ROCHESTER Housing Authority

675 West Main Street
Rochester, New York 14611

Project Manual

For:

10th Floor Corridor Renovations

321 Lake Avenue

Rochester, New York 14608

Single Prime Contract

March 26, 2026

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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	Tenth Floor Renovation Plan
A-2	Tenth Floor Reflected Ceiling Plan
A-3	Interior Elevations
A-4	Interior Elevations
A-5	Enlarged Plans, Sections and Details

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 Owner: Rochester Housing Authority

2. Project Location: Lake Tower – 10th floor – 321 Lake Ave., Rochester, NY

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. Complete interior renovations to the 10th floor corridor. Remodel work per specs, with preservation of existing incoming electrical, plumbing, with modifications for new connections for Cable TV into each apartment as shown. Existing mechanical runs shall remain in place as noted on the plans.
   b. Fire Alarm system replacement has been completed.

SECTION 011000

SUMMARY OF THE WORK

1.2 TYPE OF CONTRACT

A. Project will be constructed under a single contract.

1. Contract shall be provided by RHA.

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.

3. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to RHA 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.

SECTION 011000

SUMMARY OF THE WORK

1.6 OWNER'S OCCUPANCY REQUIREMENTS

A. Full Owner Occupancy: RHA will occupy this floor only after construction has been completed and to the satisfaction of the staff. Cooperate with RHA during construction operations for inspections 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 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.
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 applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
      c. Include costs of labor and supervision directly attributable to the change.
      d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
      e. Quotation Form: Use 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 applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
   4. Include costs of labor and supervision directly attributable to the change.

5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in 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

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - 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 AIA Document G703.
   3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
      a. Include separate line items under Contractor and principal subcontracts for 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.

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

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.
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. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
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.

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.

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.

E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Use CSI Log Form 13.2B.
1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number including RFIs that were dropped and not submitted.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.

F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.
1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

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.
    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.

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. Two paper copies.

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.

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.

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.

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.

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.

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.

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.

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

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

SECTION 014000

QUALITY REQUIREMENTS

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

SECTION 014000

QUALITY REQUIREMENTS

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.
      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.
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.

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

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 shall provide drinking water from a proved safe source, so piped or transported as to be kept clean and fresh and served from single service containers or satisfactory types of sanitary drinking stands or fountains.
2. The contractor shall provide temporary toilet facilities – Port-a-potty on premises away from the building on the grounds.

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.

SECTION 015000

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

2.06 TEMPORARY STORAGE

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

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.
5. Provide high-lift equipment for delivery of gypsum board materials through tenth floor window designated by RHA. Access to elevator shall be limited to small items due to separate adjacent elevator work during this construction project. Delivery of other bulk materials via high-lift through tenth floor window shall be at the discretion of the contractor.

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.

SECTION 016000

PRODUCT REQUIREMENTS

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.
   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.
   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.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
   1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
   2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
   3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

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

3.2 PREPARATION

A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before

fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

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

C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

3.3 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.

3.4 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.

3.5 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 in 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

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 RHA 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 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.
6. Deliver tools, spare parts, extra materials, and similar items to location designated by RHA. Label with manufacturer's name and model number where applicable.
7. Make final changeover of permanent locks and deliver keys to RHA.
8. Advise personnel of changeover in security provisions.
9. Complete startup testing of systems.
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.

11. Submit changeover information to RHA 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 the RHA 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.

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. 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.

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

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.

SECTION 017700

CONTRACT CLOSEOUT

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. Remove tools, construction equipment, machinery, and surplus material from Project site.
   b. Clean exposed 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.
   c. Remove labels that are not permanent.
   d. 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.
   e. 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 RHA 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

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.

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.

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:

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 PEFORMANCE 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.

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. Remove any miscellaneous existing drywall unless noted otherwise on drawings.

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 028003

DISPOSAL OF NON-HAZARDOUS COMMERCIAL WASTE

PART 1 GENERAL

1.01 REFERENCES

A. 6 NYCRR - New York State Codes, Rules, and Regulations.

1.02 DESCRIPTION

A. Removal of all construction materials.

1.04 QUALITY ASSURANCE

A. Qualified Company: The Work shall be performed by a qualified Company having at least 3 years experience directly applicable to the services required.

B. Pre-Work Conference: Before the Work of this Section is scheduled to commence, a conference will be held by the Town of Ogden at the Site for the purpose of reviewing the Contract Documents, discussing requirements for the Work, and reviewing 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.

PART 2 PRODUCTS

2.01 MATERIALS FOR USE DURING DISPOSAL PROCEDURE

A. Furnish materials which meet all applicable governmental agency codes, rules and regulations.

PART 3 EXECUTION

3.01 PERFORMANCE

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

END OF SECTION

SECTION 054000

COLD-FORMED METAL FRAMING

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 non-load-bearing infill wall framing.
2. Repairs to existing metal wall framing.
3. Adding track at top of existing metal frame walls.

1.3 SUBMITTALS

A. Submittals for this section are subject to the re-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 the following:

1. Cold-formed steel framing materials.
2. Interior non-load-bearing wall framing.
3. Connection components
4. Drift clips.
5. self-drilling screw fasteners.
6. Post-installed anchors.
7. Power-actuated anchors.

E. Shop Drawings: Designate member sizes per Steel Stud Manufacturers Association (SSMA) standard conventions.

1. Include layout, spacings, sizes, thicknesses, and types of cold-formed steel framing; fabrication; and fastening and anchorage details, including mechanical fasteners.
2. Indicate reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining work.

F. Qualification Data: For testing agency.

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

1.4 QUALITY ASSURANCE

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

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, licensed and registered to practice in New York State, to design cold-formed steel framing.

B. Cold-Formed Steel Framing Standards: Unless more stringent requirements are indicated, framing shall comply with AISI S100, AISI S200, and the following:

1. Wall Studs: AISI S211.

C. Fire-Resistance Ratings: Comply with ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency acceptable to authorities having jurisdiction.

2.2 INTERIOR NON-LOAD-BEARING WALL FRAMING

A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:

1. Minimum Base-Metal Thickness: 0.0355 inch (20 ga).
2. Flange Width: 1-5/8 inches (162). Match existing infill.

B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with unstiffened flanges, and as follows:

1. Minimum Base-Metal Thickness: **0.0355 inch (20 ga).**
2. Flange Width: Match existing.

2.3 FRAMING ACCESSORIES

A. Fabricate steel-framing accessories from ASTM A1003, Structural Grade, Type H, metallic coated steel sheet, of same grade and coating designation used for framing members.

B. Provide accessories of manufacturer's standard thickness and configuration, unless otherwise indicated, as follows:

1. Supplementary framing.
2. Bracing, bridging, and solid wood blocking.
3. Anchor clips.
4. End clips.
5. Gusset plates.
6. Stud kickers and knee braces.
7. Hole-reinforcing plates.
8. Backer plates.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, conditions, and abutting structural framing for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

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

3.2 INSTALLATION OF INTERIOR NONLOADBEARING WALL FRAMING

A. Install continuous tracks sized to match exiting studs. Align tracks accurately and securely anchor to supporting structure.

B. Fasten both flanges of studs to top and bottom track unless otherwise indicated. Space studs as follows:

1. Stud Spacing: As indicated on Drawings.

C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar requirements.

3.3 INSTALLATION TOLERANCES

A. Install cold-formed steel framing level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet and as follows:

1. Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

3.4 REPAIR

A. Stud Repairs: Prepare and repair damaged studs for infill of fabricated and installed cold-formed steel framing with existing matching studs. Repair, and straighten existing studs.

3.5 PROTECTION

A. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that cold-formed steel framing is without damage or deterioration at time of Substantial Completion.

END OF SECTION

SECTION 055120

ALUMINUM WALL RAILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:
   1. Aluminum wall mounted handrails and brackets.

1.3 PERFORMANCE REQUIREMENTS

A. All railings shall be supplied to conform to applicable sections of the following codes:
   1. International Building Code
   2. ADA ANSI 117.1
   3. ADAAG

B. Structural Performance: Provide railings capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
   1. Handrails:
      a. Uniform load of 50 lbf/ft. applied in any direction.
      b. Concentrated load of 200 lbf. applied in any direction.
      c. Uniform and concentrated loads need not be assumed to act concurrently.

1.4 HANDRAIL FOR WALL MOUNTING

1. Handrail will be installed at a height of: Reference drawings.
2. On circular cross sections, the gripping surface shall have a diameter of 1 ½" inches.
3. A clearance of a minimum 1 ½" shall exist between the wall surface and the handrail.
4. Handrail shall be continuous, without interruption by newel posts or other obstructions.
5. Handrails shall return to a wall, guard or walking surface

1.5 SUBMITTALS

A. Product Data: For the following:
   1. Manufacturer's product lines of mechanically connected railings.
   2. Associated wall brackets and corner pieces.
   3. Grout, anchoring cement, and paint products.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
   1. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Samples for Initial Selection: For products involving selection of color, texture, or design.

D. Mill Certificates: Signed by manufacturers of stainless-steel products certifying that products furnished comply with requirements.

E. Product Test Reports: Supplier shall submit calculations and test reports for complete system, including railing and infill panels. Calculations and test reports shall be stamped by a licensed PE. Test reports shall be in accordance with ASTM E 894 and ASTM E 935.

1.6 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of handrail through one source from a single manufacturer.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of walls and other construction contiguous with railings by field measurements before fabrication and indicate measurements on Shop Drawings.

1.8 COORDINATION AND SCHEDULING

A. Schedule installation so wall attachments are made only to completed walls. Do not support railing temporarily by any means that do not satisfy structural performance requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Railing Product: Subject to compliance with requirements, provide ADA Rail aluminum component railing as manufactured and assembled by:
   1. DHR (Aluminum Handrail Direct). Single source manufacturer is required. Welded railing will not be accepted.
   2. Approved equals
      a. Digger Specialties.

2.2 METALS, GENERAL

A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.

B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails, unless otherwise indicated.

2.3 ALUMINUM

A. Aluminum, General: Provide alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than the strength and durability properties of alloy and temper designated below for each aluminum form required. Dark Anodized finish.

B. Extruded Bars and Tubing: ASTM B 221, Alloy 6063-T6 or 6005A-T5

Provide 1 ½ in IPS, (1.90 in OD) Standard Weight (Schedule 40) pipe for handrail, Sch. 80 for posts.

C. Plate and Sheet: ASTM B 209, Alloy 6061-T6

D. Die and Hand Forgings: ASTM B 247, Alloy 6061-T6

E. Castings: ASTM B 26/B 26M, Alloy Almag 535

2.4 FASTENERS

A. General: Provide the following:
   1. Aluminum Railings: Alloy steel fasteners with JS-600 zinc plating.

B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads. Handrail attached to walls shall be attached using Hollaender 82E brackets. These brackets will be attached to the handrail using ¼-20 x 1" Stainless steel self tapping screws.

C. Anchors: Provide concrete adhesive anchors where indicated or necessary.
   1. T6 aluminum alloy.

2.5 FABRICATION

A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.

B. Assemble railings in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.

C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch, unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

D. Form work true to line and level with accurate angles and surfaces.

E. Fabricate connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items. Welding will not be accepted.

G. Connections: Fabricate railings with non-welded connections, unless otherwise indicated. Welding will not be accepted.

H. Non-welded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.

I. Form changes in direction as follows:
   1. By flush bends or by inserting prefabricated flush-elbow fittings.

J. Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

K. Close exposed ends of railing members with prefabricated end fittings.

L. Provide wall returns at ends of wall-mounted handrails, unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is 1/4 inch or less.

M. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work, unless otherwise indicated. Flanges to be sand cast from aluminum alloy 535 with anodized finish and fastened directly to the post by means of two reverse knurl cup point set screws.

N. Fabricate splice joints for field connection using an epoxy structural adhesive if this is manufacturer's standard splicing method. Fabricate anchorage devices capable of withstanding loads imposed by railings. Coordinate anchorage devices with supporting structure.

2.6 ALUMINUM FINISHES

A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

B. Unless indicated otherwise, provide aluminum pipe with the following finish:
   1. Anodized Finish: Dark Anodized. AA-M10C22A44.(Architectural class, .7 mil thickness or greater)

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PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine plaster and gypsum board assemblies, where reinforced to receive anchors, to verify that locations of concealed reinforcements have been clearly marked for installer. Locate reinforcements and mark locations if not already done.

3.2 INSTALLATION, GENERAL

A. Fit exposed connections together to form tight, hairline joints.
   1. Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.

2. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.

B. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.3 RAILING CONNECTIONS

A. Non-welded Connections: Use mechanical joints for permanently connecting railing components. Use wood blocks and padding to prevent damage to railing members and fittings.

3.4 ATTACHING HANDRAILS TO WALLS

A. Attach handrails to wall with wall brackets into wood blocking. Provide brackets with 1-1/2 inch clearance from inside face of handrail and finished wall surface.

B. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.

C. Secure wall brackets to building construction as indicated, or if not indicated, as follows:
1. Provide wood blocking between metal studs in stud wall construction.

