

SECTION 062000

INTERIOR FINISH CARPENTRY

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Rough Carpentry: Section 061000.
- B. Doors: Section 081400.

1.02 REFERENCES

- A. Comply with the applicable provisions of the "Architectural Woodwork Standards" (First Edition-2009) (AWS) except as otherwise specified herein. References to "Premium", "Custom" and "Economy" Grades herein, shall be as defined in that Standard.
- B. Lumber Standard: AWS Section 3.
- B. Lumber Standard; American Softwood Lumber Standard: U.S. Dept. of Commerce Product Standard PS-20.
- C. Panel Products: AWS Section 4.
- D. Preservative Treatment Standard: American Wood Protection Association Standard (AWPA) U1-02

1.03 SUBMITTALS

- B. Samples:
 - 1. Transparent Finish Samples: 12 inches long x full width, 6 inch width for panels; each type wood species and item to receive finish:

1.04 QUALITY ASSURANCE

- A. Mill and Producer's Label: Each lumber and panel item shall bear label indicating type, grade, mill, and grading agency on unfinished surface, or on end of material with finished surfaces.
 - 1. Panels shall bear APA or equivalent grade-mark; each panel.

SECTION 062000

INTERIOR FINISH CARPENTRY

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Store materials and completed fabricated wood items in a dry, well ventilated area completely protected from the weather. Comply with temperature and humidity requirements for storage and installation as specified in the applicable quality standards.
- B. Protect sanded and prefinished surfaces during handling and installation. Keep such surfaces covered with polyethylene film or other suitable protective covering.

1.06 PROJECT CONDITIONS

- A. Environmental Requirements: Maintain constant minimum temperature of 60 degrees F and maximum relative humidity of 55 percent in spaces to receive the Work of this Section.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Trim Lumber: MDF Board.
- B. Fasteners:
 - 1. Nails, Spikes, and Staples: Size and type to suit application; non-ferrous metal or galvanized steel for exterior locations, high humidity locations, treated wood, and wood to receive transparent finishes; plain finish for other interior locations.
 - 2. Bolts, Nuts, Washers, Lags, and Screws: Medium carbon steel; size and type to suit application; galvanized for exterior locations, high humidity locations, and treated wood; plain finish for other interior locations.
 - 3. Anchors: Toggle bolt type for anchorage to hollow masonry; expansion shield and lag bolt type for anchorage to solid masonry or concrete; galvanized steel or stainless steel.

2.02 STANDING AND RUNNING TRIM AND FINISHES.

- A. Comply with AWS Sections 6 and/or 12 as applicable, and as otherwise specified herein.
- B. Interior Woodwork (to receive primed finish): AWS Custom Grade.
Doors and Frames.
 - 1. Type: MDF Board - One Piece
 - 2. Ranch molding profile.
- C. Interior base trim (throughout): Interior running and standing trim: Base shall 4" Rubber Base. Roppe or equal. Color: By RHA.

SECTION 062000

INTERIOR FINISH CARPENTRY

- E. Finishes: All interior Finish Carpentry shall be primed white semi-gloss.

3.01 FABRICATION

- A. Machine and sand wood surfaces to comply with the requirements of the AWS Quality Grade specified.
- B. Mill assemble items to largest sizes practicable, to minimize field cutting and jointing. Allow for cutting and fitting where necessary to fit at the Site.

PART 4 EXECUTION

4.01 EXAMINATION

- A. Verification of Conditions: Examine substrate conditions and surfaces upon which finish Work is to be installed. Do not proceed with finish Work until unsatisfactory substrate conditions are corrected.

4.02 PREPARATION

- A. Condition the Work of this Section to average prevailing humidity conditions in installation areas prior to installing.

4.03 INSTALLATION

- A. Comply with workmanship and finishing standard requirements of the AWS Quality Grade specified herein.
- B. Install the Work plumb, level, and free of distortion. Shim where required, with concealed shims.
- C. Cut wood items to fit unless specified to be shop-fabricated, or shop-cut to exact size. Scribe and cut for accurate fit where Work abuts other finish Work. Drill pilot holes at corners before making cutouts.
- D. Distribute defects to the greatest appearance advantage possible.
- E. Trim and Molding: Install in single, un-jointed lengths at openings and for runs less than the maximum lumber length available. For long runs, use only 1 piece less than the maximum length available in any straight run. Stagger joints in adjacent members. Cope molding at returns. Miter at corners.
- F. Attach the Work securely in place.

SECTION 062000

INTERIOR FINISH CARPENTRY

1. Nailing: Blind nail where possible. Use finishing nails where exposed. Set nail heads for filling, except for exterior wood scheduled to receive natural finish (if any).
2. Anchoring: Secure the Work to anchors or to blocking which is built-into or directly attached to substrates.

5.01 CLEANING

- A. Clean exposed surfaces of prefinished Work.

5.02 PROTECTION

- A. Protect installed Work from damage by Work of other trades. Maintain temperature and humidity requirements during the construction period in interior installation areas.

END OF SECTION

SECTION 064316

INTERIOR HANDRAILS

PART 1

1.01 GENERAL

SECTION INCLUDES

A. The work specified in this Section includes, but shall not be limited to, the following:

1. Wood wall mounted handrails.
2. Metal wall mounted brackets.

1.02 RELATED SECTIONS:

1. Section 061000 – Rough Carpentry.

1.03 REFERENCES

- A. NFPA 101
- B. NYSBC 2020 Edition

1.04 GENERAL:

PERFORMANCE REQUIREMENTS

- A. General: Handrails and railings shall withstand structural loading as determined by allowable design working stresses of materials based on the following standards.
- B. Provide handrails and railings capable of withstanding the following structural loads without exceeding allowable design working stress of materials for handrails, railings, anchors and connections:
 1. Top Rail: Shall withstand the following loads: Concentrated load of 200 lbf applied at any point and in any direction.
 2. Uniform load of 50lbf ft. applied horizontally and concurrently with uniform load of 100lbf ft. applied vertically downward.

2.01 PRODUCTS

- A. Metal: Wall Brackets.
 1. Wall brackets for railings fabricated from steel components.
 - a. Brackets equal to: Rejuvenation Co. (rejuvenation.com). (888) 401-1900 – Simple Handrail Bracket kit including mounting hardware. Model # C3379. 1 -1/2" x 3" x 3 5/8".

SECTION 064214

HALL HANDRAILS

- b. Color: Satin.

B. Wood Handrails

1. Wood handrails shall be equal to: Stair Supplies or approved equal supplier.
 - a. Size: 2- 1/4 " o.d. 6040 with bottom flat bottom for mounting. Verify size in field.
2. Material: Pine
3. Stain and Varnish to match existing.

3.01 SUBMITTALS

- A. Submit under provisions of Section
- B. Product Data: Submit manufacturer's data sheets on each product to be used, including, but not limited to, the following: Preparation instructions and recommendations.
- C. Color Selection: Submit manufacturer's color charts showing the full range of colors available for products with finishes to RHA and to the Architect.

4.01 QUALITY ASSURANCE

- A. Match new handrails and brackets to existing. Chamfer and sand all wood handrails to neatly align with existing.
- B. Mount all brackets to concealed wood blocking.
- C. Test handrails at conclusion of the installation.

SECTION END

SECTION 070160

FLASHING AND TRIM

PART 1 GENERAL

1.01 PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

- A. Asphalt Shingle Roofing Section 0730110
- B. Vinyl Siding. Section 074640
- C. Exterior Finish Carpentry. 062013

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Wood Nailers and Blocking: Section 061053.
- B. Rough Carpentry. Section 061000

1.03 REFERENCES

- A. SMACNA: Sheet Metal and Air Conditioning Contractors' National Association, 4201 Lafayette Center Dr., Chantilly, VA 20151-1209, (703) 803-2980, www.smacna.org.
- B. CDA: Copper Development Association Inc., 260 Madison Ave., New York, NY 10016, (212) 251-7200, www.copper.org
- C. ASTM: ASTM International, 100 Barr Harbor Dr., PO Box C700, West Conshohocken, PA, 19428-2959, (610) 832-9500, www.astm.org.

