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SECTION 01 10 00 – SUMMARY

PART 1 - GENERAL

1.1 PROJECT INFORMATION

A. Project Identification: 1815 - Barrier-Free Restroom + Interior Rehabilitation of the Glen Ridge Public Library (GRPL)
   1. Project Location: 240 Ridgewood Ave, Glen Ridge, NJ 07028.


C. Owner’s Contact: Tina Marie Doody, Library Director
   1. Phone: 973 748 5482
   2. Email: doody@glenridgelibrary.org

D. Architect: Daniel Kopec Architectural Design LLC, 289 Bay Ave, Glen Ridge, NJ 07028 / 201 618 8340 / daniel@kopecarch.com

E. The Work consists of three areas of interior renovation – 1. The creation of a new unisex restroom on the Ground Level, 2. The relocation of the Technical Services Office to the Main Level and 3. Alterations to the Mezzanine Level (Young Adult Area). The Scope of Work includes the following:

   RESTROOM:
   1. Removal of existing finishes at work area.
   2. Removal of portions of concrete slab to extend plumbing to work area.
   4. New partitions and door.
   5. New ceramic wall and floor tile and acoustic ceiling tile.
   7. Modifications to existing HVAC and new restroom exhaust system.
   8. Paint wall surfaces.

   TECHNICAL SERVICES OFFICE:
   1. New partitions and door.
   2. New interior millwork.
   3. New lighting and electrical receptacles.
   4. Modifications to existing HVAC
   5. New carpeting.
   6. Paint wall and ceiling surfaces.

   MEZZANINE (Young Adult Area):
   1. Remove existing Technical Services Office.

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2. New partitions and doors.
3. Alterations to existing HVAC distribution.
4. New lighting and electrical receptacles.
5. New carpeting.
6. New acoustic ceiling tiles and gypsum board ceilings.
7. Paint wall and drywall ceiling surfaces.
8. New acoustic ceiling tiles and gypsum board ceilings.
9. New furnishings, fixtures and equipment.

F. Owner-Furnished Products: The following products will be furnished by Owner and shall be installed by Contractor as part of the Work:
1. None.

1.2 CODE COMPLIANCE


B. Digital access to the code documents can be found at: http://www.state.nj.us/dca/divisions/codes/codreg/ and assistance with code information can be obtained by contacting the NJ Department of Consumer Affairs, Division of Codes & Standards, Code Assistance Unit by phone at (609) 984-7609 for a verbal answer and by fax at (609) 633-6729 for a formal answer.

1.3 WORK RESTRICTIONS

A. Contractor's Use of Premises: During construction, Contractor will have full use of building indicated. Contractor's use of premises is limited only by Owner's right to perform work or employ other contractors on portions of Project.

B. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor-air intakes.
1.4 LANGUAGE STYLE

A. These Specifications are written in the Imperative Style. Stated directives and actions shall be understood to be performed by the Contractor. As an example, the statement “Walk the dog.” shall be understood as “Contractor shall walk the dog.”

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 10 00
SECTION 01 25 00 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUBSTITUTION PROCEDURES

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

B. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Substitution Request Form: Use CSI Form 13.1A.
2. Submit requests within 10 days after the Notice of Award.
3. Identify product to be replaced and show compliance with requirements for substitutions. Include a detailed comparison of significant qualities of proposed substitution with those of the Work specified, a list of changes needed to other parts of the Work required to accommodate proposed substitution, and any proposed changes in the Contract Sum or the Contract Time should the substitution be accepted.

C. Architect will review proposed substitutions and notify Contractor of their acceptance or rejection. If necessary, Architect will request additional information or documentation for evaluation.

1. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

D. Do not submit unapproved substitutions on Shop Drawings or other submittals.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 25 00
SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 PROJECT MANAGEMENT AND COORDINATION

A. Subcontract List: Submit a written summary identifying individuals or firms proposed for each portion of the Work.

B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. List e-mail addresses and telephone numbers.

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

D. Requests for Information (RFIs): On discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI. Use AIA Document G716 or forms acceptable to Architect and Owner.

E. Schedule and conduct progress meetings at Project site at biweekly intervals. Notify Owner and Architect of meeting dates and times. Require attendance of each subcontractor or other entity concerned with current progress or involved in planning, coordination, or performance of future activities.

   1. Record minutes and distribute to everyone concerned, including Owner and Architect.

1.2 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. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

   1. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
   2. Submit three two copies of each action submittal. Architect will return one copy.
   3. Submit One copy of each informational submittal. Architect will not return copies.
   4. Architect will return submittals, without review, received from sources other than Contractor.

C. Paper Submittals: Place a permanent label or title block on each submittal for identification. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect. Include the following information on the label:
1. Project name.
2. Date.
3. Name and address of Contractor.
4. Name and address of subcontractor or supplier.
5. Number and title of appropriate Specification Section.

D. 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 unique identifier, including project identifier, Specification Section number, and revision identifier.
3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.

E. Identify options requiring selection by Architect.

F. Identify deviations from the Contract Documents on submittals.

G. Contractor's Construction Schedule Submittal Procedure:

1. Submit required submittals in the following format:
   a. Working electronic copy of schedule file, where indicated.
   b. PDF electronic file.

2. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
   a. Submit a working electronic copy of schedule and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.

3. Coordinate Contractor's construction schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections.

1. Submit electronic submittals via email as PDF electronic files.

2.2 ACTION SUBMITTALS

A. Submit three paper copies of each submittal unless otherwise indicated. Architect will return two copies.

B. Product Data: Mark each copy to show applicable products and options. Include the following:
   1. Manufacturer's written recommendations, product specifications, and installation instructions.
   2. Wiring diagrams showing factory-installed wiring.
   3. Printed performance curves and operational range diagrams.
   4. Testing by recognized testing agency.
   5. Compliance with specified standards and requirements.