3.5 ADJUSTING AND CLEANING

A. Clean aluminum and stainless steel by washing thoroughly with clean water and soap and rinsing with clean water.

3.6 PROTECTION

A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.

B. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

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. Wood blocking and nailers for drywall, wall mounted handrails and misc. items.

Framing blocking lumber:

A. AWPA Hem-fir # 2 grade or better. Exterior wall infills are 2 x 4 studs at 16"o.c. Bottom plate shall be pressure treated on continuous sill sealer.
   1. New Interior partitions: 2 x 4's at 16" o.c. (insulate all new interior walls with sound batts).
   2. All framed openings shall have structural wood headers as indicated on plans.

1.3 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. Provide dressed lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.

2.2 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.

B. For items of dimension lumber size, provide Construction or No. 2 grade lumber and the following species:
   1. Hem-fir; WCLIB or WWPA.

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.

PART 3 - EXECUTION

3.1 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.

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.

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 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.

1.2 SUMMARY

A. Section Includes:

1. Latex joint sealants.
2. 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 INFORMATIONAL SUBMITTALS

A. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each sealant specified to be validated by SWRI's Sealant Validation Program.

B. Warranties: Sample of special warranties.

1.5 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.
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.

1.6 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.

1.7 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.

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. 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 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 corridor and run a continuous bead along the top and bottom of the new gypsum board wall.

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 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. Drywall.

    b. Metal door frames.

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:

    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.

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.

3.6 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Sealant Location: top and bottom of each gypsum board layer in corridor.

    a. Joints between plumbing fixtures and adjoining walls,

2. Joint Sealant: Single component, nonsag, mildew resistant, acid curing.

END OF SECTION 079200

SECTION 083100

ACCESS DOORS AND PANELS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Access doors and frames in corridor walls.

B. Related Sections:

1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. ASTM International (ASTM) (www.astm.org):

1 A653/A653M -Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or zinc-Iron Alloy-coated (Galvannealed) by the Hot-Dip Process.
2. A1008/A1008M -Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.

B. Underwriters Laboratories (UL) (www.ul.com) 10B -Standard for Fire Tests of Door Assemblies.

1.3 SUBMITTALS

A. Submittals for Review:

1. Product Data: Provide sizes, types, finishes, scheduled locations, and details of adjoining work.

1.4 QUALITY ASSURANCE

A. Fire Door Construction: Provide label information.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design: Best Access door. Model BA-PFI.

SECTION 083100

ACCESS DOORS AND PANELS

Acceptable manufacturers.

1 Babcock-Davis Hatchways, Inc. (www.babcockdavis.com)
2 J.L. Industries. (www.jlindustries.com)
3 Karp Associates, Inc. (www.karpinc.com)
4 Milcor. (www.milcorinc.com)

2.2 MATERIALS

A. Galvanized Steel Sheet: ASTM A653/A653M, Structural Quality.

2.3 FABRICATION

A. Fabricate door frame of galvanized steel sheet:

1 Wall and ceiling doors 24 x 24 inches: Minimum 14 gage.
2 Fabricate frames with exposed flanges.

B. Fabricate non-rated door panels of minimum 14 gage galvanized steel sheet.

C. Weld, fill, and grind joints to flush and square appearance.

D. Hardware:

1 Continuous steel hinges, 175 degree opening.
2 Keyed cylinder latch. Key doors alike. Furnish two (2) keys per door to RHA.

2.4 FINISHES

A. Interior Doors: Hot dip galvanized, G90 coating class. Paint door color to match walls.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install units in accordance with manufacturer's instructions.

B. Install plumb and level in openings. Secure rigidly in place.

C. Position units where indicated or where required to provide convenient access to concealed work requiring maintenance.

END OF SECTION

SECTION 087100

DOOR FINISH HARDWARE

PART 1 – PRODUCTS

3.01 DOOR ACCESSORY HARDWARE SCHEDULE - for installation

A. Openings: Interior Corridor Door Kick Plates. Install as shown on each Apartment door. Kickplates at each Apartment front door equal to:

1. Manufacturer: ACROVYN.

2. Door Kick Plate: 30 in Wd, 24 in Ht.

3. Basis of design: Item 55MD72 *Color Selected by RHA.

4. Basis of Design: Mfr. Model KP60T3024929N *Color Selected by RHA.

3.02 DOOR SWEEPS

A Install new brush style door sweeps at each apartment door. Sweeps shall be equal to:

1. Basis of Design. PEMKO Door Sweep: Brush Insert, Aluminum, 36 in Lg, 1/4 in Wd, Item 3EGR6. Mfr. Model 18061CNB36 *Color Selected by RHA.

END OF SECTION

SECTION 092500

GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Interior gypsum wall board.

B. Related Sections include the following:
1. 054000 "Cold-Formed Metal Framing" for load-bearing steel framing that supports gypsum board.
2. Section 061000 "Rough Carpentry" for wood framing and furring that supports gypsum board.
3. Section 072100 "Sound Insulation" for insulation and installed in assemblies that incorporate gypsum board.
4. Section 079200 "Fire-Resistive Joint Systems" for head-of-wall assemblies that incorporate gypsum board.
5. Section 099100 " Painting" for primers applied to gypsum board surfaces.

1.3 SUBMITTALS

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

1.4 QUALITY ASSURANCE

A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

1.5 STORAGE AND HANDLING

A. Store materials inside under cover and keep them dry and protected against damage from weather, condensation, direct sunlight, construction traffic, and other causes. Stack panels flat to prevent sagging.

B. Provide high-lift equipment for delivery of gypsum board materials through tenth floor window designated by RHA. Access to elevator shall be limited to small items due to separate adjacent elevator work during this construction project.

1.6 PROJECT 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 interior products 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 PANELS, GENERAL

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

2.2 INTERIOR GYPSUM BOARD

A. General: Complying with ASTM C 36/C 36M or ASTM C 1396/C 1396M, as applicable to type of gypsum board indicated and whichever is more stringent.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following: All drywall products shall be made in USA.

    a. American Gypsum Co.
    b. G-P Gypsum.
    c. National Gypsum Company.

d. USG Corporation.

B. Type X:

1. Thickness: 5/8 inch (15.9 mm).
2. Long Edges: Tapered and featured (rounded or beveled) for prefilling.

2.3 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet
2. Shapes:

a. Cornerbead.

2.4 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:

1. Interior Gypsum Wallboard: Paper.

C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints, rounded or beveled panel edges, 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 drying-type, all-purpose compound.

a. Use setting-type compound for installing paper-faced metal trim accessories.

3. Fill Coat: For second coat, use setting-type, sandable topping or drying-type, all-purpose compound.
4. Finish Coat: For third coat, use setting-type, sandable topping.
5. Skim Coat: For final coat of Level 4 finish, use setting-type, sandable topping compound.

2.5 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.

B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

1. Use adhesives that have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24). Use adhesive at masonry wall in corridor for 1 layer 5/8" type X Gypsum board.

C. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.

1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.
2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

D. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.

1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly. Install in new walls.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames and framing, 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. At air diffuser: 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 (1.5 mm) 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. Form control and expansion joints with space between edges of adjoining gypsum panels.

F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.

1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. (0.7 sq. m) in area.
2. Fit gypsum panels inside existing door frames, around ducts, pipes, and conduits.
3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- (6.4- to 9.5-mm-) wide joints to install fire sealant.

G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at these locations, and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

I. Wood Blocking: Install gypsum panels over metal stud framing, with floating internal corner construction. Provide wood blocking at areas noted.

J. STC-Rated Assemblies: 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 for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.

3.3 APPLYING INTERIOR GYPSUM BOARD

A. Install interior gypsum board in the following locations:
1. Type X: As indicated on Drawings

B. Single-Layer Application:

C. Multilayer Application:
1. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud (or furring

member) and face-layer joints offset at least one stud or furring member with base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.

2. Fastening Methods: Fasten base layers and face layers separately to supports with screws

D. Laminating to Substrate: Where gypsum panels are indicated as directly adhered to a substrate (other than studs, joists, furring members, or base layer of gypsum board), comply with gypsum board manufacturer's written recommendations and temporarily brace or fasten gypsum panels until fastening adhesive has set.

1. screws spaced 12 inches (300 mm) o.c.

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. Control Joints: Install control joints [at locations indicated on Drawings] [according to ASTM C 840 and in specific locations approved by Architect for visual effect].

C. Interior Trim: Install in the following locations:

1. Cornerbead: Use at outside corners
2. Bullnose Bead: Use at outside corners
3. LC-Bead: Use at exposed panel edges
4. L-Bead: Use where indicated

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, rounded or beveled edges, and damaged surface areas.

C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.

D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:

1. Level 4: At panel surfaces that will be exposed to view, unless otherwise indicated

a. Primer and its application to surfaces are specified in other Division 9 Sections.

3.6 PROTECTION

A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

B. 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.

SECTION 095300

SUSPENDED ACOUSTICAL CEILING SYSTEMS

PART 1 GENERAL

1.01 REFERENCES

A. ASTM C 635 - Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.

B. ASTM C 636 - Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.

C. ASTM E 1414 - Standard Test method for Air-born Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum.

D. ASTM E 1264 - Standard Classification for Acoustical Ceiling Products.

E. Ceilings and Interior Systems Contractors Association (CISCA) Acoustical Ceilings: Use and Practice.

F. UL - Fire Resistance Directory and Building Material Directory.

1.02 SYSTEM DESCRIPTION

A. Suspended Ceiling System consisting of main runners and cross runner tees snapped together to form modules or grids for the installation of lay-in acoustical tiles or panels, air diffusers, and light fixtures.

B. Structural Performance and Suspension System Types:
   3. Type ID/EG: Intermediate duty, direct hung, exposed grid. (Minimum load carrying capability of main runner: 12 lb/lin ft).

1.03 SUBMITTALS

A. Product Data: Manufacturer's catalog sheets, specifications, and installation instructions for the following:
   1. Each suspension system type specified.
   2. Acoustical units specified.
   3. Integral access units.

1.04 QUALITY ASSURANCE

A. Installers Qualifications: The persons installing the suspended acoustical ceiling system and their supervisor shall be personally experienced in suspended acoustical ceiling installation and shall have been regularly employed by a company installing systems for a minimum of 2 years.

B. Surface Burning Characteristics: Tested in accordance with ASTM E 84 and complying with ASTM E 1264 for Class A products.
   1. Flame Spread: 25 or less.
   2. Smoke Developed: 50 or less.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver acoustical units and suspension system components to the Project Site in original, unopened packages and store them in a fully enclosed space protected against damage from moisture, direct sunlight, surface contamination, and other causes.

B. Open ends of acoustical unit packages 24 hours before installation to stabilize moisture content and temperature.

C. Handle acoustical units carefully to avoid chipping edges or damaging units in any way.

1.06 PROJECT CONDITIONS

A. Environmental Requirements: Comply with acoustical units manufacturer's printed temperature and ventilation requirements before, during, and after installation.

B. Space Enclosure: Do not install interior acoustical units until space is enclosed and weatherproof, wet work in spaces is completed, and work above ceilings is complete.

1.07 MAINTENANCE

A. Furnish extra materials described below to match products installed, are packaged with protective covering for storage, and are identified with appropriate labels. Furnish quantities equal to 2 percent of acoustical units and exposed suspension system components installed.

PART 2 PRODUCTS

2.01 METAL SUSPENSION SYSTEM MATERIALS

A. Provide manufacturer's standard metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable ASTM C 635 requirements.

B. Recycled Content: Provide products made from steel sheet with average recycled content such that post-consumer recycled content plus one-half of pre-consumer recycled content is not less than 25 percent.

C. Grid Materials:

1. Double-web design main runners and cross-runner tees roll-formed from electrogalvanized cold rolled sheet steel with prefinished steel caps on flanges.
   a. Exposed Tees: 15/16 inch wide.
2. Grid Finish: Prepainted white or color as selected from manufacturer's standard colors.

D. Accessories:
1. Wall Moldings and Trim: Steel or extruded aluminum of types and profiles indicated, or if not indicated, manufacturer's standard prefinished moldings for edge penetrations that fit type of edge detail and suspension indicated.
2. Splines: Type and size required for the specified acoustical units.
3. Spring Steel Spacers: Designed to hold border acoustical units in compression.

E. Attachment Devices:
1. Hanger Clips: Galvanized steel clips or clamps specifically designed for attachment to structural steel. Drive-on clips or clamps which depend on friction to hold the device are not acceptable.
2. Welded Studs: Low carbon steel copper flashed studs, 1/4 - 20 UNC, automatic short-cycle welded to a transformer-rectifier power source. When surface on which studs are to receive fireproofing, furnish studs of length to extend one inch below fireproofing.
3. Wire Hangers, Braces, and Ties: Galvanized carbon steel, soft temper; prestretched. Yield stress at least 3 times design load but not less than 12 gage, .106 diameter.
4. Hanger Rods: Mild steel, zinc coated, or protected with rust inhibitive paint.
5 Flat Hangers: Mild steel, zinc coated, or protected with rust inhibitive paint.
6. Expansion Anchors: Double cinch type, of soft metal alloy.
7. Bolts: 3/8 inch diameter, length as required for full threads of nut.
8. Miscellaneous Fasteners: Bolts, screws, and other fasteners recommended by suspension system manufacturer and necessary to install the Work.