1.04 SYSTEM DESCRIPTION

- A. Metal flashings, trim, and related accessories that form terminations and waterproof connections.

1.05 SUBMITTALS

- A. Product Data: Catalog sheets, specifications, installation instructions for each item specified except for shop or job formed items, solder, flux, and bituminous paint.
- C. Samples:

SECTION 070160

FLASHING AND TRIM

1. Materials for Flashings: One 6 inch sq piece, for each type material specified.
2. Exterior window trim. Full section, 12 inches long.

1.06 QUALITY ASSURANCE

- A. Except as otherwise shown or specified, comply with applicable recommendations, details, and standards of CDA, and SMACNA.
- B. Manufacturer's Recommendations: For factory fabricated items, follow the manufacturer's recommendations and installation instructions unless specifically shown or specified otherwise.

1.07 PROJECT CONDITIONS

- A. Do not execute the Work of this Section unless the Director's Representative is present, or unless they direct that the Work be performed during their absence.
- B. Make the roof and all uncompleted flashings watertight at the end of each work day.

PART 2 PRODUCTS

2.01 MATERIALS FOR FLASHING FABRICATION

- A. Aluminum Sheet: Standard pre-finished aluminum sheet. ASTM B 209, 3003-H14 alloy.

2.02 FASTENERS

- A. Nails: "Stronghold" type large flat head roofing nail.
 1. For Aluminum: Hard aluminum alloy or stainless steel.
 4. For Galvanized: Galvanized.
- B. Screws, Bolts, and Other Fastening Accessories:
 1. For Aluminum: Hard aluminum alloy or stainless steel.
 4. For Galvanized: Stainless steel.
- C. Anchors: Provide one of the following types:
 1. Hammer driven anchors, consisting of a stainless steel drive pin and a plastic or corrosion resistant metal expansion shield inserted thru a stainless steel disc with an EPDM sealing washer.
 2. Self-tapping, corrosion resistant, concrete and masonry screw inserted thru a stainless steel disc with an EPDM sealing washer.

SECTION 070160

FLASHING AND TRIM

2.03 MISCELLANEOUS MATERIALS

- A. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.

2.04 FABRICATION

- A. Where practicable, form and fabricate sheet metal Work in the factory or shop. Produce bends and profiles accurately to the indicated shapes. Where not indicated or specified, follow the applicable requirements of the reference standards listed in PART 1.
- B. Base Flashing:
 - 1. Prefinished Aluminum: .032 inch.
- C. Door trim and Window Flashing:
 - 1. Mill finish Aluminum: .025 inch.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Coordinate the Work of this Section with other Work for the correct sequencing of items that make up the entire system of weatherproofing or waterproofing.

3.02 PREPARATION

- A. Do not install the Work of this Section unless all necessary nailers, blocking and other supporting components have been provided.
- B. Do not install the Work of this Section unless all substrates are clean and dry.

3.03 INSTALLATION

- A. Isolation: Separate dissimilar metals from each other with bituminous paint.
- B. Installing Pipe Flashing: (See also roof vents)
 - 1. Extend the base flashing a minimum of 5 inches onto the roof surface. Terminate the bottom exposed edge with a 1/2 inch folded seam. Solder the base flashing to the tube flashing.
 - 2. Install the flashing after the course of shingles immediately below the pipe is installed so that the bottom side of the flashing is over the shingle

SECTION 070160

FLASHING AND TRIM

and the sides and top are beneath the shingles. Nail the top and sides of the flashing only.

3. Provide a cap flashing fabricated to slip over the tube flashing and the pipe. Lap the tube flashing a minimum of 3 inches and the pipe a minimum of one inch. Solder all seams.

C. Door and Window Flashing:

1. Install the flashing in one continuous length from side to side.

END OF SECTION

SECTION 072100

BUILDING INSULATION

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Rough Carpentry Section 061000
- B. Gypsum Board: Section 092900

1.02 SUBMITTALS

- A. Product Data: Catalog sheets, specifications, and installation instructions for each type of insulation specified.
 - 1. Include data substantiating that the materials comply with the specified thermal resistance and vapor resistance qualities.
- B. Quality Control Submittal:
 - 1. Certificate: Affidavit required under Quality Assurance Article.

1.03 QUALITY ASSURANCE

- A. Allowable Thickness Variations: Manufacturer's standard units which vary slightly from the thickness indicated may be acceptable, subject to the approval of the Director.
- B. Thermal Resistance: The thicknesses shown are for the thermal resistance (R-Value in accordance with ASTM C 177 or ASTM C 518) specified for each material. The R-Values specified are minimum acceptable. Provide adjusted thicknesses as directed for the use of material having a different thermal resistance.
- C. Certification: Affidavit by the polystyrene thermal insulation manufacturer, certifying that the insulation was manufactured with CFC and HCFC-free blowing agents.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Do not allow insulation materials to become wet or soiled, or covered with ice or snow. Comply with manufacturer's recommendations for handling, storage, and protection during installation.
- B. Complete the installation and concealment of insulation materials as rapidly as possible.

SECTION 072100

BUILDING INSULATION

1.05 PROJECT CONDITIONS

- A. Do not proceed with the installation of insulation on walls or under slabs until the Work which follows (and which conceals the insulation) is ready to be performed.
- B. Examination of Substrate: Examine the substrate and the conditions under which the insulation Work is to be performed. Do not proceed with the insulation Work until unsatisfactory conditions have been corrected.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Mineral Fiber Insulation: Glass or other inorganic fibers and resinous binders formed into flexible blankets, batts or rolls; ASTM C 665.
 - 1. R-Value
 - a. Walls: R-13
 - b. Ceilings: R-49
 - 2. Type III, Class B or C - With a reflective barrier membrane covering one principal face. Membrane flame spread rating greater than 25.
- C. Loose Cellulose Fiber Insulation: Chemically treated cellulosic or wood fiber loose fill thermal insulation; ASTM C 739, Type I for pneumatic applications and Type II for poured applications.
- D.. Adhesive for Bonding Insulation: The type recommended by the insulation manufacturer.
- E.. Mechanical Anchors: Type and size shown or, if not shown, as recommended by the insulation manufacturer for the type of application shown and condition of substrate.
- F.. Vapor Barrier: Polyethylene sheeting; ASTM D 4397; 6 mils minimum thickness, 3.7 g/m² per 24 hr maximum water vapor transmission rate.

PART 3 EXECUTION

3.01 PREPARATION

- A. Verify that adjacent materials are dry and ready to receive insulation.
- B. Close off openings in areas to receive loose insulation to permanently prevent escape of insulation.

SECTION 072100

BUILDING INSULATION

3.02 INSTALLATION

- A. Comply with manufacturer's printed instructions for the particular conditions of installation in each case. If printed instructions are not available or do not apply to the project conditions, consult the manufacturer's technical representative for specific recommendations before proceeding with the work.
- B. Extend insulation full thickness over entire surface to be insulated. Apply a single layer of insulation of the required thickness, unless otherwise indicated or required to make up the total thickness. Cut and fit tightly around obstructions, and fill voids with insulation.
 - 1. Do not place insulation over, or within 3 inches of recessed lighting fixtures.
- F. Place loose fiber insulation into spaces and onto surfaces, either by pouring or by machine-blowing. Level horizontal applications to uniform thickness as indicated, firmly settled to uniform density, but not excessively compressed.

END OF SECTION

SECTION 072160

SOUND INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Sound Insulation in corridor walls.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each product.