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. Submit on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches. Include the following:
   1. Dimensions and identification of products.
   2. Fabrication and installation drawings and roughing-in and setting diagrams.
   3. Wiring diagrams showing field-installed wiring.
   4. Notation of coordination requirements.
   5. Notation of dimensions established by field measurement.

D. Samples: Submit Samples for review of kind, color, pattern, and texture and for a comparison of these characteristics between submittal and actual component as delivered and installed. Include name of manufacturer and product name on label.
   1. If variation is inherent in material or product, submit at least three sets of paired units that show variations.

2.3 INFORMATIONAL SUBMITTALS

A. Informational Submittals: Submit One paper copy of each submittal unless otherwise indicated. Architect will not return copies.

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

2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type schedule within 10 days of date established for the Notice of Award.
B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

PART 3 - EXECUTION

3.1 SUBMITTAL REVIEW

A. 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. Architect will review each action submittal, make marks to indicate corrections or modifications required, will stamp each submittal with an action stamp, and will mark stamp appropriately to indicate action.

C. 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.

D. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION 01 30 00
SECTION 01 35 16 - ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Scope: All Repair, Renovation, and Alteration work to an existing structure shall be governed by this section.

B. Preliminary Conference: Conduct conference at Project site; record conference results; and distribute record copies.

   1. Attendees: In addition to representatives of Owner, Architect, and Contractor, each specialist shall be represented.
   2. Agenda: Discuss items of significance that could affect progress of alteration work, including review of the following:

      a. Fire prevention.
      b. Areas where existing construction is to remain and the required protection.
      c. Hauling routes.
      d. Sequence of alteration work operations.
      e. Storage, protection, and accounting for salvaged and specially fabricated items.
      f. Existing conditions and structural loading limitations.
      g. Collection of waste, protection of occupants and the public, and condition of other construction that affects or will affect the Work.

C. Fire-Prevention Plan: Prepare a written plan for preventing fires during the Work, including placement of fire-control devices during each phase or process.

D. Safety and Health Standard: Comply with ANSI/ASSE A10.6.

E. Salvaged Materials: Clean loose dirt and debris from salvaged items; crate and cushion items against damage during handling; and label contents of containers. Store and transport items to Owner's designated storage area.

F. Salvaged Materials for Reinstallation: Repair and clean items for reuse and reinstall items in locations indicated.

G. Discrepancies: Notify Architect of discrepancies between existing conditions and Drawings before proceeding with removal and dismantling work.

PART 2 - PRODUCTS - (Not Used)
PART 3 - EXECUTION

3.1 PROTECTION

A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from alteration work or spillage.
   1. Provide temporary barricades, barriers, directional signage, and covers over walkways to protect and exclude the public from areas where alteration work is being performed.
   2. Erect temporary barriers to form and maintain fire-egress routes.
   3. Contain dust and debris generated by alteration work, and prevent it from reaching the public or adjacent surfaces.
   4. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
   5. Do not apply chemicals during winds of sufficient force to spread them to unprotected surfaces.
   6. Collect and dispose of runoff in a manner that prevents soil contamination, soil erosion, undermining of paving and foundations, damage to landscaping, or water penetration into building interior.

B. Protect existing materials, including floors along hauling routes, with temporary protections and construction.
   1. Use covering materials and masking agents that will not stain or leave residue on surfaces. When no longer needed, promptly remove protective materials.

C. Comply with each product manufacturer's written instructions for protections and precautions.

D. Utility and Communications Services: Notify Owner; Architect; authorities having jurisdiction; and entities owning or controlling wires, conduits, pipes, and other services affected by alteration work before commencing operations. Disconnect and cap pipes and services as required by authorities having jurisdiction, and provide temporary services during interruptions to existing utilities.

E. Existing Drains: Prior to the start of work in an area, verify that drainage system is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work until the drainage system is functioning properly.
   1. Prevent solids or other debris from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked from alteration work.

3.2 PROTECTION FROM FIRE

A. Comply with NFPA 241 requirements unless otherwise indicated.

B. Fire Watch: When working with heat-generating equipment or combustible materials, station personnel to serve as a fire watch at each location where such work is performed. Fire-watch personnel shall have the authority to enforce fire safety. Station fire watch according to NFPA 51B and NFPA 241.
C. Fire-Control Devices: Maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids.

D. Sprinklers: Maintain sprinkler protection without interruption. While operations are performed close to sprinklers, shield them temporarily with guards and remove guards when nearby work is paused or completed.

3.3 GENERAL ALTERATION WORK

A. Record existing work before each procedure (preconstruction), and record progress during the work. Use digital preconstruction documentation photographs.

B. Perform surveys of Project site as the Work progresses to detect hazards resulting from alterations.

C. Notify Architect of visible changes in the integrity of material or components, including cracks, movement, or distortion.

   1. Do not proceed with the work in question until directed by Architect.

   END OF SECTION 01 35 16
SECTION 01 35 91 - TREATMENTS AND PROCEDURES FOR HISTORIC PROPERTIES

PART 1 - GENERAL

1.1 SUMMARY

A. In recognition of the historic significance of the Glen Ridge Public Library facility, all work shall be undertaken in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. Architect shall indicate if the guidelines for Preservation, Rehabilitation, Restoration or Reconstruction shall govern the scope of work. When in doubt, Contractor shall obtain clarification from Architect prior to undertaking work.

B. This section includes special procedures for treatment of historic features and elements on the Project including, but not limited to, the following:
   1. Temporary protection of existing conditions
   2. Storage and protection of existing historic features and elements
   3. Review of existing conditions, mock-ups and material samples.