2.02 ACOUSTICAL UNIT MATERIALS

A. Standard for Acoustical Units: Manufacturer's standard units of configuration indicated that comply with ASTM E 1414 and ASTM E 1264, conforming to the following Equal to: Armstrong Cortega "Second Look" II. (24" x 24" pattern). Model No. 2758. (24" x 48" actual panel size).
1. Noise Reduction Coefficient (NRC) Range: 0.50 - 0.75.
2. Ceiling Attenuation Class (CAC) Range: 30 - 34.
3. Light Reflectance Coefficient (LR): 0.75 or greater.
4. Recycled Content: Provide acoustical panels with recycled content such that postconsumer recycled content plus one-half of pre-consumer content constitutes a minimum of 45-70% by weight.

B. Acoustical Units:
   1. Mineral base with factory applied painted finish. (Type III).

C. Panel Dimensions and Edge Details:
   1. Size: 24 x 48 inches; thickness 3/4 inch.
   2. Edges: Angled Tegular

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine substrates and structural framing scheduled to receive the ceiling system for compliance with requirements specified. Do not install the Work until unsatisfactory conditions are corrected.

3.02 INSTALLATION OF SUSPENSION SYSTEM

A. Install acoustical ceiling suspension system to comply with installation standard ASTM C 636, in accordance with the manufacturer's printed instructions, and CISCA "Ceiling System Handbook".

B. Lay-out system to a balanced design with edge units no less than 50 percent of acoustical unit size.

C. Hang suspension system independent of walls, columns, ducts, pipes, and conduit.

D. Hangers: equal to Hilti.
   1. Attach hangers to supporting construction, spaced 4 feet oc maximum and within 6 inches of ends of main beams. Where ducts or other items, including items provided under related contracts (if any), interfere with the spacing of hangers, install trapeze type hangers under the obstructing items to support ceiling hangers.
   2. Wrap hanger wire ends a minimum of three times horizontally, forming tight loops and turning ends upward.
   3. Do not kink or bend hangers as a means of leveling components.

E. Attachment of Hangers to Supporting Construction: Unless otherwise shown, secure the hangers to the existing concrete construction as follows:
   1. Attachment for hangers to concrete ceilings:
      a. Equal to Hilti X-CC ceiling clip with pre-tied ceiling clip.
      b. Fastener Type: Hilti X- C27.
         1. Approved equal 1/4" x 1-5/8" Strong-Tie THDB25158RH Titen HD 1/4" Rod Hanger Screw Anchor, Zinc, Pkg 100.

F. Suspension System Installation Tolerances:
   1. Form right angles at intersections of main and cross runners.
   2. Install main runners level to within 1/8 inch in 12 feet. Install cross runners to within 1/32 inch of the required center distances (non-cumulative beyond 12 feet).
   3. Align vertical distance of exposed surfaces between intersecting runners to within 0.015 inch.
   4. Limit horizontal gaps in exposed surfaces of intersecting or abutting members to within 0.020 inch.

G. Wall Moldings and Trim: Install moldings and trim of type indicated where ceilings intersect vertical surfaces. Use manufacturer's recommended fasteners suited for secure attachment to the particular substrate.

   1. Sealant Bed: Apply continuous ribbon of acoustical sealant, concealed on back of vertical leg of moldings before they are installed.
   2. Screw attach moldings to substrate at intervals not over 16 inches oc and not more than 3 inches from ends, leveling with ceiling suspension system to tolerance of 1/8 inch in 12 feet. Miter corners accurately and connect securely.

3.03 INSTALLATION OF ACOUSTICAL UNITS

A. Install acoustical units in accordance with the manufacturer's printed instructions, unless otherwise shown or specified.
   1. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.
   2. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.
   3. Scribe and cut acoustical units to fit accurately at borders and at penetrations.
   4. Where tiles are not supported by suspension members, install splines at unsupported joints.
   5. Keep border tiles in compression by inserting spring steel spacers between tiles and moldings. Place one spacer bar at the center of each tile.
   6. Locate integral access units to provide uniformly distributed units equal to 20 percent of the total area of each ceiling.
   7. Install integral access units in locations shown on the drawings.

3.04 CLEANING AND ADJUSTING

A. Clean exposed surface of acoustical ceilings, including trim, wall moldings, and suspension members. Comply with manufacturer's printed instructions for cleaning and touch-up of minor finish damage.

SECTION 095300

SUSPENDED ACOUSTICAL CEILING SYSTEMS

END OF SECTION

SECTION 096800

LVT FLOORING

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Rough framing. Section 061000

1.02 SUBMITTALS

A. Product Data: Manufacturer's specifications, and surface preparation and installation instructions, for each material specified except primer.

B.. Quality Control Submittals:
1. Certificates: Certificates required under Quality Assurance Article.

C. Contract Closeout Submittals:
1. Maintenance Data: Deliver 2 copies covering the installed products, to the Construction Manager's Representative.

1.03 QUALITY ASSURANCE

A. Compatibility of Materials: For each type of flooring specified, furnish associated materials made by or recommended by the manufacturer.

B. Certifications: Furnish certification from flooring installer that the substrate surfaces have been examined and are acceptable for installation of the Work of this Section.

C. Performance Criteria:
1. The following criteria are required for products included in this section:
   a. All flooring must be certified as compliant with the Floor Score standard by an independent third-party.
   b. Adhesives must not exceed the volatile organic compound (VOC) content limits established in South Coast Air Quality Management District (SCAQMD) Rule 1168.

1.04 PROJECT CONDITIONS

A. Environmental Requirements: Continuously heat spaces to receive flooring to a temperature of 68 degrees F for at least 48 hours prior to flooring installation, during the installation, and for 48 hours after installation.

B. Environmental Requirements: Make arrangements thru the Construction Manager's Representative for having the temperature in the spaces to receive flooring maintained at 68 degrees F for 48 hours prior to flooring installation, during the installation, and for 48 hours after installation.

C. Condition flooring materials by placing them in the spaces where they will be installed for at least 48 hours prior to installation.

SECTION 096800

LVT FLOORING

1.05 MAINTENANCE

A. Extra Materials:
   1. Furnish extra tile, equal to 2 percent of the tile installed, of each type and color of tile required. The extra tile shall be from the same run and lot number as the installed tile.

   2. Place extra materials in storage at the site where directed.

PART 2 PRODUCTS

2.01 MATERIALS

VINYL FLOORING:

Corridors

A. New flooring shall glue down vinyl flooring equal to:
   a. Next Floor
   b. Model: Sacramento 28 Plank 413 & Tile 414 Extra Heavy Commercial
   c. Colors: by RHA.
B. Approved equal.

2.02 PRODUCT SPECIFICATIONS

Product shall meet these basic features.

1. Size: Plank 4" x 36" 3 mm thick.
2. Wear Layer Thickness: 28 mil / UV-Cured Urethane
3. Overall Thickness: 3.0 mm.
4. Weight per Piece: 2.75 lb (1.25 kg)
4. Recycled Content: 100% Recyclable after use
5. Static Load Limit: 1,500 psi.
6. Resistance to Heat (ASTM F1514)
7. N.B.S. Smoke Chamber (ASTM E-662)
8. Class III, Type B. Dimensional Stability (ASTM F 2199 EN -434):
9. Slip Resistance (ASTM C 1028,EN 13893): Class DS/ ADA **c**ompliant > .60

2.03 TESTING

1. Stain & Chemical Stability (ASTM F925, EN 423)

2.04. INSTALLATION

1. Install new vinyl floor reducers at doorways and between rooms. Reducers equal to: Schluter. Color: Match flooring.
2. Protect flooring with kraft paper until final acceptance.

SECTION 096800

LVT FLOORING

2.05. WARRANTIES

1. Limited 12 year Commercial Warranty.

2.06 REFERENCES:

A. Stain and Chemical Stability. F925 5

B Fire Resistance Rating E648

3.01 ACCESSORIES

A. Transition Strips. Equal to: Schluter Systems. Model: RENO-U, or T per application.

PART 4 EXECUTION

4.01 EXAMINATION

A. Verification of Conditions:
   1. Examine substrate surfaces to receive the Work of this Section for defects that will adversely affect the execution and quality of the Work. Do not proceed until unsatisfactory conditions are corrected, and installer's substrate surface acceptability certification has been acknowledged by the Construction Manager.
      a. Subfloor Bond Tests: Check for surface moisture and coatings on concrete subfloor by bond tests as recommended by the manufacturer.
   2. Do not install the Work of this Section until after all other finishing operations, including painting, have been completed unless otherwise indicated or directed by the Construction Manager.
      a. Where movable partitions are indicated, install flooring before partitions are erected without interrupting floor pattern.

4.02 SURFACE PREPARATION

A. Unless otherwise specified, follow the materials manufacturers' written instructions.

B. Remove dirt, grease, oil, paint, varnish, wax, sealers, and other contaminants which may impair the full bonding of the materials.

C. Immediately before application of the flooring adhesive, vacuum clean the prepared subfloor surface.

SECTION 096800

LVT FLOORING

4.03 INSTALLATION

A. Install the flooring from center marks established with principal walls; lay out and adjust to avoid use of cut units less than one-half tile wide at perimeters.
   1. Lay plank flooring as noted on plans. Plank flooring is glue down.

B. Install resilient edge strips at unprotected edges of flooring, unless otherwise indicated.
   1. Flooring edge/ transition strip
      a.` Equal to: Schluter RENO-U. Color: Brown.

4.04 CLEANING

A. Remove any excess adhesive and other surface soiling from face of installed materials with cleaning agents recommended by the manufacturer of the material being cleaned.

4.05 PROTECTION

A. Protect installed flooring from traffic and damage. Apply non-staining kraft paper covering where necessary. Maintain covering until directed to remove it by the Construction Manager.

4.06 FINISHING

A. Prior to the final inspection, when directed by the Construction Manager, thoroughly clean floors and accessories. Comply with the tile manufacturer's recommended cleaning, finishing, and buffing procedures.

END OF SECTION

SECTION 096530

RESILIENT WALL BASE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Resilient base.
2. Resilient molding accessories.

B. Related Sections:
1. Division 9 Section "Resilient Floor Tile for resilient floor tile."

1.3 SUBMITTALS

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

B. Samples for Initial Selection: For each type of product indicated.

C. Samples for Verification: For each type of product indicated, in manufacturer's standard-size Samples but not less than 12 inches long, of each resilient product color, texture, and pattern required.

D. Product Schedule: For resilient products. Use same designations indicated on Drawings.

1.4 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.

1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

B. Mockups: Provide resilient products with mockups specified in other Sections.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F (10 deg C) or more than 90 deg F (32 deg C).

SECTION 096530

RESILIENT WALL BASE

1.6 PROJECT CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 85 deg F, in spaces to receive resilient products during the following time periods:

1. 48 hours before installation.
2. During installation.
3. 48 hours after installation.

B. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 85 deg F .

C. Install resilient products after other finishing operations, including painting, have been completed.

1.7 EXTRA MATERIALS

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

1. Furnish not less than 10 linear feet for every 500 linear feet or fraction thereof, of each type, color, pattern, and size of resilient product installed.

PART 2 - PRODUCTS

2.1 RESILIENT BASE - GENERAL WALL BASE

A. Rubber Base:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Armstrong World Industries, Inc.
   b. Johnsonite.
   c. Roppe Corporation, USA.
   d. Approved equal.

B. Resilient Base Standard: ASTM F 1861.

C. Minimum Thickness: 0.125 inch.

D. Height: 4 ¼” inches.

E. Lengths: Coils in manufacturer's standard length

F. Outside Corners: Job formed or preformed.

G. Inside Corners: Job formed or preformed.

H. Finish: As selected by Architect from manufacturer's full range.

I. Colors and Patterns: As selected by Architect from full range of industry colors.

2.3 INSTALLATION MATERIALS

J. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.

K. Adhesives: Water-resistant type recommended by manufacturer to suit resilient products and substrate conditions indicated.

1. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

a. Cove Base Adhesives: Not more than 50 g/L.
b. Rubber Floor Adhesives: Not more than 60 g/L.

L. Metal Edge Strips: Extruded aluminum with mill finish of width shown, of height required to protect exposed edges of tiles, and in maximum available lengths to minimize running joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.

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

3.2 PREPARATION

A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.

B. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.

C. Do not install resilient products until they are same temperature as the space where they are to be installed.

1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.

D. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation.

3.3 RESILIENT BASE INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient base.

3.4 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protection of resilient products.

B. Perform the following operations immediately after completing resilient product installation:

1. Remove adhesive and other blemishes from exposed surfaces.
2. Sweep and vacuum surfaces thoroughly.
3. Damp-mop surfaces to remove marks and soil.