1.5 QUALITY ASSURANCE

- A. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect insulation materials from physical damage and from deterioration due to moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

PART 2 - PRODUCTS

2.1 MINERAL-WOOL BLANKET SOUND INSULATION

- A. Wall Sound insulation: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Fibrex Insulations Inc.
 - 2. Roxul Inc.
 - 3. Thermafiber.
 - 4. RockWool.
- B. Unfaced, Mineral-Wool Blanket Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively, per ASTM E 84; passing ASTM E 136 for combustion characteristics.

SECTION 072160

SOUND INSULATION

- C. Install Sound Insulation blanket insulation at all INTERIOR walls full height.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and applications indicated.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.
- C. Extend insulation to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

3.2 INSTALLATION OF INSULATION FOR FRAMED CONSTRUCTION

- A. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions.
- B. Mineral-Wool Blanket Insulation: Install in cavities formed by framing members according to the following requirements:
 - 1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
 - 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
 - 3. Install eave ventilation troughs between roof framing members in insulated attic spaces at vented eaves.
- C. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:
 - 1. Loose-Fill Insulation: Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 lb/cu. ft..
 - 2. Sound Insulation. Install in all studs and corridors throughout. Sound insulation equal to:
 - 1 Rockwool Safe'N'Sound Attic/wall sound insulation unfaced Stone Wool Insulation Model # RXSS31525. For all 2 x 4 walls. Install full height.

SECTION 072160

SOUND INSULATION

3.3 PROTECTION

- A. Protect installed insulation and vapor retarders from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 072100

SECTION 073110

ASPHALT SHINGLE ROOF AND TRIM.

PART 1 GENERAL

- A. Replace damaged roof area only. Match existing type.**

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Rough Carpentry: Section 061000.
- B. Flashing and Trim Section 070610
- C. Vinyl siding Section 074640

1.02 REFERENCES

- A. ASTM - American Society For Testing and Materials.
- B. TIMA - Thermal Insulation Manufacturer's Association.
- C. UL - Underwriter's Laboratories Inc.

1.03 SYSTEM DESCRIPTION

- A. Asphalt Shingle Roof System: Architectural/Asphalt fiberglass or organic shingles, felt underlayment, concealed flashing, and perimeter edge metal installed over the structural deck.
- B. Pre-finished .32 Aluminum soffits.
- C. Aluminum trim.

1.04 SUBMITTALS

- A. Submittals Package: Submit the product data, samples, and quality control submittals specified at the same time as a package.
- B. Product Data: Catalog sheets, specifications, and installation instructions for each material specified.
- C. Samples:
 - 1. Roof Shingles: One shingle selected from each of the manufacturer's standard colors.
 - 2. Soffit. Manufacturer's material sheet.
- D. Quality Control Submittals; Manufacturer's Warranty: Sample copy of the shingle manufacturer's warranty.

SECTION 073110

ASPHALT SHINGLE ROOF AND TRIM.

- E. Contract Closeout Submittals: Warranty and proof of purchase (dated itemized sales receipts or invoices) for warrantied materials.

1.05 QUALITY ASSURANCE

- A. Fire Resistance Rating: The asphalt shingle roof system shall have an Underwriters Laboratories External Fire Resistance Rating as follows:
 - 1. Asphalt Fiberglass Shingles: UL Class A.
 - 2. Asphalt Organic Shingles: UL Class C.
- B. Wind Resistance Rating: The asphalt shingle roof system shall have an Underwriters Laboratories "Wind Resistant" label.
- C. Shingle packages shall bear the UL fire resistance and wind resistant labels.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the Site in manufacturer's labeled, unbroken containers.
- B. Store materials on raised platforms protected from the weather with waterproof covers.
 - 1. Do not stack bundles of shingles more than 4 feet high.
 - 2. Store roll goods on end.

1.07 PROJECT CONDITIONS

- A. Do not install underlayment or shingles on wet surfaces.
- B. Do not apply shingles when air temperature is below 40 degrees.
- C. Do not perform the Work of this Section unless the RHA's Representative or Architect is present or unless they direct that the Work be performed during their absence.
- D. Moisture Protection:
 - 1. Cover, seal or otherwise protect the roof and flashings so that water cannot accumulate or flow under completed portions. When and where necessary to accomplish this, provide temporary water cut-offs.
 - 2. Limit the removal of existing materials to areas that can be completely re-roofed or temporarily protected within the **same day**.

1.08 WARRANTY

- A. Manufacturer's Warranty: In addition to the 2 year period specified above, furnish the shingle manufacturer's warranty certifying that the shingles will not

SECTION 073110

ASPHALT SHINGLE ROOF AND TRIM.

warp, shrink, or deteriorate, and that they are free from manufacturing defects as follows:

1. Architectural Asphalt Shingles: 30 year warranty.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Do not substitute building materials specified herein without the permission of the RHA Director or the Architect.
- B. Submit material data on all materials for this project to the RHA Director or Architect for approvals prior to ordering any materials.
- C. Architectural Asphalt Shingles:
 1. UL Classified, fiberglass or organic, laminated, no cut out, 3 dimensional, self sealing wind resistant shingle with 30 year warranty, ASTM D 3462.
 - a. Landmark Shingles by CertainTeed Corporation, Oakridge Shingles by Owens Corning, or Timberline Natural Shadow Shingles by GAF/Elk Corporation.
 2. Concealed Flashing (Ice & Water Shield): Self adhering, self sealing, rubberized asphalt sheet membrane with slip resistant surface and manufacturer's primer for masonry surfaces (if any).
 1. Thickness: 40 mils minimum, ASTM D 3767 Method A.
 2. Tensile strength: 250 psi minimum, ASTM D 412.
 3. Elongation: 250 percent minimum, ASTM D 412 (Die C Modified).
 4. Permeance: 0.05 perms maximum, ASTM E 96.
 - a. Grace Ice & Water Shield by Grace Construction Products or AC POLY Ice and StormSeal by NEI.
 3. Shingle and Underlayment Fasteners:
 1. Nails: Galvanized or aluminum, 11 or 12 gage, barbed shank roofing nails with 3/8 inch minimum diameter head, and a sufficient length to penetrate through the roofing materials and a minimum 3/4 inch into the roof sheathing.
 4. Perimeter Edge Metal:
 1. Prefinished Aluminum: ASTM B 209, 3003-H14 alloy, 0.032 inch thick.
 - a. Finish: Fluorocarbon coating (polyvinylidene Fluoride PVDF). Reverse side primed. Shipped with strippable protective tape.
 5. Plastic Cement: Flashing grade, fibrated asphalt roofing cement, ASTM D 4586

2.01 PREPARATION

- A. Prepare existing surfaces properly to receive and, where required, bond with the Work.

SECTION 073110

ASPHALT SHINGLE ROOF AND TRIM.

2.02 REMOVALS, CUTTING, AND ALTERING

- A. In addition to the items indicated to be removed on the Drawings, remove existing construction superseded by the Work except items such as existing wood roof sheathing for the asphalt shingle area, which is to remain.
- B. Remove and alter existing construction as required to install and connect the Work to adjacent construction in an approved manner.
- C. Cut and alter existing materials as required to perform the Work. Limit cutting to the smallest amount necessary. Core drill round holes and saw cut other openings where possible.
- D. Perform cutting, drilling, and removals in a manner which will prevent damage to construction which is to remain.
- E. Perform removal of items to remain the property of the RHA with such care as necessary to prevent damage to these items.

2.03 PATCHING

- A. Patching, except as otherwise indicated, shall be limited to the areas which have been cut altered or affected by the Work. Finish patched surfaces to match existing adjacent surfaces as closely as practicable.
- B. Perform patching around items penetrating existing construction in a manner that will maintain the water resistive capability of the existing construction.
- C. Paint exposed wood fascia areas to match existing adjacent surfaces as closely as practicable using same type of paint. Painting, except as otherwise indicated, shall be limited to the areas which have been patched.
- D. Where surfaces exposed by removals are to remain as exposed surfaces, paint such areas to match existing adjacent surfaces as closely as practicable using same type of paint.
- E. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Review detailed sequence of roof removal and with starting and ending dates for each activity. Ensure RHA staff, and Architect on-site operations are uninterrupted.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Continuous use of all exterior doors, stairs and fire stair.