1.2 DEFINITIONS (As per the Secretary of the Interior Standards for the Treatment of Historic Properties)

A. “Preservation” – The act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property.

B. “Reconstruction” – The act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

C. “Rehabilitation” – The act or process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural and cultural values.

D. “Repair” – The act or process of returning a component or element of construction that is worn, deteriorated or broken, to good and sound condition by using materials and/or components that are identical or closely similar the existing. When identical material cannot be used, Contractor shall confer with Architect to ensure ‘closely similar’ material is suitable.

E. “Restoration” – The act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of removal of features from other periods in its history and reconstruction of missing features from the restoration period.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 EXECUTION OF WORK

A. All work shall be undertaken in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. Architect shall indicate if the guidelines for Preservation,
Rehabilitation, Restoration or Reconstruction shall govern the scope of work. When in doubt, Contractor shall obtain clarification from Architect prior to undertaking work.

B. All work shall be undertaken in accordance with the requirements set forth in NJAC 5:23-6, the Rehabilitation Subcode. Contractor shall be familiar with the distinction between Repair, Renovation, Alteration and Reconstruction Work. When in doubt, Contractor shall gain clarification prior to undertaking work.

3.2 REVIEW OF EXISTING CONDITIONS, MOCK-UPS AND SAMPLES

A. Where it is noted that existing conditions shall be required for review by Architect, the same review and subsequent approvals shall be obtained from Historic Preservation Officer(s) and/or Commissions, where such persons or bodies operate.

B. Where it is noted that mock-ups and/or material samples shall be required for review by Architect, the same review and subsequent approvals shall be obtained from Historic Preservation Officer(s) and/or Commissions, where such persons or bodies operate.

3.4 TEMPORARY PROTECTION AND STORAGE

A. Refer to Section 01 3516 (3.1) Protection for basic protection of existing construction.

B. Prior to construction, Contractor shall schedule a walk-through with the Architect to identify historically significant features and elements that will require special protection and consideration during the Project. Protect all identified existing surfaces, building elements and features against damage and soiling during construction. Where permissible and suitable, specific features and elements shall be designated for removal to a suitable, protected storage location for the duration of the construction.

C. Elements removed from their current location for protection during construction, shall be stored in a secure and protected location sheltered from inclement weather, temperature fluctuations, and other conditions that may impact the quality of said elements. After risk of damage has abated, elements shall be returned to their original location and securely re-installed using suitable methods and materials that do not negatively impact their condition.

END OF SECTION 01 35 91
SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. 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.

B. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements, comply with the most stringent requirement. Refer uncertainties to Architect for a decision.

C. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum. The actual installation may exceed the minimum within reasonable limits. Indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision.

D. Quality Control: Ensure quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to ensure work meets specified quality. Perform quality control procedures and inspections during installation.

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

F. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in New Jersey and who is experienced in providing engineering services of the kind indicated.

G. Warranties: All work shall be guaranteed in writing for a period of not less than one year (and shall meet or exceed all specified material and component warranties) from a mutually agreed upon date of Substantial Completion. All material and component warranties and guarantees provided by the manufacturer shall be turned over to the Owner. All operations and maintenance manuals and information provided with installed materials, fixtures, appliances, or other components shall be submitted to the Owner.

H. Testing Agency Qualifications: An independent agency with the experience and capability to conduct testing and inspecting indicated; and where required by authorities having jurisdiction, that is acceptable to authorities.

I. 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.

1. Notify Architect and Contractor of irregularities or deficiencies in the Work observed during performance of its services.
2. Do not release, revoke, alter, or increase requirements of the Contract Documents or approve or accept any portion of the Work.
3. Do not perform any duties of Contractor.

K. Associated Services: Cooperate with testing agencies and provide reasonable auxiliary services as requested. 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. Security and protection for samples and for testing and inspecting equipment.

L. 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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

B. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00
SECTION 01 42 00 - REFERENCES

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

B. Abbreviations and Acronyms: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

4. ACI - American Concrete Institute; (Formerly: ACI International); www.concrete.org.
5. ACPA - American Concrete Pipe Association; www.concretepipe.org.
6. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
11. AIA - American Institute of Architects (The); www.aia.org.
18. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
19. ARI - American Refrigeration Institute; (See AHRI).
20. ASCE - American Society of Civil Engineers; www.asce.org.
21. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute
23. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
24. ASSE - American Society of Safety Engineers (The); www.asse.org.
29. AWPA - American Wood Protection Association; (Formerly: American Wood-Preservers' Association); www.awpa.com.