END

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:

1. Gypsum Board
2. Galvanized metal doors and frames

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. Sherwin Williams Co.
2. Approved equal.

B. Products: Subject to compliance with requirements, products listed in other Part 2 articles form the basis of design.

2.2 PAINT, GENERAL

A. Material Compatibility:

1. Provide 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.

B. VOC Content: Provide materials that comply with VOC limits of authorities having jurisdiction.

C. Colors: As selected by Architect from manufacturer's full range.

2.3 PRIMERS

A. Gypsum Board Primer:

1. Sherwin-Williams; PrepRite 200 Latex Wall Primer B28W200 Series: Applied at a dry film thickness of not less than 1.6 mils.

B. Galvanized Metal Primer: (door frames)

1. Sherwin-Williams; DTM Acrylic Primer/Finish B66W1: Applied at a dry film thickness of not less than 2.5 mils.

2.4 FINISH COATS

A. Interior drywall:

1. Sherwin-Williams; ProMar 200 Interior Matte finish. (2 coats).

2. Applied at a dry film thickness of not less than 1.3 mils.

B. Interior Semigloss Acrylic Enamel: Door frames and Metal surfaces

1. Sherwin-Williams; ProMar 200 Interior Latex Semi-Gloss Enamel B31W2200 Series: Applied at a dry film thickness of not less than 1.3 mils.

C. Metal Semigloss Acrylic Enamel:

1. Sherwin-Williams; A-100 Latex Gloss A8 Series: Applied at a dry film thickness of not less than 1.3 mils.

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.

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. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

4. 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.

B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 PAINTING SCHEDULE

A. Gypsum Board: Provide the following finish systems over interior gypsum board surfaces:

1. Acrylic-Enamel Finish: Two finish coats over a primer.
    a. Primer: Interior gypsum board primer.
    b. Finish Coats: Interior acrylic enamel.
    c. Sheen: Matte.
    d. Colors: By RHA

B. Metal: Provide the following finish systems over interior metal surfaces:

1. Semigloss Acrylic-Enamel Finish: Two finish coats.
    a. Finish Coats: Acrylic enamel.
    b. Sheen: Semi-gloss.
    c. Colors: By RHA.

3.6 PAINT RESTORATION

A. Clean Off Fire Residue

Fire leaves **soot, smoke oils, and acidic residue** that must be fully removed.

1. Wash with **TSP (trisodium phosphate)** or a heavy-duty degreaser
    A. Mix per label directions
    B. Scrub thoroughly
2. Rinse with clean water

3. Let dry completely

2. Remove Burned Paint & Rust

1. Scrape blistered paint with a putty knife
2. Sand the surface:
    a. Start with **80–120 grit** for damaged areas
    b. Finish with **180–220 grit**
    c. Wire brush or drill-mounted wire wheel
    d. Wipe down with mineral spirits or denatured alcohol after sanding.

3. Repair Surface Damage (If Needed)

a. Minor dents or pitting. Use **metal filler equal to Bondo.**
b. Sand smooth once cured
c. Feather edges so repairs disappear

5. Prime Properly

a. Use a **high-quality metal primer** designed to block stains and seal heat damage:

6. Recommended primers:

a. Oil-based rust-inhibiting primer
b. Zinc-rich or epoxy primer (for severe damage)

Apply 1–2 thin coats. Let cure fully per manufacturer instructions.

7. Paint the Door

a. Apply:
    1. Foam roller OR spray for smooth finish.
b. Apply 2 thin coats, sanding lightly between coats if needed.
c. Do not paint over fire-rating labels.

8. Curing & Reinstallation

a. Allow full cure time (48–72 hours)

END OF SECTION

SECTION 101423

SIGNAGE

PART 1 GENERAL

1.01 REFERENCES

A. Americans with Disabilities Act - 1990.
B. ICC/ANSI A-117.1 - Specifications for Sign Requirements for the Physically Handicapped.
C. RHA standard graphics and notifications.
D. City of Rochester Fire Department.

1.02 SUBMITTALS

A. Shop Drawings: Show fabrication and mounting details for each sign type and copy specified. Include sign designs, dimensions, copy style, and copy heights.
   1. For signs supported or anchored to permanent construction provide setting drawings for anchor bolts and other anchors to be installed under other sections.

B. Product Data: Catalog sheets, specifications, and installation instructions for each sign type and mounting type specified.

C. Samples:
   1. Full size of each sign type and copy type specified including mounting accessories. These samples will be returned and, if approved, may be used in the Work.
   2. Color Samples: Manufacturer's standard colors for sign material and finishes specified.

1.03 QUALITY ASSURANCE

A. Sign Fabricator Qualifications: The firm manufacturing the signs shall have been regularly producing signs similar to those specified for the Work, for a minimum of 5 years. The firm shall also have sufficient production capacity to produce the quantity of sign units required without causing delay in the Work.

B. Single-Source Responsibility: For each separate type of sign required, obtain signs from one source from a single manufacturer.

1.04 PROJECT CONDITIONS

A. Do not install the sign units until all other finishing operations, including painting, have been completed unless otherwise directed.

SECTION 101423

SIGNAGE

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver sign units to Site with protective covering in place.

B. Leave protective covering on sign units until completion of installation.

PART 2 PRODUCTS

2.01 MATERIALS

A. Aluminum Sheet: Alloy and temper recommended by the sign manufacturer, with minimum strength and durability of 5005-H15 (ASTM B 221).

B. Mounting Materials:
   1. Vinyl Signage. Sign manufacturer's standard
      a. Metal Doors.

C. Manufacturers:
   1. As supplied from manufacturer's standard solid aluminum wall mounted signs.
      a. Signs.Com. https://www.signs.com/vinyl-lettering/
      b. Approved equal

2.02 GRAPHIC PROCESS TYPES

A. Vinyl applied number mounted on transfer sheet.
   1. Opaque Coating Color: As indicated, or if not indicated as selected from the manufacturer's standard colors.
   2. Comply with ADA requirements.

2.03 PANEL CONFIGURATION

A. Comply with requirements indicated for each sign type and copy. Produce smooth, even, level, sign panel surfaces, constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch measured diagonally.

B. Unframed Panel Signs: Fabricate sign units with edges mechanically and smoothly finished to conform with the following conditions:

2.03a SIGN TYPES

All signage and wall graphics depicted in the drawings are approximate and for reference only. Exact sizes, verbiage, and locations shall be approved by RHA. All signs located at bottom of doors shall be reflective in nature.

A. Unit Number small sign (top of unit doors).

B. Unit Number large sign (bottom of unit doors).
C. "Compactor Room" sign (top of compactor door).
D. Stair wayfinding sign (top of stair doors).
E. Stair "Exit" sign small (bottom of stair doors).
F. Room Direction wayfinding sign (wall-mounted in Hall).
G. "No Trash" sign (Elevator Lobby).
H. Level wayfinding sign (Elevator Lobby).
I. "No smoking" sign (Elevator Lobby).
J. "Do Not Take Elevator" sign (Elevator Lobby).

Provide and install shop fabricated signage provided by RHA.

2.04 FABRICATION

A. Fabricate sign units of graphic process, design, copy, dimensions and color indicated or specified.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verification of Conditions: Examine surfaces to receive the signs for defects that will adversely affect the execution and quality of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.02 INSTALLATION

A. Install the work of this Section in accordance with the sign manufacturer's printed installation instructions, except as otherwise indicated or specified.

B. Coordinate sign units with MESSAGE SCHEDULE prior to installation.

C. Secure sign units to surfaces and locations shown on the Drawings with mounting location and mounting method specified.

D. Mounting Locations:
   1. Unit Number small
      a. Vertically: Center 60 inches above finish floor.
      b. Horizontally: Edge of sign near latch side shall be 2 inches from outside edge of door frame.
   2. Unit Number large
      a. Vertically: Center 6 inches above finish floor.
      b. Horizontally: Edge of sign near latch side shall be 2 inches from outside edge of door frame.
   3. Compactor Room
      a. Vertically: Centered 60 inches above finish floor.
      b. Horizontally: Centered horizontally on door.

4. Stair wayfinding sign
    a. Vertically: Center 60 inches above finish floor.
    b. Horizontally: Edge of sign near latch side shall be 2 inches from outside edge of door frame.
5. Stair "Exit" sign small
    a. Vertically: Center 6 inches above finish floor.
    b. Horizontally: Edge of sign near latch side shall be 2 inches from outside edge of door frame.
6. Room Direction wayfinding sign
    a. Vertically: Shall be determined by RHA.
    b. Horizontally: Shall be determined by RHA.
7. "No Trash" sign
    a. Vertically: Shall be determined by RHA.
    b. Horizontally: Reference drawings.
8. Level wayfinding sign
    a. Vertically: Shall be determined by RHA.
    b. Horizontally: Shall be determined by RHA.
9. "No smoking" sign.
    a. Vertically: Shall be determined by RHA.
    b. Horizontally: Centered on Elevator call buttons.
10. "Do Not Take Elevator" sign
    a. Vertically: Shall be determined by RHA.
    b. Horizontally: Centered on Elevator call buttons.

3.03 CLEANING AND PROTECTION

A. Do not remove protective coverings until directed.

B. Clean sign units when directed.

3.04 MESSAGE SCHEDULE

A. General information provided by RHA
B. Door Numbers for each apartment.

END OF SECTION

SECTION 102613

CORNER GUARDS

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data: Manufacturer's catalog sheets, specifications, and installation instructions.

PART 2 PRODUCTS

2.01 MATERIALS

A. PVC Corner Guards: Model CG-13 (3 inch legs) by Pawling Corp., 15 Charles Colman Blvd., Pawling, New York 12564-1188 or Model CG-2144 Electra corner guard (3 inch legs) by American Floor Products Co. Inc., One AFCO Center 7300 Westmore Road, P.O Box 1467, Rockville, MD 20850.
   1. Lengths: 4 feet, unless otherwise indicated.
   2. Colors: Selected by Architect.

D. Fasteners:
   1. Stainless steel tamper resistant screws.
   2. Screw anchors, tubular, lead coated, braided fiber.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install the Work of this Section in accordance with the manufacturer's printed instructions and as otherwise specified.

B. Fasten corner guards to walls with screws and anchors at each corner. Space screws not more than 2 inches from ends and not more than 8 inches oc, unless otherwise indicated.

END OF SECTION

SECTION 233713

REGISTERS AND GRILLES

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. 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 er-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. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

   1. Ceiling suspension assembly members.
   2. Method of attaching hangers to building structure.
   3. Size and location of initial access modules for acoustical tile.
   4. Ceiling-mounted items including lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.
   5. Duct access panels.

F. Source quality-control reports.

SECTION 233713

REGISTERS AND GRILLES

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

PART 2 - PRODUCTS

2.1 REGISTERS

A. Fixed Face Register

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

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

2. Material: Steel
3. Finish: Baked enamel, color selected by Architect. Color to match walls.
4. Face Blade Arrangement: Horizontal spaced [1/2 inch. Dimensions 12 x 34”
5. Face Arrangement: Perforated core.
6. Core Construction: Removable
7. Frame:1 inch wide.
8. Mounting Frame: 12 x 34
9. Mounting: Countersunk screw Concealed.

B. REGISTER CONNECTION

1. Sheet metal cowling. 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

SECTION 256300

EXIT SIGNS

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. Install new wall mounted exit signs as noted on plans

1.2 SUMMARY

A. Section Includes:
   1. Exit signs.
   2. Materials for mounting.

1.3 DEFINITIONS

A. CCT: Correlated color temperature.

B. CRI: Color Rendering Index.

C. Emergency Lighting Unit: A lighting unit with internal or external emergency battery powered supply and the means for controlling and charging the battery and unit operation.

D. Fixture: See "Luminaire" Paragraph.

E. Lumen: Measured output of lamp and luminaire, or both.

F. Luminaire: Complete lighting unit, including lamp, reflector, and housing.

1.4 SUBMITTALS

A. Submittals for this section are subject to the re-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 emergency lighting unit, exit sign, and emergency lighting support.

   1. Include data on features, accessories, and finishes.

2. Include physical description of the unit and dimensions.
3. Include life, output of luminaire (lumens, CCT, and CRI), and energy-efficiency data.
4. Include photometric data and adjustment factors based on laboratory tests, complying with IES LM-45, for each luminaire type.

    a. Testing Agency Certified Data: For indicated luminaires and exit signs, photometric data certified by a qualified independent testing agency. Photometric data for remaining luminaires shall be certified by manufacturer.
    b. Manufacturers' Certified Data: Photometric data certified by manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products.

E. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

F. Coordination Drawings: Reflected ceiling plan(s) and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
1. Size and location of initial access modules for wall mounting.
2. Items penetrating finished ceiling including the following:

    a. Other luminaires.
    b. Access panels.

G. Qualification Data: For testing laboratory providing photometric data for luminaires.

H. Product Certificates: For each type of luminaire.

I. Seismic Qualification Data: For luminaires, accessories, and components, from manufacturer.

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
4. Provide seismic qualification certificate for each piece of equipment.