PART 3 – ROOFING MATERIALS AND ACCESSORIES

3.01 ASPHALT SHINGLE ROOFING

- A. Prior to installation of shingle roofing and underlayment repairs, inspect all sheathing for broken or rotten boards. Replace as necessary.

SECTION 073110

ASPHALT SHINGLE ROOF AND TRIM.

B. Roofing and Underlayment:

1. Remove all existing felt paper, drip edge and asphalt roofing and dispose of properly.
2. Secure any nails that have become loose. Protect exposed existing wood deck with temporary roof protection throughout the roof replacement.
3. Replace asphalt roof with the following:
 - a. Roofing: Equal to: Owens Corning. Architectural shingles. "Duration" Series Cool Shingle with sure nail technology.
 1. Color: Match existing shingles.
 2. 30 year limited warranty.
 3. Provide matching starter strip shingle on first application.
 - b. Apply continuous strip of Ice and water shield 4' wide for all eaves, peaks and valleys as noted. Equal to: Owens Corning "WeatherLock" Flex Flexible self-sealing ice and water shield leak barrier Ice & Water Shield fully-adhered smooth surface roofing underlayment.
 - c. Use manufacture's standard starter strip roofing at all eave locations.
 - d. Vented peak: None.
 - e. Shingle Underlayment: Provide and install rolled synthetic underlayment for all asphalt roof areas. Underlayment shall be equal to GAF "Tiger Paw".
 - f. Aluminum flashing: Counterflash aluminum roof/ wall mill finish 20 ga. flashing under new roof work. Counterflash 8" behind existing siding. Use roofing sealant to cover all nails. Equal to: Henry 208R Rubber Wet Patch Roof Cement.
 - g. Drip Edge. Provide and install all new aluminum drip edge at all perimeters of the roof equal to: Union Corrugated Company. Model WHAECTSRE. Aluminum. Color: white.

3.02 SOFFIT. (SEE ALSO SECTION 07640)

- A. Install vented soffit along full length equal to:
 1. Pre-finished .32 Aluminum: Color: White.
 2. Approved equal.

PART 4 EXECUTION

4.01 EXAMINATION

- A. Prior to cutting, drilling or removals, investigate all sides of the surface involved. Determine the exact location of items affected.
- B. If unforeseen obstructions are encountered, take precautions necessary to prevent damage and obtain instructions from the RHA representative before proceeding with the Work.

SECTION 073110

ASPHALT SHINGLE ROOF AND TRIM.

- C. Uncovered damaged or rotten wood underlayment shall be documented and reported to the RHA Director and the Architect immediately. Contractor shall discuss scope of removal with RHA and the Architect prior to proceeding.

4.02 PREPARATION

- A. Cover cracks in existing roof deck exceeding 1/4 inch in width and knotholes with sheet metal nailed securely in place.
- B. Do not proceed with application of shingles until surfaces are dry, free of debris and protruding nails, and properly supported for shingle nailing and application.

4.03 APPLICATION

- A. Installing Concealed Flashings:
 - 1. Tack the concealed flashing in place if it does not adhere immediately to the roof deck.
 - 2. Eaves: Unless shown otherwise on the drawings extend the flashing from the roof edge to a line a minimum of 3 feet beyond the interior face of the building wall.
- B. Installing Underlayment:
 - 1. Slopes 4 Inches Per Foot and More: Install one ply of underlayment over the entire surface to be shingled. Lap edges a minimum of 2 inches and ends a minimum of 6 inches.
 - 2. At eaves install the underlayment over the metal drip edge, at rakes install the underlayment beneath the metal drip edge.
- C. Installing Perimeter Edge Flashing:
 - 1. Install in lengths not to exceed 10'-0". Lap ends a minimum of 3 inches.
 - 2. At eaves install the flashing under the underlayment. At rakes install the flashing over the underlayment.
 - a. Install edge flashings over all horizontal decorative trim.
 - b. Install edge flashings at siding termination at foundation.
 - 3. Secure the flashing to the roof deck with nails spaced 8 inches oc.
- D. Installing Asphalt Shingles:
 - 1. Except as shown or specified otherwise, layout, install, and fasten the shingles in accordance with the shingle manufacturer's instructions and specifications.
 - 2. Fastening:
 - a. Slopes Up To 60 Degrees (20 on 12 slope): Install 4 fasteners per shingle.
 - b. Staples will not be allowed.
 - d. Hand-tab shingles. Install 7 nails and a dollop of plastic cement under each shingle tab following the manufacturers' guidelines for "Steep Slope Application" method for each roof area.

SECTION 073110

ASPHALT SHINGLE ROOF AND TRIM.

- e. Do not install shingles when ambient temperature is below 40 degrees Fahrenheit.
- 3. Eaves: Start shingles at eaves with a starter course. Overlap perimeter edge flashing 1/4 inch.

END OF SECTION

SECTION 074640

VINYL SIDING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Vinyl siding
- B. Accessories and trim.
- C. Metal Exterior Window Trim.

1.2 RELATED SECTIONS

- A. Section 061000 - Rough Carpentry
- B. Section 072500 – Weather Barriers
- C. Section 079200 - Joint Sealers.

1.3 REFERENCES

- A. ASTM D7793 – Standard Specification for Insulated Vinyl Siding
- B. ASTM D 3679 - Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Siding.
- C. ASTM D 4477 - Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Soffit.
- D. ASTM D 5206 - Standard Windload Resistance Test.
- E. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- F. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
- G. ASTM D7254 – Standard Specification for Polypropylene (PP) Siding

1.4 DESIGN/PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Code compliance in accordance with the following:
 - 1. NYSRC- 2020 Edition
- B. PVC Fire Resistance: Provide vinyl siding products that meet or exceed the following ratings:
 - 1. Flame Spread Index < 25, per ASTM E 84.
 - 2. Fire endurance classification of 1 hour, per ASTM E 119 in a wall assembly.
- C. Manufacturer's Siding Fire Resistance: Provide thermoplastic polyolefin siding products that meet or exceed the following ratings:
 - 1. Flame Spread Index <200 per ASTM E-84.

1.5 SUBMITTALS

- A. Submit under provisions of Section 013000

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VINYL SIDING

- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Provide installer with not less than three years of experience with products specified or has obtained 5-Star Green Contractor (Preferred), 5-Star Contractor (preferred), or Master Craftsman credentials from CertainTeed.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation. Refer to manufacturer's installation instructions for specific storage and handling requirements.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

- A. Provide manufacturer's standard lifetime limited warranty on siding products, transferable to RHA.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. CertainTeed LLC, Siding Products Group, 20 Moores Road, Malvern, Pennsylvania 19355. Tel: (800) 233-8990; Email: salesupportgroup@certainteed.com; Web: www.certainteed.com.
 - 1. Approved equal.

- B. Requests for substitutions will be considered in accordance with provisions of Section 016000

2.2 MATERIALS

- A. Polymer Siding: Provide products made of molded polypropylene as specified in this section and manufactured to comply with requirement of ASTM D 7254
 - 1. Provide elongated nailing slots on nailing flanges to allow movement
 - 2. Provide products that meet weathering requirements of ASTM D 7254

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VINYL SIDING

3. In accordance with ICC – ES Acceptance Criteria AC366
 4. Provide panel thermometer allowing for proper spacing in various temperatures
- B. Vinyl Siding, Soffit and Components: Provide products made of extruded polyvinyl chloride as specified in this section and manufactured to comply with requirements of ASTM D 3679.
1. Provide elongated nailing slots on nailing flanges to allow for movement.
 2. Factory-notch ends of horizontal panels to form overlapping joints.
 3. Provide products that meet weathering requirements of ASTM D 3679.