References
33. BIA - Brick Industry Association (The); www.gobrick.com.
35. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); www.bifma.com.
36. CDA - Copper Development Association; www.copper.org.
37. CEA - Consumer Electronics Association; www.ce.org.
39. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
42. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
44. CRCRC - Cool Roof Rating Council; www.coolroofs.org.
45. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
46. CSA - CSA International; (Formerly: IAS - International Approval Services); www.csa-international.org.
47. CSI - Construction Specifications Institute (The); www.csinet.org.
48. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.cti.org.
49. CWCA - Composite Wood Council; (See CPA).
51. DHIA - Door and Hardware Institute; www.dhia.org.
52. ECA - Electronic Components Association; (See ECIA).
53. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
54. ECIA - Electronic Components Industry Association; www.eciaonline.org
55. EIA - Electronic Industries Alliance; (See TIA).
57. ESD - ESD Association; (Electrostatic Discharge Association); www.esda.org.
58. ESTA - Entertainment Services and Technology Association; (See PLASA).
68. HI - Hydraulic Institute; www.pumps.org.
69. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
70. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
74. IAS - International Accreditation Service; www.iasonline.org.
75. IAS - International Approval Services; (See CSA).
76. ICBO - International Conference of Building Officials; (See ICC).
78. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
79. ICPA - International Cast Polymer Alliance; www.icpa-hq.org.
80. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
82. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
83. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); www.ies.org.
84. IESNA - Illuminating Engineering Society of North America; (See IES).
85. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
86. IGMA - Insulating Glass Manufacturers Alliance; www.igmaonline.org.
88. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
89. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); www.isfanow.org.
91. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
92. ITU - International Telecommunication Union; www.itu.int/home.
93. KCMA - Kitchen Cabinet Manufacturers Association; www.kcma.org.
94. LMA - Laminating Materials Association; (See CPA).
96. MCA - Metal Construction Association; www.metalconstruction.org.
100. MPI - Master Painters Institute; www.paintinfo.com.
103. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.
105. NCMA - National Concrete Masonry Association; www.ncma.org.
114. NLGA - National Lumber Grades Authority; www.nlga.org.
117. NRMA - National Ready Mixed Concrete Association; www.nrma.org.
118. NSF - NSF International; (National Sanitation Foundation International); www.nsf.org.
120. NSSSGA - National Stone, Sand & Gravel Association; www.nsssga.org.
122. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
123. PDI - Plumbing & Drainage Institute; www.pdionline.org.
125. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
126. SDI - Steel Deck Institute; www.sdi.org.
127. SDI - Steel Door Institute; www.steeldoor.org.
128. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
129. SJI - Steel Joist Institute; www.steeljoist.org.
130. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
131. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
138. UBC - Uniform Building Code; (See ICC).
140. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
143. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
144. WDMA - Window & Door Manufacturers Association; www.wdma.com.
145. WWPA - Western Wood Products Association; www.wwpa.org.

C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.
1. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION 01 42 00
SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

B. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced.
   1. Show compliance with requirements for comparable product requests.
   2. Architect will review the proposed product and notify Contractor of its acceptance or rejection.

C. Basis-of-Design Product Specification Submittal: Show compliance with requirements.

D. Compatibility of Options: If Contractor is given option of selecting between two or more products, select product compatible with products previously selected.

E. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
   1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
   2. Deliver products to Project site in manufacturer's original sealed container or packaging, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
   3. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
   4. Store materials in a manner that will not endanger Project structure.
   5. Store products that are subject to damage by the elements, under cover in a weather-tight enclosure above ground, with ventilation adequate to prevent condensation.

F. 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.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. Provide products that comply with the Contract Documents, are undamaged, and, unless otherwise indicated, are new at the time of installation.
1. Provide products complete with accessories, trim, finish, and other devices and components needed for a complete installation and the intended use and effect.
2. Where products are accompanied by the term "as selected," Architect will make selection.

B. Where the following headings are used to list products or manufacturers, the Contractor's options for product selection are as follows:

1. Products:
   a. Where requirements include "one of the following," provide one of the products listed that complies with requirements.
   b. Where requirements do not include "one of the following," provide one of the products listed that complies with requirements or a comparable product.

2. Manufacturers:
   a. Where requirements include "one of the following," provide a product that complies with requirements by one of the listed manufacturers.
   b. Where requirements do not include "one of the following," provide a product that complies with requirements by one of the listed manufacturers or another manufacturer.

3. Basis-of-Design Product: Provide the product named, or indicated on the Drawings, or a comparable product by one of the listed manufacturers.

C. 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. Architect will consider Contractor's request for comparable product when the following conditions are satisfied:

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.
3. List of similar installations for completed projects, if requested.
4. Samples, if requested.
SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 EXECUTION REQUIREMENTS

A. Cutting and Patching:


2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.

3. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities.

B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

1.2 CLOSEOUT SUBMITTALS

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

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

C. Operation and Maintenance Data: Submit one copy of manual.


E. Record Product Data: Submit one paper copy of each submittal.

1.3 SUBSTANTIAL COMPLETION PROCEDURES

A. 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.

B. Submittals Prior to Substantial Completion: Before requesting Substantial Completion inspection, complete the following:

1. Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

2. Submit closeout submittals specified in other sections, including project record documents, operation and maintenance manuals, property surveys, similar final record information,
warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.

3. Submit maintenance material submittals specified in other sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect.

4. Submit test/adjust/balance records.

5. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Before requesting Substantial Completion inspection, complete the following:

1. Advise Owner of pending insurance changeover requirements.

2. Make final changeover of permanent locks and deliver keys to Owner.

3. Complete startup and testing of systems and equipment.

4. Perform preventive maintenance on equipment used prior to Substantial Completion.

5. Advise Owner of changeover in heat and other utilities.

6. Participate with Owner in conducting inspection and walkthrough with local emergency responders.

7. Complete final cleaning requirements, including touchup painting.

8. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will proceed with inspection or advise Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will advise Contractor of items that must be completed or corrected before certificate will be issued.

1.4 FINAL COMPLETION PROCEDURES

A. End date: The building shall be turned over to the Owner by date as established in the Owner-Contractor Agreement.

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

1. Submit a final Application for Payment.

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. Certified copy of the list shall state that each item has been completed or otherwise resolved.

3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.

4. Submit pest-control final inspection report.

C. Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare final Certificate for Payment after inspection or will advise Contractor of items 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.
PART 2 - PRODUCTS

2.1 MATERIALS

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

B. 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.

2.2 OPERATION AND MAINTENANCE DOCUMENTATION

A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information.

B. Organization: Unless otherwise indicated, organize manual into separate sections for each system and subsystem, and separate sections for each piece of equipment not part of a system.