J. Product Test Reports: For each luminaire for tests performed by

K. Sample Warranty: For manufacturer's warranty.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For luminaires and lighting systems to include in emergency, operation, and maintenance manuals.

1. Provide a list of all lamp types used on Project; use ANSI and manufacturers' codes.

SECTION 256300

EXIT SIGNS

1.6 MAINTENANCE MATERIAL SUBMITTALS

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

1. Lamps: of each type and rating installed. Furnish at least one of each type.
Luminaire-mounted, emergency battery pack: One for emergency lighting units. Furnish at least one of each type.

1.7 MAINTENANCE

A. Special Tools: Furnish 2 tools to remove and install fasteners on fixtures equipped with vandal resistant fasteners.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Protect finishes of exposed surfaces by applying a strippable, temporary protective covering before shipping.

1.9 WARRANTY

A. Warranty: Manufacturer and Installer agree to repair or replace components of luminaires that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Two year(s) from date of Substantial Completion.

B. Special Warranty for Emergency Lighting Batteries: Manufacturer's standard form in which manufacturer of battery-powered emergency lighting unit agrees to repair or replace components of rechargeable batteries that fail in materials or workmanship within specified warranty period.

1. Warranty Period for Emergency Power Unit Batteries: Five years from date of Substantial Completion. Full warranty shall apply for the entire warranty period.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Seismic Performance: Luminaires shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

1. The term "withstand" means "the luminaire will remain in place without separation of any parts when subjected to the seismic forces specified and the luminaire will be fully operational during and after the seismic event."

SECTION 256300

EXIT SIGNS

2.2 GENERAL REQUIREMENTS FOR EMERGENCY LIGHTING

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. NRTL Compliance: Fabricate and label emergency lighting units, exit signs, and batteries to comply with UL 924.

C. Comply with NFPA 70 and NFPA 101.

D. Comply with NEMA LE 4 for recessed luminaires.

E. Comply with UL 1598 for fluorescent luminaires.

F. Lamp Base: Comply with ANSI C81.61

G. Bulb Shape: Complying with ANSI C79.1.

H. Internal Type Emergency Power Unit: Self-contained, modular, battery-inverter unit, factory mounted within luminaire body.

1. Emergency Connection: Operate **one** lamp(s) continuously at an output of 1100 value lumens each upon loss of normal power. Connect unswitched circuit to battery-inverter unit and switched circuit to luminaire ballast.
2. Operation: Relay automatically turns lamp on when power-supply circuit voltage drops to 80 percent of nominal voltage or below. Lamp automatically disconnects from battery when voltage approaches deep-discharge level. When normal voltage is restored, relay disconnects lamps from battery, and battery is automatically recharged and floated on charger.
3. Environmental Limitations: Rate equipment for continuous operation under the following conditions unless otherwise indicated:

    a. Ambient Temperature: Less than 0 deg F or exceeding 104 deg F, with an average value exceeding 95 deg F over a 24-hour period.
    b. Ambient Storage Temperature: Not less than minus 4 deg F and not exceeding 140 deg F.
    c. Humidity: More than 95 percent (condensing).
    d. Altitude: Exceeding 3300 feet.

4. Nightlight Connection: Operate lamp continuously at 40 percent of rated light output.
5. Test Push-Button and Indicator Light: Visible and accessible without opening luminaire or entering ceiling space.

    a. Push Button: Push-to-test type, in unit housing, simulates loss of normal power and demonstrates unit operability.
    b. Indicator Light: LED indicates normal power on. Normal glow indicates trickle charge; bright glow indicates charging at end of discharge cycle.

6. Battery: Sealed, maintenance-free, nickel-cadmium type.

7. Charger: Fully automatic, solid-state, constant-current type with sealed power transfer relay.
8. Remote Test: Switch in handheld remote device aimed in direction of tested unit initiates coded infrared signal. Signal reception by factory-installed infrared receiver in tested unit triggers simulation of loss of its normal power supply, providing visual confirmation of either proper or failed emergency response.
9. Integral Self-Test: Factory-installed electronic device automatically initiates code-required test of unit emergency operation at required intervals. Test failure is annunciated by an integral audible alarm and a flashing red LED.

2.3 EXIT SIGNS

A. General Requirements for Exit Signs: Comply with UL 924; for sign colors, visibility, luminance, and lettering size, comply with authorities having jurisdiction.

B. Internally Lighted Signs: wall mounted. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

   a. Exitronic LED Exit Sign E1-L-W-NDN 500/600 Series.
   b. Siltron Illumination Inc.
   c. Cooper Lighting Company
   d. Or equal.

2. Operating at nominal voltage of 120 V ac
3. Lamps for AC Operation:

   a. Fluorescent, two for each luminaire; 20,000 hours of rated lamp life.
   b. LEDs; 50,000 hours minimum rated lamp life.

4. Master/Remote Sign Configurations:

   a. Master Unit: Comply with requirements above for self-powered exit signs, and provide additional capacity in LED power supply for power connection to remote unit.
   b. Remote Unit: Comply with requirements above for self-powered exit signs, except omit power supply, battery, and test features. Arrange to receive full power requirements from master unit. Connect for testing concurrently with master unit as a unified system.

2.4 MATERIALS

A. Metal Parts:

1. Free of burrs and sharp corners and edges.
2. Sheet metal components shall be steel unless otherwise indicated.
3. Form and support to prevent warping and sagging.

B. Doors, Frames, and Other Internal Access:

1. Smooth operating, free of light leakage under operating conditions.
2. Designed to permit relamping without use of tools.

C. Diffusers and Globes:
1. Acrylic: 100 percent virgin acrylic plastic, with high resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
2. Lens Thickness: At least 0.125 inch minimum unless otherwise indicated.

D. Housings:
1. powder coat painted finish.

E. Conduit: Rigid galvanized steel minimum 3/4 inch in diameter.

2.5 LUMINAIRE SUPPORT COMPONENTS

A. Manufacturer's standard support hardware for walls.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for conditions affecting performance of luminaires.

B. Examine roughing-in for luminaire to verify actual locations of luminaire and electrical connections before luminaire installation.

C. Examine walls, floors, roofs, and ceilings for suitable conditions where emergency lighting luminaires will be installed.

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

3.2 INSTALLATION

A. Comply with NECA 1.

B. Install luminaires level, plumb, and square with ceilings and walls unless otherwise indicated.

C. Supports:

1. Sized and rated for luminaire and emergency power unit weight.
2. Able to maintain luminaire position when testing emergency power unit.
3. Provide support for luminaire and emergency power unit without causing stress on wall.

4. Luminaire-mounting devices shall be capable of supporting a horizontal force of 100 percent of luminaire and emergency power unit weight and vertical force of 400 percent of luminaire weight.

3.3 IDENTIFICATION

A. Identify system components, wiring, cabling, and terminals.

3.4 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation for 90 minutes. Verify transfer from normal power to battery power and retransfer to normal.

B. Luminaire will be considered defective if it does not pass operation tests and inspections.

C. Prepare test and inspection reports.

3.5 STARTUP SERVICE

A. Perform startup service:

1. Charge emergency power units minimum of one hour and depress switch to conduct short-duration test.

3.6 ADJUSTING

A. Adjustments: Within 6 months of date of Substantial Completion, provide on-site visit to do the following:

1. Inspect all luminaires. Replace lamps, emergency power units or luminaires that are defective.

a. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.

Conduct short-duration tests on all emergency lighting.

End

SECTION 260000

ELECTRICAL GENERAL REQUIREMENTS

PART 1 – GENERAL

A. Reference Standards (Latest editions, herein made a part of these specifications) ANSI/NECA 1-2009 Standard Practice of Good Workmanship in Electrical Construction. ANSI/NECA 200-2002 Recommended Practice for Installing and Maintaining Temporary Electric Power at Construction Sites ANSI/NFPA 70 National Electrical Code.

B. Comply the standards of the latest editions of the National Electrical Code (NEC), Building Code of New York State, other applicable codes and local codes having authority. Certificate of inspection by electrical inspection agency is required.

C. Drawings are diagrammatic in nature and cannot show necessary offsets, fittings, etc. Install Work substantially as indicated on Drawings. Verify exact location and elevations on the Site.
1. Include items not shown or specified but that are necessary to make a complete working code compliant installation.

D. Size loads, design circuit layouts and provide necessary components to make a complete electrical system to serve devices, equipment and fixtures shown on the Drawings and specified herein.

E. Employ only competent workers for the job, skilled in their branch of the trade, supervised by a licensed electrician.

F Include and pay fees and taxes applicable to the work of this Contract.

G. Coordinate work of this Contract with other trades and utility companies to avoid conflicts. Install materials and equipment in time so as not to cause delays for other trades. Make field adjustments as necessary at no additional cost.
1. Right of Way: Yield right of way to piping and ductwork systems, except at panel boards where required clearances may have to be negotiated.
2. Provide electrical service to fixtures and equipment provided by other trades, such as exhaust fans and appliances.

H. Refer to Division 1 and 2 specifications for allocation of responsibilities for cutting, patching and demolition.

I. Protect installed equipment and fixtures from damage until final acceptance.

K. Do not cover up rough-in work until it has been reviewed by inspection agency and/or Code Official.

L. Remove unsatisfactory work and correct immediately, to the satisfaction of the Architect and RHA.

M. Delivery / Storage / Handling:

1. Store materials in a secure, protected location immediately upon delivery to project.
2. Protect materials, equipment and fixtures from high humidity and moisture during storage and installation until final acceptance

N. Warranty: Refer to Section 01 78 36 – Warranties.

PART 2 – PRODUCTS / MATERIALS

A. Products and materials are listed in other sections of Division 26. Include all items necessary to make a complete working installation.

PART 3 – EXECUTION

A. Demolition: Refer to Division 01 Section "Cutting and Patching" and Division 02 Section "Selective Demolition" for general demolition requirements, procedures and allocation of responsibilities among the subcontractors.
1. Disconnect, demolish, and remove electrical systems, cable, rough-in boxes, devices, equipment, fixtures and components indicated to be removed, including underground utilities.
a. Existing to Remain: Do not disturb active services to remain. Repair services to remain that are damaged by the Work.
b. Inactive: When encountered, remove, then cap or plug.
c. Abandoned circuits: Remove circuits that no longer will serve active devices, back to closets junction box or panel.
2. Remove, relocate and extend existing services to accommodate new construction.
3. Repair adjacent construction and finishes damaged during demolition.
4. Provide temporary electrical services during construction for all contractors; Contractor shall coordinate with Utility Company to obtain temporary service. .

B. Electrical Work – Common Requirements
1. Comply with NECA 1, OSHA and NEC, latest editions.
2. Install all electrical items indicated on construction documents. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wallmounting and ceiling mounted items.
3. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.
4. Install electrical equipment so that it is serviceable without dismantling it or adjacent equipment or construction.

C. Sleeves: Install sleeves for electrical penetrations through exterior walls, and seal with approved filler material.
1. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and cable, unless indicated otherwise.

D. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway and cable penetrations. Install sleeves and seal raceway and cable penetration sleeves with firestop materials complying with Section 07 84 13– Firestopping.
1. Install sleeves for penetrations of fire-rated wall assemblies unless openings that are compatible with firestop system are installed during construction of floor or wall.

2. Apply firestopping to electrical penetrations of fire-rated wall assemblies, to maintain the intended fire-resistance rating of assembly.

END OF SECTION

SECTION 260519

WIRING, GENERAL

PART 1 GENERAL

1.01 SUBMITTALS

A. Waiver of Submittals: The "Waiver of Certain Submittal Requirements" in Section 013300 does not apply to Shop Drawings.

B. Shop Drawings:
   1. For Electrical Circuit Protective Systems: Show proposed routes and installation details (include UL classification data, listing, and system number).

C. Product Data: Catalog sheets, specifications and installation instructions.

1.02 PRODUCT DELIVERY

A. Mark and tag insulated conductors and cables for delivery to the site. Include:
   1. Contractor's name.
   2. Project title and number.
   3. Date of manufacture (month & year).
   4. Manufacturer's name.
   5. Data which explains the meaning of coded identification (UL assigned electrical reference numbers, UL assigned combination of color marker threads, etc.).
   6. Environmental suitability information (listed or marked "sunlight resistant" where exposed to direct rays of sun; wet locations listed/marked for use in wet locations; other applications listed/marked suitable for the applications).

PART 2 PRODUCTS

2.01 INSULATED CONDUCTORS AND CABLES

A. Date of Manufacture: No insulated conductor more than one year old when delivered to the site will be acceptable.

B. Acceptable Companies: General Cable Corporation., Cerro Wire & Cable Co. Inc., Prysmian Cables & Systems, or Southwire Co.

C. Conductors: Annealed uncoated copper or annealed coated copper in conformance with the applicable standards for the type of insulation to be applied on the conductor. Conductor sizes No. 8 and larger shall be stranded.