2.3 VINYL SIDING PRODUCTS

- A. Basis of Design: CertainTeed. CertainTeed LLC, Siding Products Group, 20 19355. Tel: (800) 233-8990; Email: salesupportgroup@certainteed.com; Web: www.certainteed.com.

- TYPE A** CedarBoards Monogram series. Shiplap profile Color to match existing siding
1. Design: Single 7 inch (178 mm) clapboard; rough cedar finish with
 2. Width: 5 inch (127 mm).
 3. Length: 12 feet 3 inch (3.73 m). plus, or minus .025 inch (6 mm).
 5. Average Thickness: 0.044 inch (1.1 mm).
 6. Panel Projection: Panel Projection: 3/4 inch (19 mm). (With foam 1-1/4 inch (30 mm).
 7. Panel Exposure: 5 inches (127 mm)
 8. Maximum Warp (per 2 panels): 0.250 inch (6 mm).
 9. Color: As selected by Architect from manufacturer's standards.
 10. Color shall be as follows:
 - a. Matching color from manufacture's standard color chart AND MATCHING EXISTING SIDING COLOR AND PROFILE.

- B. Approved equal.

2.4 VINYL CARPENTRY ACCESSORIES

- A. Standard Accessories: Review drawings for applicable material selections.
1. Corner post: Standard width, 10 feet (3.05 m), 12 feet (3.66 m), and 20 feet lengths.
 2. J-Channel: Standard width, 12 feet, 6 inches (3.81 m) length.
 3. Undersill trim: 3/4" face, 12 feet, 6 inch (3.81 m) length.
 4. Dual undersill trim: 3/4" face, 12 feet 6 inches (3.81 m) length.
 5. 2-1/2 inch (64 mm) Metal Starter Strip. (No Color)
 6. 2-1/4 inch (57 mm) Vinyl Starter Strip. (No Color)
 7. Color: refer to CTS002 for color availability of accessories
 - 8. Window Trim – Brake Metal. Color White. 4" profile. Insert siding behind trim.**

SECTION 074640

VINYL SIDING

B. 1-1/4 Inch Pocket Accessories:

1. Cornerpost: Standard width, 10 feet; (3.05 m) length.
2. J-Channel: Standard width, 12 feet, 6 inches (3.81 m) length.
3. Traditional SuperCorner: 5.5 (140 mm) inches by 20 feet (140 mm by 6.1 m) length.
4. Inside Cornerpost; Standard width, 10 feet (3.05 m) length.
5. 3-1/2 inch (89 mm) Lineal by 20 feet (6.09 m) length.
6. Starter Strip: 3 inches (76 mm) by 12 feet, 6 inches (3.81 m) length.
7. Band Board: 7-1/4" (184 mm) width by 16'8" (5.08m) length
8. Finish Board: 3-1/2" (88.9mm) width by 12'6" 3.81 m) length
9. Color: refer to CTS002 for color availability of accessories

C. Optional Accessories:

1. D7 Straight Edge Perfection Mitered Corner Post, 14 inches (355.6 mm).
2. T5 Straight Edge Perfection Mitered Corner Post, 15 inches (381 mm).
3. D7 Staggered Edge Perfection Mitered Corner Post, 14 inches (355.6 mm).
4. D7 Straight Edge Rough-Split Mitered Corner Post, 14 inches (355.6 mm)
5. D9 Staggered Rough-Split Mitered Corner Post, 18.5 inches (453.25 mm).
6. 2-1/2 inch (64 mm) Window and Door Casing.
7. 2-1/2 inch (64 mm) Vinyl Starter Strip.
8. 5 inch (127 mm) Lineal: 5 inch by 20 feet (127 mm by 6.1 m) length.
9. 3-1/2 inch (89 mm) Lineal: 3-1/2 inches by 12 feet, 6 inches (89 mm by 3.81 m) length.
10. Super Corners: 5-1/2 inches by 20 feet (140 mm by 6.1 m) length.
13. Color: refer to CTS002 for color availability of accessories.

2.5 FASTENERS

- A. Provide galvanized or other corrosion-resistant nails as recommended by manufacturer of siding products.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Examine, clean, and repair as necessary any substrate conditions which would be detrimental to proper installation.
- B. Do not begin installation until unacceptable conditions have been corrected.

3.3 INSTALLATION

- A. Install products in accordance with the latest printed instructions of the manufacturer.
- B. Installer should have qualified installer with Master Craftsman credentials.
- C. Install products with all components true and plumb.

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VINYL SIDING

- D. For Vinyl Siding: Nail horizontal panels by placing nail in center of slot. Nail vertical panels by placing first nail at top of top slot and remaining nails in center of slots. Drive nails straight, leaving 1/16 inch (1.6 mm) space between nail head and flange of panel.
- E. Allow space between both ends of siding panels and trim for thermal movement. Overlap horizontal panel ends one-half the width of factory pre-cut notches.
- F. Stagger lap joints in horizontal siding in uniform pattern as successive courses of siding are installed.
- G. Install J-channel and flashing to accommodate successive courses of siding. Install wood shims at building corners to bring cut edges of vertical siding out to correct plane.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

3.5 CLEANING

- A. At completion of work, remove debris caused by siding installation from project site.

END OF SECTION

SECTION 077123

GUTTERS AND DOWNSPOUTS

PART 1 GENERAL

1.01 SUBMITTALS

- A. Product Data: Catalog sheets, specifications, and installation instructions for the following:
 - 1. Gutters.
 - 2. Gutter hanger bracket.
 - 3. Downspouts.
 - 4. Sealant.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Gutter: Free floating box or K style, .032 gage aluminum, 5 inch wide seamless gutter.
- B. Fascia Cleat (Surface Mounted): Gutter manufacturer's continuous aluminum fascia cleat designed for attachment directly to the fascia board.
- C. Gutter Hanger Brackets: Gutter manufacturer's aluminum hanger brackets designed to span across the top of the gutter forming a spreader and stiffener bar. Equal to:
 - 1. US Aluminum Hangers. Model. AM5ZIP500. Aluminum 5" Zip Hanger. Screw attached.
- D. Downspout: 3 x 4 inch corrugated, .027 gage aluminum, in 12 foot lengths. Connect to drain hub.
- E. Downspout Strap: Downspout manufacturer's standard strap.
- F. Finish:
 - 1. Baked on enamel. Color to match siding.
 - 2. Accessories: Gutter manufacturer's standard or recommended sealant, pop rivets, screws, and bolts.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Unless shown or specified otherwise, install the gutter system in accordance with the manufacturer's installation instructions.
- B. Install continuous fascia cleat.
 - 1. Secure the fascia cleat to the fascia board with aluminum nails 6 inches oc.
 - 2. Secure the fascia cleat to the roof deck with aluminum nails 6 inches oc.

SECTION 077123

GUTTERS AND DOWNSPOUTS

- C. Trim the top front and back edges of one end of each gutter section so the sections will overlap each other 2 inches and nest snugly together. Before joining sections together, apply sealant between the mating surfaces.
- D. Install gutter brackets 3 feet on center.
 - 1. Lock the front of the bracket to the gutter edge and secure the other end to the fascia board with aluminum screws.
 - 2. Lock the front of the bracket to the gutter edge and secure the other end to the roof deck with aluminum screws.
- E. Install gutter end pieces, mitered corners, and drop tubes. Apply sealant between mating surfaces and secure with pop rivets.
- F. Install downspouts with end joints that telescope a minimum of 1-1/2 inches.
- G. Install necessary offsets and elbows.
- H. Install a minimum of 2 straps at each downspout section. Fasten downspouts to straps with pop rivets.
- I. Secure straps to masonry or concrete wall with machine bolts in lead shields.
- J. Secure straps to wood walls with screws.
- K. Discharge Elbows: Fasten leader shoes to downspouts with pop rivets.