C. Organize data into three-ring binders with identification on front and spine of each binder, and envelopes for folded drawings. Include the following:

1. Manufacturer's operation and maintenance documentation.
2. Maintenance and service schedules.
3. Maintenance service contracts. Include name and telephone number of service agent.
4. Emergency instructions.
5. Spare parts list and local sources of maintenance materials.
6. Wiring diagrams.
7. Copies of warranties. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

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. 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.

1. Verify compatibility with and suitability of substrates.
2. Examine roughing-in for mechanical and electrical systems.
3. Examine walls, floors, and roofs for suitable conditions.
C. Proceed with installation only after unsatisfactory conditions have been corrected.

D. Take field measurements as required to fit the Work properly. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication.

E. Verify space requirements and dimensions of items shown diagrammatically on Drawings.

F. Surface and Substrate Preparation: Comply with manufacturer's written recommendations for preparation of substrates to receive subsequent work.

3.2 CONSTRUCTION LAYOUT AND FIELD ENGINEERING

A. Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks.

3.3 INSTALLATION

A. 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. Conceal pipes, ducts, and wiring in finished areas as permitted by existing construction.
   4. Install all Work to industry standard tolerances.

B. Comply with manufacturer's written instructions and recommendations.

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

D. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed.

E. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place. 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.

F. 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.

G. Use products, cleaners, and installation materials that are not considered hazardous.
3.4 CUTTING AND PATCHING

A. Provide temporary support of work to be cut.

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

C. Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

D. Cutting: Cut in-place construction using methods least likely to damage elements retained or adjoining construction.
   1. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

E. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
   1. Restore exposed finishes of patched areas and extend finish restoration into adjoining construction in a manner that will minimize evidence of patching and refinishing.
   2. Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance.
   3. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

3.5 CLEANING

A. Clean Project site and work areas daily, including common areas. Dispose of materials lawfully.
   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.
   3. Remove debris from concealed spaces before enclosing the space.

B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion:
   1. Clean Project site, yard, and grounds, in areas disturbed by construction activities. Sweep paved areas; remove stains, spills, and foreign deposits. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
   2. Sweep paved areas broom clean. Remove spills, stains, and other foreign deposits.
   3. Remove labels that are not permanent.
   4. Clean transparent materials, including mirrors. Remove excess glazing compounds.
   5. Clean exposed finishes to a dust-free condition, free of stains, films, and foreign substances. Sweep concrete floors broom clean.
8. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.

3.6 OPERATION AND MAINTENANCE MANUAL PREPARATION

A. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

B. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

1. Prepare supplementary text if manufacturers' standard printed data are unavailable and where the information is necessary for proper operation and maintenance of equipment or systems.

C. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams.

3.7 DEMONSTRATION AND TRAINING

A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system. Include a detailed review of the following:

1. Include instruction for basis of system design and operational requirements, review of documentation, emergency procedures, operations, adjustments, troubleshooting, maintenance, and repairs.

END OF SECTION 01 70 00
SECTION 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Manage all waste according to federal, state and local guidelines and regulations. Comply with EPA regulations and with hauling and disposal regulations of authorities having jurisdiction.

B. Ensure construction waste and debris is not permitted to accumulate on site and is properly disposed of in an EPA-approved landfill.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 GENERAL

A. Demolition debris and earth removed in excavation shall be carted off site to appropriate facilities in a timely manner. Waste material shall not be stored on site in a manner in which it may surcharge existing structural elements or cause any other physical damage to existing structures to remain.

3.2 SALVAGING DEMOLITION WASTE

A. Salvaged Items for Reuse in the Work: Clean salvaged items and install salvaged items to comply with installation requirements for new materials and equipment.

3.3 RECYCLING WASTE

A. Where economically feasible, separate construction debris and waste materials for disposal at specific recycling facilities. This includes, but is not limited to cardboard, wood, concrete, asphalt, masonry, and metals.
   1. Adhere to all Municipal requirements regarding recycling of waste.

3.4 HAZARDOUS WASTE

A. The removal and disposal of toxic materials, including but not limited to materials containing asbestos, polychlorinated biphenyl and lead, shall only be undertaken by a licensed and approved Contractor in accordance with all federal, state, and local requirements.
   1. Indemnify the Architect and the Owner prior to undertaking any work pertaining to the mitigation of or removal of asbestos or other toxic materials.
   2. All hazardous waste shall be disposed of in approved facilities.
3.5 DISPOSAL OF WASTE

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

B. Do not burn waste materials.

END OF SECTION 01 74 19
SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Items indicated to be removed and salvaged remain Owner's property. Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner.

B. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.


PART 2 - PRODUCTS (not used)

PART 3 - EXECUTION

3.1 DEMOLITION

A. Maintain services/systems indicated to remain and protect them against damage during selective demolition operations. Before proceeding with demolition, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of the building.

B. Locate, identify, shut off, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.

C. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

D. Protect walls, ceilings, floors, and other existing finish work that are to remain. Erect and maintain dustproof partitions. Cover and protect furniture, furnishings, and equipment that have not been removed.

E. Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

F. Provide temporary weather protection to prevent water leakage and damage to structure and interior areas.

G. Limit demolition operations to elements indicated on Construction Documents so as to avoid negative impact or damage to adjacent areas outside of the Area of Work. Demolition operations shall NOT cause impact or damage to adjacent properties.
H. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction.