D. Types:

1. Electric Light and Power Wiring: in existing boxes in ceiling.
   a. General: Rated 600V, NFPA 70 Type THHN/THWN-2 or XHHW-2.
   b. THHN/THWN-2 Gasoline and Oil Resistant: Polyvinylchloride insulation rated 600 V with nylon jacket conforming to UL requirements for type THHN/THWN-2 insulation, with the words "GASOLINE AND OIL RESISTANT II" marked thereon.
   c. USE-2: Dual rated heat and moisture resistant insulation rated 600 V with jacket or dual purpose insulation/protective covering conforming to UL requirements for type USE-2 service entrance cables.
   d. Metal-Clad Cable, NFPA 70 Article 330 Type MC:
      1) Interlocked flexible galvanized steel armor sheath, conforming to UL requirements for type MC metal clad cable.
      2) Insulated copper conductors, suitable for 600 volts, rated 90°C, one of the types listed in NFPA 70 Table 310.13(A) or of a type identified for use in Type MC cable.
      3) Internal full size copper ground conductor with green insulation.
      4) Acceptable Companies: AFC Cable Systems Inc., Southwire, General Cable.
      5) Connectors for MC cable: AFC Fitting Inc.'s AFC Series, Arlington Industries Inc.'s Saddle grip, or Thomas & Betts Co.'s Tite-Bite with anti-short bushings.
   e. MI: AFC Cable Systems' Type MI Cable, or Pentair Pyrotenax Mineral Insulated System 1850 Pyrotenax Cable:
      1) Copper conductors.
      2) Seamless copper sheath.
      3) Two hour fire resistive rating UL system classified, listed in UL Building Materials Directory product category Electrical circuit Protective Systems (FHIT), or Fire Resistive Cables (FHJR).
      4) PVC or HDPE jacketing (where shown on drawings).
      5) 600 volt rating.
      6) Fittings and accessories as required for a complete system to suit listing and installation conditions.
2. Class 1 Wiring:
   a. No. 18 and No. 16 AWG: Insulated copper conductors suitable for 600 volts, NFPA 70 types KF-2, KFF-2, PAFF, PF, PFF, PGF, PGFF, PTFF, SF-2, SFF-2, TF, TFF, TFN, TFFN, ZF, or ZFF.
   b. Larger than No. 16 AWG: Insulated copper conductors suitable for 600 volts, in compliance with NFPA 70 Article 310.

c. Conductor with other types and thickness of insulation may be used if listed for Class 1 circuit use.

3. Class 2 Wiring:
   a. Multiconductor Cables: NFPA 70 Article 725, Types CL2P, CL2R, CL2.
   b. Other types of cables may be used in accordance with NFPA 70 Table 725.154(G) "Cable Substitutions", as approved.
4. Class 3 Wiring:
   a. Single Conductors No. 18 and No. 16 AWG: Same as Class 1 No. 18 and No. 16 AWG conductors except that:
      1) Conductors are also listed as CL3.
      2) Voltage rating not marked on cable except where cable has multiple listings and voltage marking is required for one or more of the listings.
   b. Multiconductor Cables: NFPA 70 Article 725, Types CL3P, CL3R, CL3.
   c. Other types of cables may be used in accordance with NFPA 70, Table 725.154(G) "Cable Substitutions", as approved.

2.02 ELECTRICAL CIRCUIT PROTECTIVE SYSTEM

A. Minimum 1-Hour Fire Rating: A system listed in UL Building Materials Directory, product category Electrical Circuit Protective Systems (FHIT).

2.03 CONNECTORS

A. General:
   1. Connectors specified are part of a system. Furnish connectors and components, and use specific tools and methods as recommended by connector manufacturer to form complete connector system.
   2. Connectors shall be UL 486 A listed, or UL 486 B listed for combination dual rated copper/aluminum connectors (marked AL7CU for 75 degrees C rated circuits and AL9CU for 90 degrees C rated circuits).

B. Splices:
   1. Spring Type:
      a. Rated 105° C, 600V; Buchanan/Ideal Industries Inc.'s B-Cap, Electrical Products Div./3M's Scotchlok Type Y, R, G, B, O/B+, R/Y+, or B/G+, or Ideal Industries Inc.'s Wing Nuts or Wire Nuts.
      b. Rated 150° C, 600V; Ideal Industries Inc.'s High Temperature Wire-Nut Model 73B, 59B.
   2. Indent Type with Insulating Jacket:
      a. Rated 105° C, 600V; Buchanan/Ideal Industries Inc.'s Crimp Connectors, Ideal Industries Inc.'s Crimp Connectors, Penn-Union Corp.'s Penn-Crimps, or Thomas & Betts Corp.'s STA-KON.
   3. Indent Type (Uninsulated): Anderson/Hubbell's Versa-Crimp, VERSAtile, Blackburn/T&B Corp.'s Color-Coded Compression Connectors, Electrical Products Div./3M's Scotchlok 10000, 11000 Series,

Burndy's Hydent, Penn-Union Corp.'s BCU, BBCU Series, or Thomas & Betts Corp.'s Compression Connectors.

4. Connector Blocks: NIS Industires Inc.'s Polaris System, or Thomas & Betts Corp.'s Blackburn AMT Series.
5. Resin Splice Kits: Electrical Products Div./3M's Scotchcast Brand Kit Nos. 82A Series, 82-B1 or 90-B1, or Scotchcast Brand Resin Pressure Splicing Method.
6. Heat Shrinkable Splices: Electrical Products Div./3M's ITCSN, Raychem Corp.'s Thermofit Type WCS, or Thomas & Betts Corp.'s SHRINK-KON Insulators.
7. Cold Shrink Splices: Electrical Products Div./3M's 8420 Series.

C. Gutter Taps: Anderson/Hubbell's GP/GT with GTC Series Covers, Blackburn/T&B Corp.'s H-Tap Type CF with Type C Covers, Burndy's Polytap KPU-AC, H-Crimpit Type YH with CF-FR Series Covers, ILSCO's GTA Series with GTC Series Covers, Ideal Industries Inc.'s Power-Connect GP, GT Series with GIC covers, NSI Industries Inc.'s Polaris System, OZ/Gedney Co.'s PMX or PT with PMXC, PTC Covers, Penn-Union Corp.'s CDT Series, or Thomas & Betts Corp.'s Color-Keyed H Tap CHT with HTC Covers.

D. Terminals: Nylon insulated pressure terminal connectors by Amp-Tyco/Electronics, Electrical Products Div./3M, Burndy, Ideal Industries Inc., Panduit Corp., Penn-Union Corp., Thomas & Betts Corp., or Wiremold Co.

E. Lugs:

1. Single Cable (Compression Type Lugs): Copper, one or 2 hole style (to suit conditions), long barrel; Anderson/Hubbell's VERSAtile VHCL, Blackburn/T&B Corp.'s Color-Coded CTL, LCN, Burndy's Hylug YA, Electrical Products Div./3M Scotchlok 31036 or 31145 Series, Ideal Industries Inc.'s CCB or CCBL, NSI Industries Inc.'s L, LN Series, Penn-Union Corp.'s BBLU Series, or Thomas & Betts Corp.'s 54930BE or 54850BE Series.
2. Single Cable (Mechanical Type Lugs): Copper, one or 2 hole style (to suit conditions); Blackburn/T&B Corp.'s Color-Keyed Locktite Series, Burndy's Qiklug Series, NSI Industries Inc.'s Type TL, Penn-Union Corp.'s VI-TITE Terminal Lug Series, or Thomas & Betts Corp.'s Locktite Series.
3. Multiple Cable (Mechanical Type Lugs): Copper, configuration to suit conditions; Burndy's Qiklug Series, NSI Industries Inc.'s Type TL, Penn-Union Corp.'s VI-TITE Terminal Lug Series, or Thomas & Betts Corp.'s Color-Keyed Locktite Series.

2.04 TAPES

A. Insulation Tapes:

1. Plastic Tape: Electrical Products Div./3M's Scotch Super 33+ or Scotch 88, Plymouth Rubber Co.'s Plymouth/ Bishop Premium 85CW.
2. Rubber Tape: Electrical Products Div./3M's Scotch 130C, or Plymouth

Rubber Co.'s Plymouth/Bishop W963 Plysafe.

B. Moisture Sealing Tape: Electrical Products Div./3M's Scotch 2200 or 2210, or Plymouth Rubber Co.'s Plymouth/Bishop 4000 Plyseal-V.

C. Electrical Filler Tape: Electrical Products Div./3M's Scotchfil, or Plymouth Rubber Co.'s Plymouth/Bishop 125 Electrical Filler Tape.

D. Color Coding Tape: Electrical Products Div./3M's Scotch 35, or Plymouth Rubber Co.'s Plymouth/Bishop Premium 37 Color Coding.

E. Arc Proofing Tapes:
1. Arc Proofing Tape: Electrical Products Div./3M's Scotch 77, Mac Products Inc.'s AP Series, or Plymouth Rubber Co.'s Plymouth/Bishop 53 Plyarc.
2. Glass Cloth Tape: Electrical Products Div./3M's Scotch 27/Scotch 69, Mac Products Inc.'s TAPGLA 5066,, or Plymouth Rubber Co.'s Plymouth/Bishop 77 Plyglas.
3. Glass-Fiber Cord: Mac Products Inc's MAC 0527.

2.05 WIRE-PULLING COMPOUNDS

A. To suit type of insulation; American Polywater Corp.'s Polywater Series, Electric Products Div./3M's WL, WLX, or WLW, Greenlee Textron Inc.'s, Cable Cream, Cable Gel, Winter Gel, Ideal Industries Inc.'s Yellow 77, Aqua-Gel II, Agua-Gel CW, or Thomas & Betts Corp.'s Series 15-230 Cable Pulling Lubricants, or Series 15-631 Wire Slick.

2.06 TAGS

A. Precision engrave letters and numbers with uniform margins, character size minimum 3/16 inches high.
1. Phenolic: Two color laminated engraver's stock, 1/16 inch minimum thickness, machine engraved to expose inner core color (white).
2. Aluminum: Standard aluminum alloy plate stock, minimum .032 inches thick, engraved areas enamel filled or background enameled with natural aluminum engraved characters.

2.07 WIRE MANAGEMENT PRODUCTS

A. Cable Clamps and Clips, Cable Ties, Spiral Wraps, etc: Catamount/T&B Corp., or Ideal Industries Inc.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install conductors in raceways after the raceway system is completed. Exceptions: Type MC, MI, or other type specifically indicated on the drawings not to be installed in raceways.

B. No grease, oil, or lubricant other than wire-pulling compounds specified may be used to facilitate the installation of conductors.

C. Install new box plate covers that match existing.

3.02 CIRCUITING

A. Do not change, group or combine circuits other than as indicated on the drawings.

B. Do not change, group or combine circuits other than as indicated on the drawings except as permitted under Section 260532 when reusing existing raceways.

3.03 COMMON NEUTRAL CONDUCTOR

A. A common neutral may be used for 2 or 3 branch circuits where the circuits are indicated on the drawings to be enclosed within the same raceway, provided each branch circuit is connected to different phase busses in the panelboard.

B. Exceptions - The following circuits shall have a separate neutral:
   1. Circuits containing ground fault circuit interrupter devices.
   2. Circuits containing solid state dimmers.
   3. Circuits recommended by equipment manufacturers to have separate neutrals.

3.04 CONDUCTOR SIZE

A. Conductor Size:
   1. For Electric Light and Power Branch Circuits: Install conductors of size shown on drawings. Where size is not indicated, the minimum size allowed is No. 12 AWG.
   2. For Class 1 Circuits:
      a. No. 18 and No. 16 AWG may be used provided they supply loads that do not exceed 6 amps (No. 18 AWG), or 8 amps (No. 16 AWG).
      b. Larger than No. 16 AWG: Use to supply loads not greater than the ampacities given in NFPA 70 Section 310.15.
   3. For Class 2 Circuits: Any size to suit application.
   4. For Class 3 Circuits: Minimum No. 18 AWG.

3.05 COLOR CODING

A. Color Coding for 120/208 Volt Electric Light and Power Wiring:
   1. Color Code:
      a. 2 wire circuit - black, white.
      b. 3 wire circuit - black, red, white.
      c. 4 wire circuit - black, red, blue, white.
   2. White to be used only for an insulated grounded conductor (neutral). If neutral is not required use black and red, or black, red and blue for phase to phase circuits.
      a. "White" for Sizes No. 6 AWG or Smaller:
         1) Continuous white outer finish, or:
         2) Three continuous white stripes on other than green insulation along its continuous length.
      b. "White" for Sizes Larger Than No. 6 AWG:
         1) Continuous white outer finish, or:
         2) Three continuous white stripes on other than green insulation along its continuous length, or:
         3) Distinctive white markings (color coding tape) encircling the conductor, installed on the conductor at time of its installation. Install white color coding tape at terminations, and at 1' 0" intervals in gutters, pullboxes, and manholes.
   3. Colors (Black, Red, Blue):
      a. For Branch Circuits: Continuous color outer finish.
      b. For Feeders:
         1) Continuous color outer finish, or:
         2) Color coding tapes encircling the conductors, installed on the conductors at time of their installation. Install color coding tapes at terminations, and at 1' 0" intervals in gutter, pullboxes, and manholes.