END OF SECTION

SECTION 079200
JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Use Sealants at locations noted on plans and elevations.

1.2 SUMMARY

- A. Section Includes:
 - 1. Silicone joint sealants.
 - 2. Urethane joint sealants.
 - 3. Latex joint sealants.
 - 4. Fire Stop Caulk

1.3 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.
- C. Product Testing: T joint sealants using a qualified testing agency.
 - 1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.

SECTION 079200

JOINT SEALANTS

2. Test according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.

1.5 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.6 WARRANTY

- A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Five years from date of Substantial Completion.
- C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
 1. Movement of the structure caused by structural settlement or errors attributable to design or construction resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
 2. Disintegration of joint substrates from natural causes exceeding design specifications.
 3. Mechanical damage caused by individuals, tools, or other outside agents.
 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

SECTION 079200

JOINT SEALANTS

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
- C. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- D. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

- A. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, for Use NT.
 - 1. Products: Subject to compliance with requirements, provide the following:
 - a. Dow Corning Corporation; 756 SMS.
- B. Mildew-Resistant, Single-Component, Acid-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.
 - 1. Products: Subject to compliance with requirements, provide the following:
 - a. Dow Corning Corporation; 786 Mildew Resistant.

2.3 URETHANE JOINT SEALANTS

- A. Single-Component, Pourable, Traffic-Grade, Urethane Joint Sealant: ASTM C 920, Type S, Grade P, Class 25, for Use T.
 - 1. Products: Subject to compliance with requirements, provide the following:
 - a. BASF Building Systems; Sonolastic SL 1.

SECTION 079200

JOINT SEALANTS

2.4 LATEX JOINT SEALANTS

- A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
1. Products: Subject to compliance with requirements, provide one of the following:
 - a. BASF Building Systems; Sonolac.
 - b. Bostik, Inc.; Chem-Calk 600.
 - c. Tremco Incorporated; Tremflex 834.

2.5 FIRESTOP SEALANT.

- 1, Joint-Sealant Application: Equal to: 3M. Corp. Mfr. Model # CP-25WB+10. install all around pipes in Utility Room, Kitchen and Bathroom piping.

2.6 JOINT SEALANT BACKING

- B. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- C. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- D. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.7 MISCELLANEOUS MATERIALS

- E. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- F. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or

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JOINT SEALANTS

harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

- G. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Masonry.
 - c. Drywall.
 - 3. Remove laitance and form-release agents from concrete.
 - 4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - 5.

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JOINT SEALANTS

- a. Metal.
 - b. Glass.
 - c. Porcelain enamel.
 - d. Glazed surfaces of ceramic tile.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
- 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
- 1. Place sealants so they directly contact and fully wet joint substrates.

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JOINT SEALANTS

2. Completely fill recesses in each joint configuration.
 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
 4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.
 - a. Use masking tape to protect surfaces adjacent to recessed tooled joints.
- G. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations.

3.4 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

SECTION 079200

JOINT SEALANTS

3.6 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.
 - 1. Joint Locations: at exterior door.
 - a. Isolation and contraction joints in cast-in-place concrete slabs.
 - b. Joints between plant-precast architectural concrete paving units.
 - c. Tile control and expansion joints.
 - d. Joints between different materials listed above.
 - e. Other joints as indicated.
 - 2. Urethane Joint Sealant: Single component, pourable, traffic grade.
- B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal non-traffic surfaces.
 - 1. Joint Locations:
 - a. Control and expansion joints in unit masonry.
 - b. Joints between different materials listed above.
 - c. Perimeter joints between materials listed above and frames of doors, windows, and louvers.
 - d. Control and expansion joints in ceilings and other overhead surfaces.
 - 2. Silicone Joint Sealant: Single component, nonsag, neutral curing, Class 50.
- C. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.
 - 1. Joint Locations:
 - a. Isolation joints in cast-in-place concrete slabs.
 - b. Control and expansion joints in tile flooring.
 - c. Other joints as indicated.
 - 2. Urethane Joint Sealant: Single component, pourable, traffic grade.
- D. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.

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JOINT SEALANTS

1. Joint Locations:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints of exterior openings where indicated.
 - c. Vertical joints on exposed surfaces of interior unit masonry walls and partitions.
 - d. Perimeter joints between interior wall surfaces and frames of interior doors, and windows.
 - e. Other joints as indicated.
 2. Joint Sealant: Latex.
- E. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.
1. Joint Sealant Location:
 - a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - b. Tile control and expansion joints where indicated.
 2. Joint Sealant: Single component, nonsag, mildew resistant, acid curing.

END OF SECTION

SECTION 080150
WINDOW REGLAZING

GENERAL

1.1 SUMMARY

- A. Section includes vinyl window repairs as follows:
 - 1. Reglazing existing vinyl window in bedroom.

ALLOWANCES

Allowances for vinyl window repairs are specified in Section 012100 "Allowances."

Perform vinyl window repairs under quantity allowances and only as authorized. Authorized work includes work required by Drawings and Specifications and work as directed in writing by RHA Representative.

UNIT PRICES

Work of this Section is affected by unit prices specified in Section 012200 "Cost Computations".

- 1. Unit prices apply to authorized additions to and deletions from Work as authorized by Change Orders.

1.4 DEFINITIONS

Glazing: Includes glass, glazing points, glazing tapes, glazing sealants, and glazing compounds. Items to match existing conditions.

- B. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.
- C. Quality Control Submittals:
 - 1. Qualification Data: for Glass replacement. Submit glass cut sheet for approval.

Preconstruction Test Reports: For vinyl window repairs.

SECTION 080150

WINDOW REGLAZING

QUALITY ASSURANCE

Vinyl-Window-Repair/ Glazing by A qualified vinyl window installer, experienced in repairing, refinishing, and replacing glazing in whole and in part.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products inside a well-ventilated area and where environmental conditions comply with manufacturer's requirements; protect from weather, moisture, soiling, abrasion, extreme temperatures, and humidity.

1.7 FIELD CONDITIONS

Weather Limitations: Proceed with vinyl window repairs and re-glazing only when existing and forecasted weather conditions are within the environmental limits set by each manufacturer's written instructions and specified requirements.

Glass: Clear insulating-glass to match existing.

End

SECTION 081410

DOORS AND HARDWARE

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Exterior, Interior Passage and closet doors
- B. Storm Door.
- C. Interior Doors

1.2 SUBMITTALS

- A. Product Data: Submit door manufacturer current product literature, including installation instruction.
- B. Quality Assurance Submittals
 - 1. Manufacturer Instructions: Provide manufacturer's written installation instructions.

1.3 DELIVERY, STORAGE AND HANDLING

- A. Deliver doors, materials and components in manufacturer's original, unopened, undamaged containers with identification labels intact.
- B. Store doors as recommended by manufacturer.

1.4 WARRANTY

- A. Manufacturer standard warranty indicating that doors will be free from material and workmanship defects from the date of substantial completion for the time periods indicated below:
 - 1. Door System: 5 Years.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Interior Doors: Basis of Design: Masonite
 - 1. Slab Door interior door. Solid Core.

SECTION 081410

DOORS AND HARDWARE

2. Panel style shall match existing bedroom doors.
 3. Verify size in field.
 4. Finish: Primed.
- B. Ceiling Mounted Attic Access Door. Provide and install attic ceiling door with ladder equal to: FAKRO. Model LWS-PL 66855 Insulated Attic Ladder. Folding ladder. 30-Inch x 54-Inch Rough Opening.
1. Mount flush with ceiling.
 2. Provide wood blocking for mounting.
 3. Paint to match ceiling. Semi-gloss finish.

2.2 MATERIALS AND CONSTRUCTION

- A. Wood door.
- B. Door manufacturer: Masonite, or equal.
1. Shape: Squared Top
 2. Panel type: Slab – Factory primed.
 3. Thickness: 1-3/8 inch thick x (dimensions noted) interior residential hollow core.