I. 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 02 41 19
SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Concrete mix designs and submittals required by ACI 301.
B. Ready-Mixed Concrete Producer Qualifications: ASTM C 94/C 94M.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS


2.2 MATERIALS

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
B. Plain Steel Wire: ASTM A 82/A 82M, as drawn.
C. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, as drawn, flat sheet.
D. Portland Cement: ASTM C 150, Type I or II.
E. Fly Ash: ASTM C 618, Class C or F.
F. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
G. Silica Fume: ASTM C 1240, amorphous silica.
H. Aggregates, Normal-Weight: ASTM C 33, Class 3S aggregate or better, graded, with at least 10 years' satisfactory service in similar applications.
J. Chemical Admixtures: ASTM C 494. Do not use calcium chloride or admixtures containing calcium chloride.
K. Vapor Retarder: Reinforced sheet, ASTM E 1745, Class A.
1. **Stego Wrap** 15-mil Vapor Barrier, O.A.E.
   Stego Industries LLC, 216 Avenida Fabricante, Ste. 101, San Clemente, CA 92672
   (877) 464-7834 / contact@stegoindustries.com

   L. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

   M. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.

2.3 **CONCRETE MIXTURES**

   A. Prepare design mixtures, proportioned according to ACI 301.

   B. Normal-Weight Concrete:

      1. Minimum Compressive Strength: 4000psi at 28 days.
      2. Maximum Water-Cementitious Materials Ratio: 0.46.
      3. Slump Limit: 5”.
      4. Air Content: Maintain within range permitted by ACI 301. Do not allow air content of floor slabs to receive troweled finishes to exceed 3 percent. Provide air content of 5-7% for exterior concrete.
      5. Use fly ash, pozzolan, ground granulated blast-furnace slag, and silica fume as needed to reduce the total amount of portland cement, which would otherwise be used, by not less than 40 percent.
      6. For concrete exposed to deicing chemicals, limit use of fly ash to 25 percent replacement of portland cement by weight and granulated blast-furnace slag to 40 percent of portland cement by weight; silica fume to 10 percent of portland cement by weight.

   C. Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M.

      1. When air temperature is above 90 deg F reduce mixing and delivery time to 60 minutes.

**PART 3 - EXECUTION**

3.1 **CONCRETING**

   A. Construct formwork according to ACI 301 and maintain tolerances and surface irregularities within ACI 347R limits of Class A, 1/8 inch for concrete exposed to view and Class B, 1/4 inch for other concrete surfaces.

   B. Place vapor retarder on prepared subgrade, with joints lapped 6 inches and sealed.

   C. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

   D. Install construction, isolation, and contraction joints where indicated. Install full-depth joint-filler strips at isolation joints.
E. Place concrete as near final location as possible. Place in a continuous operation and consolidate using mechanical vibrating equipment. Avoid horizontal movement of concrete in formwork.

F. Protect concrete from physical damage, premature drying, and reduced strength due to hot or cold weather during mixing, placing, and curing. Maintain min. 50deg F and moist conditions for first 7 days. Protect against freezing for min. 14 days.

G. Formed Surface Finish: Smooth-formed finish for concrete exposed to view, coated, or covered by waterproofing or other direct-applied material; rough-formed finish elsewhere.

H. Slab Finishes: Comply with ACI 302.1R for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces. Provide the following finishes:

1. Scratch finish for surfaces to receive mortar setting beds.
2. Float finish for surfaces to receive waterproofing, roofing, or other direct-applied material.
3. Troweled finish for floor surfaces and floors to receive floor coverings, paint, or other thin film-finish coatings.
4. Trowel and fine-broom finish for surfaces to receive thin-set tile.
5. Nonslip-broom finish to exterior concrete platforms, steps, and ramps.

I. Cure formed surfaces by moisture curing for at least seven days.

J. Begin curing concrete slabs after finishing. Keep concrete continuously moist for at least seven days.

K. Owner will engage a testing agency to perform field tests and to submit test reports.

L. Protect concrete from damage. Repair and patch defective areas.

END OF SECTION 03 30 00
SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Blocking: Provide blocking for wall-mounted fixtures and cabinetry as indicated in the Construction Documents and as per manufacturer’s requirements.

PART 2 - PRODUCTS

2.1 MISCELLANEOUS LUMBER

A. Miscellaneous Dimension Lumber: Construction, or No. 2 grade with 15 percent maximum moisture content of any species. Provide for nailers, blocking, and similar members.

2.2 PLYWOOD BACKING PANELS

A. Equipment Backing Panels: Plywood, Exterior, AC, fire-retardant treated, not less than 3/4-inch nominal thickness.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.

B. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

C. Securely attach rough carpentry to substrates, complying with the following:

1. CABO NER-272 for power-driven fasteners.
2. Published requirements of metal framing anchor manufacturer.
3. Table 2304.9.1, "Fastening Schedule," in the IBC.

END OF SECTION 06 10 00
SECTION 06 46 00 - WOOD TRIM

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS
   A. Submittals: Shop drawings and finish samples (for shop-finished trim).
   B. Environmental Limitations for Interior Wood Trim: Do not deliver or install interior wood trim until building is enclosed, wet work is completed, and HVAC system is operating.

1.2 RELATED SECTIONS
   A. 09 91 23 – Painting
   B. 09 93 00 – Staining and Transparent Finishing

PART 2 - PRODUCTS

2.1 WOOD TRIM
   B. Certified Wood: Comply with Section 018113.13 - Sustainable Design Requirements - LEED 2009 for New Construction and Major Renovations.
   C. Interior Trim for Transparent Finish: Premium grade, made from plain sawn red oak (to match existing).
   D. Interior Trim for Opaque Finish: Standard grade, made from poplar or any closed-grain hardwood, not figure-jointed
   E. Fire-Rated Interior Frames and Jambs: Products fabricated from fire-retardant particleboard or fire-retardant, medium-density fiberboard, with veneered exposed surfaces and listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for a 20-minute fire rating, based on testing according to NFPA 252.