B. Color Coding For 277/480 Volt Electric Light and Power Wiring:
   1. Color Code:
      a. 2 wire circuit – brown, gray.
      b. 3 wire circuit – brown, yellow, gray.
      c. 4 wire circuit – brown, yellow, orange, gray.
   2. Gray to be used only for an insulated grounded conductor (neutral). If neutral is not required use brown and yellow, or brown, yellow and orange for phase to phase circuits.
      a. "Gray" For Sizes No. 6 AWG or Smaller.
         1) Continuous gray outer finish.
      b. "Gray" For Sizes Larger Than No. 6 AWG:
         1) Distinctive gray markings (color coding tape) encircling the conductor, installed on the conductor at time of its installation. Install gray color coding tape at terminations,

and at 1’ 0” intervals in gutters, pullboxes, and manholes.

c. Colors (Brown, Yellow, Orange):

d. For Branch Circuits: Continuous color outer finish.

e. For Feeders:

1) Continuous color outer finish, or:

2) Color coding tapes encircling the conductors, installed on the conductors at the time of their installation. Install color coding tapes at terminations, and at 1’ 0” intervals in gutters, pullboxes, and manholes.

C. More Than One Nominal Voltage System Within A building: Permanently post the color coding scheme at each branch-circuit panelboard.

D. Existing Color Coding Scheme: Where an existing color coding scheme is in use, match the existing color coding if it is in accordance with the requirements of NFPA 70.

E. Color Code For Wiring Other Than Electric Light and Power: In accordance with ICEA standard S-73-532 (NEMA WC57-2004). Other coding methods may be used, as approved.

3.06 IDENTIFICATION

A. Identification Tags: Use tags to identify feeders and designated circuits. Install tags so that they are easily read without moving adjacent feeders or requiring removal of arc proofing tapes. Attach tags with non-ferrous wire or brass chain.

1. Interior Feeders: Identify each feeder in pullboxes and gutters. Identify by feeder number and size.
2. Exterior Feeders: Identify each feeder in manholes and in interior pullboxes and gutters. Identify by feeder number and size, and also indicate building number and panel designation from which feeder originates.
3. Street and Grounds Lighting Circuits: Identify each circuit in manholes and lighting standard bases. Identify by circuit number and size, and also indicate building number and panel designation from which circuit originates.

3.07 WIRE MANAGEMENT

A. Use wire management products to bundle, route, and support wiring in junction boxes, pullboxes, wireways, gutters, channels, and other locations where wiring is accessible.

3.08 EQUIPMENT GROUNDING CONDUCTOR

A. Install equipment grounding conductor:

1. Where specified in other Sections or indicated on the drawings.
2. In conjunction with circuits recommended by equipment manufacturers to

have equipment grounding conductor.

B. Equipment grounding conductor is not intended as a current carrying conductor under normal operating circumstances.

C. Color Coding For Equipment Grounding Conductor:
1. Color Code: Green.
2. "Green" For sizes No. 6 AWG or Smaller:
   a. Continuous green outer finish, or:
   b. Continuous green outer finish with one or more yellow stripes, or:
   c. Bare copper (see exception below).
3. "Green" For Sizes Larger Than No. 6:
   a. Stripping the insulation or covering from the entire exposed length (see exception below).
   b. Marking the exposed insulation or covering with green color coding tapes.
   c. Identify at each end and at every point where the equipment grounding conductor is accessible.

3.09 SPECIAL GROUNDING CONDUCTORS

A. Technical Power System Grounding (Equipment grounding conductor isolated from the premises grounded conductor except at a single grounded termination point): Install an insulated grounding conductor running with the circuit conductors for isolated receptacles or utilization equipment requiring an isolated ground:
1. Color Code: Green.
2. "Green" For Isolated Grounding Conductor:
   a. Continuous green outer finish, or:
   b. Continuous green outer finish with one or more yellow stripes, and:
   c. Different than the "green" used for the equipment grounding conductor run with the circuit (where required).
3. Install label at every point where the conductor is accessible, identifying it as an "Isolated Grounding Conductor".

3.10 INSULATED CONDUCTOR AND CABLE SCHEDULE - TYPES AND USE

A. Electric Light and Power Circuits:
1. Type THHN/THWN-2 or XHHW-2.: Wiring in dry or damp locations (except where special type insulation is required).
2. THHN/THWN-2: Wiring installed in existing raceway systems (except where special type insulation is required).
3. THHN/THWN-2 or XHHW-2: Wiring for electric discharge lighting circuits (fluorescent, HID), except where fixture listing requires wiring rated higher than 90° C.

a. METAL STUDS Branch circuit wiring in metal stud partitions:
1) Install conductors parallel with studs and attach to the side by galvanized straps spaced not more than 6 feet apart.
2) Install conductors through holes bored in the center of the metal member when running at right angles to studs.
a) Conductors shall be protected by listed bushings or listed grommets covering all metal edges.
3) Do not attach the conductors to the edge of studs.

9. MI:
a. Wiring for underplaster extensions.
b. Wiring in areas where indicated on drawings.
c. Where MI cable is installed in areas subjecting cable to corrosion, use PVC or HDPE jacketed MI cable (nonmetallic jacketed cable is not suitable for use in ducts, plenums or other spaces used for environmental air).

3.12 CONNECTOR SCHEDULE - TYPES AND USE

A. Temperature Rating: Use connectors that have a temperature rating, equal to, or greater than the temperature rating of the conductors to which they are connected.

B. Splices:
1. Dry Locations:
a. For Conductors No. 8 AWG or Smaller: Use spring type pressure connectors, indent type pressure connectors with insulating jackets, or connector blocks (except where special type splices are required).
b. For Conductors No. 6 AWG or Larger: Use connector blocks or uninsulated indent type pressure connectors. Fill indentions in uninsulated connectors with electrical filler tape and apply insulation tape to insulation equivalent of the conductor, or insulate with heat shrinkable splices or cold shrink splices.
c. Gutter Taps in Panelboards: For uninsulated type gutter taps fill indentions with electrical filler tape and apply insulation tape to insulation equivalent of the conductor, or insulate with gutter tap cover.

C. Terminations:
1. For Conductors No. 10 AWG or Smaller: Use terminals for:
a. Connecting wiring to equipment designed for use with terminals.
2. For Conductors No. 8 AWG or Larger: Use compression or mechanical type lugs for:
a. Connecting cables to flat bus bars.
b. Connecting cables to equipment designed for use with lugs.
3. For Conductor Sizes Larger Than Terminal Capacity On Equipment: Reduce the larger conductor to the maximum conductor size that terminal can accommodate (reduced section not longer than one foot). Use

compression or mechanical type connectors suitable for reducing connection.

END OF SECTION

SECTION 260533

RACEWAYS & BOXES FOR ELECTRICAL SYSTEMS

PART 1 – GENERAL

A. This Section includes:
1. Conduits, tubing, and fittings.
2. Rough-in boxes.

B. Reference Standards (Latest editions, herein made a part of these specifications)
ANSI/NECA 111-2003 Standard for Installing Nonmetallic Raceways (RNC, ENT, LFNC)

C. Related Work Specified Elsewhere:
1. Section 26 00 00 – Electrical Common Requirements
2. Section 26 05 26 – Conductors and Cables
3. Section 26 27 26 – Wiring Devices

D. Submittals: Submit product data in accordance with Section 01 33 00.
1. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

E. Warranty: Refer to Section 01 78 36 – Warranties.

PART 2 – PRODUCTS / MATERIALS

A. EMT: Metallic Conduits, Tubing, and Fittings for CATV Cable distribution.
1. Listing and Labeling: conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
   a. Follow H3: Rules for Bending EMT (NEC 358.24 & 358.26)
2. Size: 3/4" Thinwall Steel EMT Conduit Outside Diameter: 23.42 mm (0.922") Wall Thickness: 1.00 mm (0.039") Length: 3.05 m (10 ft) Weight per Piece: 1.69 kg (3.73 lbs)

B. Boxes, Enclosures, and Cabinets, General Requirements:
1. Device Box Dimensions: 4"square ×2⅛"deep or 4"×2⅛"×2⅛" deep.
   Box extensions used to accommodate new building finishes shall be of same material as recessed box.
   a. Box cover for electric box in ceiling of hallway. Metal.
2. Boxes installed in fire rated partitions shall adhere to Section the NYSEC. 2020 edition.
3. Ceiling Boxes: covers only.
4. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

PART 3 – EXECUTION

A. Indoor Raceway Application: Install raceway products as specified below unless otherwise indicated.
1. Exposed, Not Subject to Physical Damage: EMT.
2. Concealed in Ceilings and Interior Walls and Partitions: EMT.
3. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 3R nonmetallic in damp or wet locations.

B. Minimum Raceway Size: 3/4-inch trade size.

C. Raceway Fittings: Compatible with raceways and suitable for use and location.

D. Do not install aluminum conduits, boxes, or fittings in contact with concrete or earth.

E. Install surface raceways only where indicated on Drawings.

F. Do not install nonmetallic conduit where ambient temperature exceeds 120°F.

G. Installation: Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter.
1. Comply with NFPA 70 limitations for types of raceways allowed in specific locations.
2. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot water pipes. Install horizontal raceway runs above water and steam piping.
3. Arrange stub-ups so curved portions of bends are not visible above finished slab.
4. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches of changes in direction.
5. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
   a. Support conduit within 12 inches of enclosures to which attached.
6. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
7. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive compound prior to assembly.
8. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, use industry standard. Install boxes with height measured to centerline of box unless otherwise indicated.
9. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.
10. Locate boxes so that cover or plate will not span different building finishes.
11. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.
12. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.

H. Sleeve and Sleeve-Seal Installation for Electrical Penetrations: Install sleeves and sleeve seals at penetrations of exterior wall assemblies.

I. Firestopping: Install firestopping at penetrations of fire-rated wall assemblies. Comply with requirements in Division 07 Section "Firestopping."

END OF SECTION

SECTION 262726

WIRING DEVICES

PART 1 – GENERAL

A. This section includes:
1. Receptacles, receptacles with integral GFCI, and associated device plates.
2. Snap switches, and associated device plates.
3. Weather-resistant receptacles and weatherproof covers.
4. Communications outlets.

B. Reference Standards (Latest editions, herein made a part of these specifications)
ANSI/NFPA 70 National Electrical Code.

C. Related Work Specified Elsewhere:
1. Section 260000 – Electrical Common Requirements
2. Section 260526 – Conductors and Cables
3. Section 260533 – Raceways & Boxes for Electrical Systems

D. Submittals: Submit product data in accordance with Section 01 33 00.
1. Product Data: For each type of product.
2. Quality Control Field Test Report: Submit upon completion of installation.

PART 2 – PRODUCTS / MATERIALS

A. Basis of design: Leviton Residential ProGrade. Equivalent products from the following manufacturers are acceptable as substitutions under Section 013300.
1. Cooper Wiring Devices; Division of Cooper Industries, Inc. (Cooper).
2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
3. Pass & Seymour/Legrand (Pass & Seymour).

B. Single source: Obtain each type of wiring device and associated wall plate from single source from single manufacturer.

C. Wiring Devices, General Requirements
1. Wiring Devices, Components, and Accessories shall comply with NFPA 70.
2. Wiring devices shall have screw pressure-plate terminals for wiring connection.

D. **Straight-Blade Receptacles**: Tamper-resistant convenience receptacles, 125 V, 15A complying with NEMA WD 1, NEMA WD 6 Configuration 5-15A, UL 498, and FS W-C-596.
1. Acceptable products:
a. Eaton #TRBR15V-BXSP
b. Or equivalent product considered as substitutions under Section 01.33.00 by one of the following:
- Leviton
- Hubbell
- Cooper

E. **GFCI Receptacles**: Tamper-resistant duplex, straight blade, feed-through type, 125 V, 20 A complying with NEMA WD 1, NEMA WD 6, UL 498, UL 943 Class A, and FS W-C-596. Selftesting type with indicator light that shows when the GFCI has malfunctioned and no longer provides proper GFCI protection, and trip indicator light.
1. Acceptable products:
   a. Leviton #GTR1-I
   b. Or equivalent product considered as substitutions under Section 01.33.00 by one of the following:
   - Pass & Seymour
   - Hubbell
   - Cooper

H. **Telephone Outlet**: make connections in existing cable box in each apartment.

I. **Cable Television (CATV) Outlet**:
   a. New Outlets in locations shown on plans. Provide ¾" EMT conduit to each Apartment. See Section 274116 for system.

L. **Wall Plates**: high-impact thermoplastic, flush plate style; single and combination types, to match corresponding devices. Do not use oversized or extra-deep plates.
1. Plate-securing screws: Metal with head color to match plate finish.
2. Material for unfinished spaces: Galvanized steel.
3. Wet-location weatherproof cover plates: NEMA 250, complying with Type 3R, cast aluminum with spring-loaded lift cover, listed and labeled for use in wet and damp locations, weather- resistant thermoplastic with lockable cover.