2.3 PREHUNG EXTERIOR DOOR

- A. Exterior rear door:
1. Equal to: Pella.
 - a. 36-in x 80-in Fiberglass Craftsman Right-Hand Inswing Sage Painted Single Front Door with Brickmould Insulating Core. Model #1000009362
 - b. Include aluminum threshold (pre-hung door unit). Color: satin aluminum. Exterior trim shall be 1 x 4 trim equal to LP Smart Side exterior trim boards for new door. Paint: to match exterior trim.
 - c.
- B. Storm Door: Install Storm door on new exit door. Door shall be equal to:
1. Door shall be equal to: Emco. 100 Series pre-hung storm door, with spring loaded closer. Color: White with self storing screen. 36" x 80"

3.01 HARDWARE SCHEDULE

SECTION 081410

DOORS AND HARDWARE

1. Exterior rear door.
 - a. Kickplates Ives Commercial 840028430. 4" x 30" Kick Plate Aluminum Finish. Item #: 840028430.
 - b. re-use existing door locking and hinge hardware.
 - c. Door Jamb reinforcement: Prime Line U1126-INS.

2.4 DOOR FINISHES

- A. Painted: Factory Primed.
- B. Surface Texture: Smooth

PART 3 - EXECUTION

3.1 GENERAL

- A. Install doors in accordance with manufacturer's installation guidelines and recommendations.

3.2 EXAMINATION

- A. Inspect door prior to installation.
- B. Inspect rough opening for compliance with door manufacturer recommendations. Verify rough opening conditions are within recommended tolerances.

3.3 PREPARATION

- A. Prepare door for installation in accordance with manufacturer's recommendations.

3.4 INSTALLATION

- A. Place door unit into opening and level hinge side of jamb. Use shims fastened through jamb and stop to level and temporarily secure in place.
- B. Level latch side of jamb. Use shims fastened through jamb and stop to level and temporarily secure in place.
- C. Verify spacing between jamb and door is uniform on all sides. Adjust as necessary.
- D. Shim top of jamb in center of opening and fasten with nail.

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DOORS AND HARDWARE

- E. Re-check for square, level and even spacing around door. Nail securely in place through stop, jamb, shims and into studs every 12 inches.
- F. Set nails.
 - a. Install trim on both sides using nails every 12 to 16 inches.

END OF SECTION

SECTION 092900

GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Interior gypsum board.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.5 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 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.

SECTION 092900

GYPSUM BOARD

2.2 INTERIOR GYPSUM BOARD

- A. Gypsum Board.
 - 1. Thickness: 1/2 inch for all drywall in all ceilings bedrooms and corridors.
 - 2. Long Edges: Tapered.
- B. Approved Manufacturers. (only US manufacturers will be approved)
 - a. National Gypsum Corporation
 - b. USG Corporations
 - c. CertainTeed Corporation.
 - d. Gold Bond Corporation

2.3 TRIM ACCESSORIES

- B. Interior Trim: ASTM C 1047.
 - 1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.
 - 2. Shapes:
 - a. Cornerbead.equal to: USG.

2.4 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:
 - 3. Interior Gypsum Board: Paper.
 - 4. Cement Board: Fiberglass mesh, as recommended by panel manufacturer.
- 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.
 - 3. Fill Coat: For second coat, use drying-type, all-purpose compound.
 - 4. Finish Coat: For third coat, use drying-type, all-purpose compound.
- D. Joint Compound for Cement Board:
 - 1. Cementitious Backer Units: As recommended by backer unit manufacturer.

2.6 AUXILIARY MATERIALS

- E. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- F. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
- G. Steel Drill Screws: ASTM C 1002, unless otherwise indicated for all applications.

SECTION 092900

GYPSUM BOARD

1. Use screws complying with ASTM C 954 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.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and framing, with Installer present, for compliance with requirements and other conditions affecting performance.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members or provide control joints to counteract wood shrinkage.

3.3 APPLYING INTERIOR GYPSUM BOARD

- A. Single-Layer Application:
 1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
 2. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 3. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

SECTION 092900

GYPSUM BOARD

3.4 INSTALLING TRIM ACCESSORIES

- A. General: 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.
- B. Interior Trim: Install in the following locations:
 - 1. Cornerbead: Use at outside corners.

3.5 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
 - 1. Level 4: At all panel surfaces unless otherwise indicated.
- E. Cementitious Backer Units: Finish according to manufacturer's written instructions.

3.6 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

SECTION 099100

PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes surface preparation and the application of paint systems on the following interior and exterior substrates: Primers only.
 - 1. Gypsum Board.
 - 2. Interior doors and trim. Including basement stair stringers.
- B. Paint Preparation: Inspect all walls for holes, or unfinished drywall. Clean and patch all walls prior to painting.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples: For each type of paint system and each color and gloss of topcoat.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. 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:
 - 1. Benjamin Moore & Co.
 - 2. Coronado Paint.
 - 3. Sherwin-Williams Company (The).
 - 4. Kilz.
 - 5. Zissner.
- B. Products: Subject to compliance with requirements, products listed shall be approved by the Rochester Housing Authority for the basis of design.

2.2 PAINT, GENERAL

- A. Material Compatibility:
 - 1. Provide PRIMER materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

SECTION 099100

PAINTING

- B. Colors: As selected by Rfrom manufacturer's full range.

2.3 PRIMERS (ONLY)

- A. Exterior Trim Primer:
 - 1. Zissner; Perma-White Mold & Mildew-Proof White Semi-Gloss Exterior Paint
 - a. Applied at a dry film thickness of not less than 3.0 mils.
- B. Interior trim and doors.
 - 1. For doors: Behr. Ultra Pure White base semi-gloss interior trim PRIMER.
Color: White.
 - 2. For all interior trim.
- C. Gypsum Board Primer
 - 1. Sherwin-Williams; PrepRite 200 Latex Wall Primer B28W200 Series:
 - 2. Interior ceilings: Equal to Behr. Premium Plus. White Ceiling. Flat finish.
- D. Ceiling Primer Paint (in bathroom and Laundry): Primer Shall be equal KILZ 2 interior latex primer. Flat.

2.4 SMOKE ENCAPSULANT PAINT

- A. Smoke Encapsulant Paint for Fire Damaged Trusses/ Wood Framing. Paint (encapsulate) entire truss and smoke damage wood. Ventilate roof attic/ truss area as recommended by manufacturer. Equal to:
 - a. Fiberlock Technologies. Ultra Recon Premium Smoke Odor Sealer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Cement and Gypsum Boards: 12 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates and paint systems indicated.

SECTION 099100

PAINTING

- B. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- C. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
 - 3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
 - 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

- A. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
 - a. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

END OF SECTION 099100

SECTION 233300

DUCTWORK ACCESSORIES

PART 1 GENERAL

- A. Work in this section is for duct accessories. Cold air return grills

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Metal Ductwork: Section 233113.
- B. Light Fixtures: Section 265190

1.02 REFERENCES

- A. ACGIH: American Conference of Governmental Industrial Hygienists.
- B. AMCA: Air Movement and Control Association.
- C. NFPA: National Fire Protection Association.
- D. SMACNA: Sheet Metal and Air Conditioning Contractors National Association, Inc.
- E. UL: Underwriters Laboratories, Inc.

1.03 SUBMITTALS

- A. Product Data: Catalog sheets, diagrams, standard schematic drawings, and installation instructions for each manufactured product. Submit SMACNA Figure Numbers for each shop fabricated item.
- B. Samples: When directed, submit one complete unit for each type of proposed air inlet and outlet device. Approved samples will be delivered to the job site for installation.