2.2 MATERIALS
   A. Wood Moisture Content for Interior Woodwork: 5 to 10 percent.
   B. Medium-Density Fiberboard: ANSI A208.2, Grade 130, made with binder containing no urea formaldehyde.
C. Blocking and Shims: Softwood or hardwood lumber, kiln dried.

D. Water-Repellent Preservative-Treated Materials: Comply with AWPA N1 (dip, spray, flood, or vacuum-pressure treatment) for woodwork items indicated to receive water-repellent preservative treatment.

2.3 FABRICATION

A. Complete fabrication to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

B. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.

2.4 SHOP PRIMING

A. Shop prime wood trim for opaque finish with one coat of specified wood primer.

B. Backprime with one coat of sealer or primer, compatible with finish coats. Apply two coats to surfaces installed in contact with concrete or masonry and to end-grain surfaces.

2.5 SHOP FINISHING OF INTERIOR WOOD TRIM

A. Finishes: Same grades as items to be finished.

B. Shop finish transparent-finished interior wood trim at fabrication shop.

1. Apply one coat of sealer or primer to concealed surfaces of wood trim. Apply two coats to end-grain surfaces.

2. Apply a wash coat sealer to wood trim made from closed-grain wood before staining and finishing.

3. After staining, if any, apply paste wood filler to open-grain woods and wipe off excess. Tint filler to match stained wood.

C. Transparent Finish:

1. Stain: Match existing.

2. Finish: Conversion varnish or catalyzed polyurethane.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Before installation, condition wood trim to average prevailing humidity conditions in installation areas.

B. Install wood trim to comply with referenced quality standard for grade specified.

C. Install wood trim level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.

D. Scribe and cut wood trim to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.

E. Anchor wood trim to anchors or blocking built into or directly attached to substrates. Fasten with countersunk concealed fasteners and blind nailing. Use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork.

F. Interior Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 60 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.

G. Refer to Sections 09 91 23 – Painting and 09 93 00 – Staining and Transparent Finishing for field-finished woodwork and trim

END OF SECTION 06 46 00
SECTION 07 21 00 – ACOUSTIC INSULATION

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data.

PART 2 - PRODUCTS

2.1 ACOUSTIC BATT INSULATION

A. Manufacturer: Rockwool™, 4594 Cayce Rd, Byhalia, MS 38611-7550 / (800)265-6878 / contactus@rockwool.com / www.rockwool.com, or Approved Equal.

B. Description: Rockwool AFB®. Non-combustible, lightweight, mineral wool batt insulation to, ASTM C665 Type 1, that provides fire resistance to ASTM E136 and sound control to ASTM C423.

C. Thickness: As noted in Construction Documents

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install insulation to maintain continuity throughout partition or floor/ceiling assembly.

B. Do not compress beyond amount needed for friction fit. Fit insulation around all electrical boxes, pipes, ducts, frames and other objects in or passing through the insulation.

3.2 PENETRATION FIRESTOPPING SCHEDULE

A. Refer to Construction Documents for Firestopping Details.

END OF SECTION 07 21 00
SECTION 07 84 13 - PENETRATION FIRESTOPPING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS
   A. Submittals: Product Data.

PART 2 - PRODUCTS

2.1 PENETRATION FIRESTOPPING
   A. Provide penetration firestopping materials as stated in the Construction Documents. Notify
      Architect immediately if wall or floor assembly differs from drawing.

PART 3 - EXECUTION

3.1 INSTALLATION
   A. General: Install penetration firestopping to comply with manufacturer's written installation
      instructions and published drawings for products and applications indicated.

3.2 PENETRATION FIRESTOPPING SCHEDULE
   A. Refer to Construction Documents for Firestopping Details.

END OF SECTION 07 84 13
SECTION 07 92 00 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data and color Samples.

B. Environmental Limitations: Do not proceed with installation of joint sealants when ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS


B. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under service and application conditions.

C. Sealant for Use in Interior Joints in Ceramic Tile and Other Hard Surfaces in Kitchens and Toilet Rooms and around Plumbing Fixtures:

1. Single-component, mildew-resistant silicone sealant, ASTM C 920, Class 50; formulated with fungicide.
   a. GE Construction Sealants Supreme Silicone Kitchen & Bath Sealant, O.A.E.

D. Sealant for Interior Use at Perimeters of Door and Window Frames:

1. Acrylic latex or siliconized acrylic latex, ASTM C 834.
   a. DAP ALEX PLUS® All Purpose Acrylic Latex Caulk Plus Silicone, O.A.E.

E. Acoustical Sealant:

1. UL 732, non-sag, paintable, non-staining latex sealant complying that effectively reduces airborne sound transmission as demonstrated by testing according to ASTM E 90.
   a. OSI® SC-175 Acoustical Caulk, O.A.E.
2.2 MISCELLANEOUS MATERIALS

A. Provide sealant backings of materials that are non-staining; 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.

B. Cylindrical Sealant Backings: ASTM C 1330, of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

C. 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.

D. 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.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with ASTM C 1193.

B. Install sealant backings to support sealants during application and to produce cross-sectional shapes and depths of installed sealants that allow optimum sealant movement capability.

C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

D. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal perimeters, control joints, openings, and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions. Comply with ASTM C 919.

END OF SECTION 07 92 00
SECTION 08 14 16 - FLUSH WOOD DOORS AND HARDWARE

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS
A. Submittals: Samples for factory-finished doors.

PART 2 - PRODUCTS

2.1 DOOR CONSTRUCTION, GENERAL
A. Quality Standard: WDMA I.S.1-A.
B. Certified Wood: Comply with Section 018113.13 - Sustainable Design Requirements - LEED 2009 for New Construction and Major Renovations.
C. Low-Emitting Materials: Provide doors made with adhesives and composite wood products that do not contain urea formaldehyde.
D. WDMA I.S.1-A Performance Grade:
   1. Heavy duty unless otherwise indicated.
   2. Extra Heavy Duty: Restrooms.