N. **Device and Wall Plate Color**: White or ivory, as selected by Owner. unless otherwise indicated or required by NFPA 70 or device listing.

PART 3 – EXECUTION

A. Installation: Comply with NECA 1, including mounting heights listed in that standard, unless otherwise indicated.

B. Coordination with Other Trades:
1. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
2. Install wiring devices after all wall preparation, including painting, is complete.

C. Conductors: Follow NECA recommendations and NFPA 70 regarding stripping insulation from conductors, length of free conductors at outlets.

D. Device Installation: Wire in accordance with NFPA 70.
1. Replace devices that have been in temporary use during construction and that were installed before building finishing operations were complete.

SECTION 262726

WIRING DEVICES

2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
4. Pigtails shall be same AWG as conductors.
5. Use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, two- thirds to three-fourths of the way around terminal screw. Tighten all terminal screws on the device.
6. When mounting into metal boxes, remove the fiber or plastic washers used to hold device- mounting screws in yokes, allowing metal-to-metal contact.

END OF SECTION

SECTION 262770

NURSE CALL LIGHT

PART 1 – GENERAL

A. This section includes:
1. Replace and reinstall new Nurse call light and wiring for new hall light.
2. Install in corridor in location as shown on plans.

B. Related Work Specified Elsewhere:
1. Section 260000 – Electrical General Requirements

C. Submittals: Submit product data in accordance with Section 01 33 00.
1. Catalog cuts / submittal sheet.

D. Warranty: Manufacturer's standard one (1) year warranty.
1. Contractor's Warranty: Refer to Section 017836 – Warranties.

PART 2 – PRODUCTS / MATERIALS

A. Basis of design: The Edwards CFA Series 7641R Series Dome stations.
www.edwardssignaling.com.
1. Equivalent products will be considered as substitutions under Section 013000.

B. Components:
1. Lamp Station white lamp
2. Model 7641-1G5 - 24V AC 5.0
3. Color: White
4. Dome: P-047047-0006 Industry Trade No. 3131

C. Conductors specified under Section 26 05 19.

PART 3 – EXECUTION

A. Install according to manufacturer's printed recommendations.

B. Run wiring concealed in walls and floor.

END OF SECTION

SECTION 265190

LIGHT FIXTURES

PART 1 GENERAL

PART 1 – GENERAL

A. This section includes:
1. Interior Corridor lighting fixtures, lamps, and ballasts.

B. Reference Standards (Latest editions, herein made a part of these specifications)
NECA/IESNA 500-2006 Standard for Installing Indoor Lighting Systems

C. Related Work Specified Elsewhere:
1. Section 26 05 19 – Low Voltage Electrical Power Conductors & Cable Section 26 05 33 – Raceways and Boxes for Electrical Systems
2. Section 26 27 26 – Wiring Devices

D. Submittals: Submit product data in accordance with Section 01 33 00.
1. Product Data on features, accessories, dimensions, weights and finishes for each type of lighting fixture, arranged in order of fixture designation.
2. Product Certificates: For each type of ballast for bi-level and dimmer-controlled fixtures, from manufacturer.

E. Delivery / Storage / Handling:
1. Store materials in secure, protected location immediately upon delivery to project, in manufacturer's labeled packaging.

F. Warranty: Manufacturers' standard limited warranty to be free from defects and capable of performing their function. Contractor's Warranty: Refer to Section 017836 – Warranties.

PART 2 – PRODUCTS / MATERIALS

A. General Requirements for Lighting Fixtures and Components:
1. Fixtures shall be listed and labeled, as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application. Fixtures shall comply with UL 1598.
2. Luminaire Efficacy Ratings tests shall comply with NEMA LE 5 or LE 5A, as applicable.
3. Recessed Fixtures: Comply with NEMA LE 4 for ceiling compatibility for recessed fixtures.
4. Metal Parts:
   a. Sheet Metal Components: Formed free of burrs, sharp corners and edges, capable of being supported without warping or sagging. Steel unless otherwise indicated.
   b. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, designed to permit relamping without use of tools and prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position
5. Lighting Diffusers:
   a. Acrylic: 100 percent virgin acrylic plastic, UV stabilized, with high resistance to

yellowing and other changes due to aging, exposure to heat, and UV radiation.
b. Lens Thickness: At least 0.125 inch minimum unless otherwise indicated.

B. Power Supplies and Drivers - General
1. Power Factor: 0.90 or higher
2. Maximum driver case temperature not to exceed driver manufacturer recommended operation.
3. Output operating frequency: 60Hz.
4. Interference: EMI and RFI compliant with FCC 47 CFR Part 15.
5. Total Harmonic Distortion Rating: 20% Maximum.
6. Meet electrical and thermal conditions as described in LM-80 Section 5.0.
7. Fully dimmable, 0 – 10 VDC standard.
8. Secondary Current: Confirm secondary current specified by individual luminaire manufacturers.
9. Compatibility of dimming switches: Certified by manufacturer for use with individually specified luminaire and individually specified control components.

C. Basis of Design Lighting Fixtures: Provide light fixture and accessories as listed below, or equivalent product.

PART 3 SUBMITTALS

A. Waiver of Submittals: The "Waiver of Certain Submittal Requirements" in Section 013300 does not apply to this Section.
B. Product Data: Catalog sheets, specifications and installation instructions.
C. Samples: One of each product if requested.

PART 4 PRODUCTS

2.01 GENERAL

A. Equip fixtures with:
1. Frames as required for installation of recessed and semi-recessed fixtures.
2. Lamps by General Electric Co., GTE/Sylvania, or Westinghouse Electric Corp. All warm white LED bulbs.

PART 5 FIXTURE TYPES

LIST of FIXTURES

Type A 2 x 2 lay-in fixture equal to Lithonia GTL Series 2GTL. LED Troffer. Plastic Lens.

1. FW Flush aluminum, white
2. A12125 #12 pattern acrylic, frosted,

3. 3300 Lumens
4. .0125" thick lens
5. 120 V
6. EXA 1Driver
7. N80EMG nLight with 80% (L80) lumen management for use with generator supply emergency power
8. EL7L 700 lumen emergency battery (non-CEC compliant)

END OF SECTION

SECTION 274172

CATV SYSTEM

PART 1 - GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

A. Section 260533 Raceways & Boxes for Electrical System

1.2 SYSTEM DESCRIPTION - CATV SYSTEM

A. The CATV system consists of new

1. Cable TV box, located in electric room.
2. Coax Cable, and Conduit
3. Cable taps and TV jacks in each of the 16 apartments.

1.3 SUBMITTALS

A. Manufacturer's installation instructions shall be provided along with product data.

B. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

C. Waiver of Submittals: The "Waiver of Certain Submittal Requirements" in Section 013300 does not apply to this Section.

D. Submittals Package: Submit the shop drawings, product data, samples, and quality control submittals specified below at the same time as a package.

E. Shop Drawings:

1. Composite wiring and/or schematic diagrams of the complete system as proposed to be installed (standard diagrams will not be accepted).

F. Product Data:

1. Catalog sheets, specifications and installation instructions.
2. Bill of materials.
3. Detailed description of system operation (format similar to SYSTEM DESCRIPTION).
4. Name, address and telephone number of nearest fully equipped service organization.

G. Contract Closeout Submittals:

1. System acceptance test report.
2. Certificate: Affidavit, signed by the Contractor and notarized, certifying that the system meets the contract requirements and is operating properly.

3. Operation and Maintenance Data:

    a. Deliver 2 copies, covering the installed products, to RHA to Include:

        1) Operation and maintenance data for each product.
        2) Complete point to point wiring diagrams of entire system as installed. Number all conductors and show all terminations and splices. (Numbers shall correspond to numbered tags installed on each conductor.)
        3) Name, address, and telephone number of nearest fully equipped service organization.

1.4 QUALITY ASSURANCE

A. Equipment Qualifications For Products Other Than Those Specified:

1. At the time of submission provide written notice to RHA of the intent to propose an "or equal" for products other than those specified. Make the "or equal" submission in a timely manner to allow RHA sufficient time to review the proposed product, perform inspections and witness test demonstrations.
2. If products other than those specified are proposed for use furnish the name, address, and telephone numbers of at least 5 comparable installations that can prove the proposed products have performed satisfactorily for 3 years.

    1) Verify the accuracy of all references submitted prior to submission and certify in writing that the accuracy of the information has been confirmed.

3. The product manufacturer shall have test facilities available that can demonstrate that the proposed products meet the contract requirements.

4. Provide written certification from the manufacturer that the proposed products are compatible for use with all other equipment proposed for use for this system and meet all contract requirements.

1.5 MAINTENANCE

A. Service Availability: A fully equipped service organization capable of guaranteeing response time within 24 hours to service calls shall be available to service the completed Work.

PART 2 - PRODUCTS

2.1 CABLE TV BOX

A. For 16 apartments with coax, MDU distribution cabinet/enclosure with (2) each Magnavox 9800-18 8 port taps (or equal) designed for apartment drops.
B. Locate box in electric room noted on plans.

SECTION 274172

CATV SYSTEM

2.01 Coax distribution cabinet for 16 apartments

A. Application: central CATV distribution for 16 dwelling units

B. Device type: Multi-tap, MDU-rated

C. Frequency range: at least 5–1002 MHz for digital cable/two-way broadband; some taps also support broader satellite bands depending on design.

D. Shielding: high RFI shielding; pro splitters commonly specify around 120–130 dB shielding.

E. Connector type: 75-ohm F-type.

F. Mounting: install inside a lockable structured media enclosure / service enclosure sized for tap/splitters, grounding, and cable management.

G. Grounding: bond enclosure and coax per local electrical/code requirements

H. Recommendation: terminate unused ports and include surge protection / proper grounding hardware. Pro coax splitters such as Antronix specify surge protection on ports.

2.1 Acceptable Cable Box Manufacturers

I. Leviton Structured Media Center — example enclosure for central cable distribution hardware or equal

PART 3 – EXECUTION

A. Install according to manufacturer's printed recommendations.

B. Run coax wiring from box to conduit in hallway for distribution.

C. Label coax cable and ports with identification of each of the apartments.

2.2 TELEVISION (CATV) OUTLET

A. CATV Jack: Double Type "F" connector Blonder-Tongue's GF-81C.

B. Enclosure:

1. Back Box: Flush type with special 16 gage steel subplate for mounting CATV jack.

a. The subplate shall mount inside flange of back box using trusshead screws. The faceplate is mounted to the subplate using vandal resistant screws (carriage bolt type with break off nut). The vandal resistant screws can be removed by drilling without damaging back box.
b. The subplate with CATV jack shall be removable for servicing as a unit.

2. Faceplate: 11 gage stainless steel with openings for CATV jack.

a. Openings sized to prevent access to jack mounting hardware.

2.3 WIRING

A. Conductors: Conductor number and size as recommended by Company producing the system but not less than the following:

1. Type CATV-1: RG-6/U coaxial cable, with 2 shields, Belden Corp.'s 9114.

2.4 ACCESSORIES

A. Relay Protection: Bridge every relay coil in the system with a 1 amp, 200 peak-inverse-voltage field collapse absorbing diode.

B. CATV System Equipment Rack: 2 section rack, with each section the same as specified for System Equipment.

C. CATV Junction Box: NEMA Type 1, surface mounted cabinet, constructed of 14 gage steel, size as recommended by Company producing the system (minimum size as indicated on the drawings);

1. Hinged door with lock.
2. Component mounting panel.
3. The word "CATV" stenciled on the door with green paint.

D. Accessories as required for a complete and operable system.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install system in accordance with the Company's printed instructions unless otherwise indicated.

1. Coordinate with owner for location and size of equipment.

B. Use markers to identify conductors at terminal strips, cabinets and pullboxes (designations shall correspond with point to point wiring diagrams).

C. Nameplates:

1. Transformer/Tap Boxes:
2. Terminal Strip Cabinets and Interconnection Cabinets: Indicate apartment and floor number.
3. CATV Tap Boxes: Indicate location designation.
4. Head End Equipment: Identify each item.

D. Use coaxial connectors for CATV cable terminations.

3.2 FIELD QUALITY CONTROL

A. Preliminary System Test:

1. Preparation: Contractor to adjust the completed system and then operate it long enough to assure that it is performing properly.
2. Run a preliminary test for the purpose of:

   a. Determining whether the system is in a suitable condition to conduct an acceptance test.
   b. Checking and adjusting equipment.
   c. Training facility personnel.

B. System Acceptance Test:

1. Preparation: Notify RHA at least 3 working days prior to the test so arrangements can be made to have a Facility Representative witness the test.
2. Make the following tests:

   a. Individually test each channel in each apartment.
   b. A "sweep test" of the cable system.
   c. A component performance test to analyze and plot the system attenuation, cable exponential characteristics, and spectrum integrity through the components, to demonstrate that the broadband coaxial network meets General Instruments Corporation standards.

3. Supply equipment necessary for system adjustment and testing.
4. Submit written report of test results signed by Contractor and RHA.

3.3

END OF SECTION