1.04 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Unless otherwise shown or specified, comply with the applicable requirements of the following:
 - a. SMACNA: Gages of materials, fabrication, sealing, and installation shall be in accordance with the SMACNA Manuals.
 - 1) HVAC Duct Construction Standards.
 - 2) Rectangular Industrial Duct Construction Standard.
 - b. AMCA: Certify damper and/or louver ratings in accordance with AMCA 511.
 - c. NFPA: Standards Nos. 90A, 90B, 91, 96, and 101.
 - d. UL: Standards No. UL181, UL555, and UL555S.

SECTION 233300

DUCTWORK ACCESSORIES

1.05 MAINTENANCE

- A. Maintain system until final delivery

PART 2 PRODUCTS

2.01 GRILLES

- A. Unless otherwise specified, fabricate grille and register faces, and frames of steel with factory applied white baked-on enamel.
- B. Fabricate grille and register faces, and frames of Type 302 or 304 stainless steel, with a No. 4 finish when installed in surgical operating, surgical scrub-up, surgical recovery and surgical work rooms.
- C. Supply Grilles: Adjustable, double deflection type.
 - 1. Grille Face: 20 gage construction of same material as bars/vanes.
 - 2. Face and Rear Bars/Vanes: Installed in grille face.
 - a. Bars/vanes individually adjustable and front pivoting to any desired setting by means of bar deflection key.
 - b. Nominal Bar/Vane Spacing: 0.66 inch or 0.75 inch on center.
 - c. Paint: Match new walls.
- D. Exhaust or Return Grilles: Fixed, single deflection type. Floor mounted
 - 1. Grille Face: 20 gage construction of same material as bars/vanes.
 - 2. Face Bars/Vanes: Installed in grille face.
 - a. Deflection Angle: 20 to 55 degrees.
 - b. Nominal Bar/Vane Spacing: 0.66 inch or 0.75 inch on center.
 - c. Sidewall grilles shall have horizontal face bars/vanes.
 - b. Construction:
 - 1) For use with Aluminum or Stainless Steel Register Faces: Aluminum with etched or acrylic finish.
 - Paint: Match new walls.

2.02 AIR DIFFUSERS

- A. Unless otherwise specified, fabricate diffusers of steel with factory-applied finish as follows: Anemostat SV-10 for all wall diffusers.
 - 1. Prime coat for installation in walls and gypsum board, hard plaster or acoustic plaster ceilings specified to be painted.
- B. Fabricate diffusers of aluminum with an etched and clear acrylic coated finish where installed in shower, can washing, dishwasher, food serving and dining rooms, kitchens, swimming pool areas, surgical operating, surgical scrub-up, surgical recovery and surgical work rooms.

SECTION 233300

DUCTWORK ACCESSORIES

- C. General:
 - 1. Roll or round and reinforce all exposed edges of diffusers.
 - 2. Internal diffuser parts shall be readily removable to permit cleaning and access to ducts.
 - 3. Design removable parts and assemblies so that they cannot be reassembled in a manner that would produce an incorrect air distribution pattern.
 - 4. Secure internal assemblies with fasteners that allow removal without use of special tools.
 - 5. Do not use neck or duct connection sizes indicated to size diffusers.
- D. Circular, Square and Rectangular Diffusers:
 - 1. Complete with volume control damper and adjustable equalizing grid, fabricated of same material and with same finish as diffuser.
 - 2. Damper shall be adjustable by means of operator handle and rod device, which is designed to be locked in any position , and is operable from diffuser face.
 - a. Return diffusers: No deflection.

2.03 GASKET MATERIAL

- A. Registers, Grilles, and Diffusers Installed in Exposed, Uninsulated Ductwork: 1/4 inch thick felt or sponge rubber material, of width as required by flange.
- B. Flanged Joints in Ducts: 1/8 inch thick reinforced inert plastic of the self-conforming type, of same width as flange.
 - 1. Exception: Where flanged connections in cooking equipment exhaust ductwork is allowed by NFPA 96, make up joints with Fibrefrax Grade 110 Paper by Carborundum Co.

2.09 SEALANTS

- A. Acceptable Manufacturers: Duro Dyne Corp.; Foster Products Div., H.B. Fuller Co.; Hardcast Inc.; United Sheet Metal Div., United McGill Corp.
- B. U.L. Listed adhesives (liquid or mastic), scrim, tapes, or combinations thereof, as required for pressure class; suitable for system operating temperatures; compatible with media conveyed within, insulation (if any), and ambient conditions.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

SECTION 233300

DUCTWORK ACCESSORIES

- A. Unless otherwise shown or specified, install the Work of this Section in accordance with the manufacturer's printed installation instructions and the SMACNA Manual.

END OF SECTION

SECTION 233713

REGISTERS AND GRILLES

GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Remove existing register and replace with new grill shown.
 - 2. Form drywall recess in corridor for access to register.

1.3 SUBMITTALS

- A. Submittals for this section are subject to the evaluation fee identified in Article 4 of the General Conditions.
- B. Manufacturer's installation instructions shall be provided along with product data.
- C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
- D. Product Data: For each type of product.
 - 1. Data Sheet: Indicate materials of construction, finish, and mounting details; and performance data including throw and drop, static-pressure drop, and noise ratings.
 - 2. Register and Grille Schedule: Indicate drawing designation, room location, quantity, model number, size, and accessories furnished.

- E. Source quality-control reports.

1.4 MAINTENANCE

- A. Special Tools:
 - 1. One bar deflection key for every five supply grilles and/or every five return grilles.
 - 2. One operator key for every five supply registers and/or every 5 return or exhaust registers.
 - 3. Two keys or socket wrenches for each type of damper adjustment screw or device on manual damper regulators.

SECTION 233713

REGISTERS AND GRILLES

One tool for each type and size Torx center pin fastener.

PART 2 - PRODUCTS

REGISTERS

Fixed Face Wall/ Floor mounted Register. Attach at wall for return air.

- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following: 30" x 6" White Baseboard Return Air Grille (658 Series)

1. Brand: Hart & Cooley
2. SKU: 43706

- C. Acceptable Manufacturers

- a. Anemostat Products; a Mestek company.
- b. Price Industries.
- c. Titus; brand of Johnson Controls International PLC, Global Products.
- d. Approved equivalent.

- 1.. Material: Steel
2. Finish: Baked enamel, color selected by Architect. Color to match walls.

Face Blade Arrangement: Horizontal spaced [1/2 inch. Dimensions 12 x 34"

4. Face Arrangement: Perforated core.
5. Core Construction: Removable
6. Frame: 1 inch wide.

Mounting Frame: 12 x 34

8. Mounting: Countersunk screw Concealed.

D. REGISTER CONNECTION

1. Sheet metal cowl. Form new sheet metal attachment to existing supply duct. Make adjustments with sheet metal connections in wall for new register.
2. Follow SMACNA standards for fabrication and connections.

2.2 SOURCE QUALITY CONTROL

- A. Verification of Performance: Rate registers and grilles according to ASHRAE 70, "Method of Testing for Rating the Performance of Air Outlets and Inlets."

SECTION 233713

REGISTERS AND GRILLES

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas where registers and grilles are installed for compliance with requirements for installation tolerances and other conditions affecting performance of equipment.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install registers and grilles level and plumb.
- B. Outlets and Inlets Locations: Drawings indicate general arrangement of ducts, fittings, and accessories. Air outlet and inlet locations have been indicated to achieve design requirements for air volume, noise criteria, airflow pattern, throw, and pressure drop. Make final locations where indicated, as much as practical.
- C. For units installed in lay-in ceiling panels, locate units in the center of panel. Where ceiling panels conflict with installation, notify Architect and RHA for a determination of final location.
- D. Install registers and grilles with airtight connections to ducts and to allow service and maintenance of dampers, air extractors, and fire dampers.

3.3 ADJUSTING

- A. After installation, adjust registers and grilles to air patterns indicated, or as directed, before starting air balancing.

END OF SECTION