2.2 FLUSH WOOD DOORS
A. Veneer-Faced Doors for Transparent Finish:
   1. Interior Solid-Core Doors: Premium grade, structural composite lumber cores.
      a. Faces: Grade A plain-sliced red oak.

2.3 HARDWARE
A. Hinges:
B. Locksets (Key all doors to building master system):
   1. Corbin Russwin CLX3351 Series ANSI/BHMA Grade 1 cylindrical lock
      a. Finish: 606 (US4 Satin Brass)
      b. Lever: Newport
      c. Function: Keyed privacy
   2. Corbin Russwin ML2030 Privacy Function Mortise Lock
      a. Finish: 606 (US4 Satin Brass)
b. Lever: Newport / Escutcheon

c. Function: Thumblatch privacy

d. Indicator: V20 “Vacant / Occupied”

C. Closers:
1. **LCN 4110 Smoothee-Heavy Duty** Institutional Adjustable Closer
   a. ANSI Standard A156.4, Grade 1
   b. UL Listed
   c. ADA Compliant
   d. Finish – Aluminum (689)

D. Silencers:
1. **Ives SR64** (for Metal Frames)
   a. ANSI/BHMA 156.16
   b. 60 Durometer styrene butadiene rubber
2. **Ives SR65** (for Wood Frames)
   a. ANSI/BHMA 156.16
   b. 60 Durometer styrene butadiene rubber

2.4 HARDWARE SETS

A. Hardware Set No. 1 (Technical Services Office)
   1. Hinge: 1
   2. Lockset: 1
   3. Closer: N/A
   4. Silencer: 2

B. Hardware Set No. 2 (Unisex Restroom)
   1. Hinge: 1
   2. Lockset: 2
   3. Closer: 1
   4. Silencer: 1

2.5 FABRICATION AND FINISHING

A. Factory-fit doors to suit frame-opening sizes indicated and to comply with clearances specified.

B. Factory-machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3.

C. Cut and trim openings to comply with referenced standards.
   1. Trim light openings with moldings indicated.
   2. Factory-install glazing in doors indicated to be factory finished.
   3. Factory-install louvers in prepared openings.

D. Factory-finish doors indicated for transparent finish with stain and manufacturer's standard finish complying with WDMA TR-6, catalyzed polyurethane for grade specified for doors.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install doors to comply with manufacturer's written instructions and WDMA I.S.1-A, and as indicated.

B. Align and fit doors in frames with uniform clearances and bevels. Machine doors for hardware. Seal cut surfaces after fitting and machining.

C. Clearances: As follows unless otherwise indicated:

1. 1/8 inch at heads, jambs, and between pairs of doors.
2. 1/8 inch from bottom of door to top of decorative floor finish or covering.
3. 1/4 inch from bottom of door to top of threshold.
4. Refer to Construction Drawings for larger undercuts as required for proper HVAC distribution. Doors required to allow return air circulation shall have an undercut of 1” U.O.N.
5. Comply with NFPA 80 for fire-rated doors.

END OF SECTION 08 14 16
SECTION 08 18 00 – GLASS DOORS

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 swinging glass doors.
   2. Glass sidelights and transoms.

1.3 PREINSTALLATION MEETINGS
A. Preinstallation Conference: Conduct conference at Project Site at a suitable time selected by the Contractor so as to not negatively impact the project schedule.

1.4 ACTION SUBMITTALS
A. Product Data: For each type of product.
   1. Provide Shop Drawings, including but not limited to, construction details, material descriptions, dimensions of individual components and profiles, and finishes for all-glass system.
   2. Material Samples
      a. Glass: 6 inch square, showing exposed edge finish and tint
      b. Metal Finishes: 6 inch long section of frame
      c. Hardware: One sample of each exposed hardware type in specified finish

1.5 CLOSEOUT SUBMITTALS
A. Maintenance Data: For all-glass systems to include in maintenance manuals.
1.6 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer/Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.

1. Do not change intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If changes are proposed, submit comprehensive explanatory data to Architect for review.

1.7 WARRANTY

A. Warranty: Installer agrees to repair or replace components of all-glass systems that do not comply with requirements or that fail in materials or workmanship within two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design glass doors, entrances and storefronts.

B. General Performance: Comply with performance requirements specified, as determined by testing of glass doors, entrances and storefronts representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.

C. Deflection Limits: Deflection shall not exceed industry standard maximums.

D. Acoustic Performance: 44 STC.

2.2 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Avanti Systems, Inc. Solare™ acoustic, double-glazed partition system or comparable product by one of the following:

1. Klein USA, Inc.
2. Dorma Kaba USA, Inc.

2.3 METAL COMPONENTS

A. Materials:

1. Aluminum: ASTM B 221 (ASTM B 221M), with strength and durability characteristics of not less than Alloy 6063-T5.
a. Color and Finish: As selected by Owner and Architect from manufacturer’s full range. RAL Paint color to match existing adjacent door frames.

2. Stainless-Steel Cladding: ASTM A 666, Type 304.
   a. Finish: No. 4 directional satin finish.

B. Anchors and Fastenings: Concealed

C. Accessories: Match frame metal and finish.

2.4 GLAZING

A. Glass: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated surfaces), Type I (transparent), tested for surface and edge compression per ASTM C 1048 and for impact strength per 16 CFR 1201 for Category II materials.

1. All door and sidelight glass shall be double-glazed units with one 1/2 inch thick panel and one 9/16 inch thick panel.

2.5 HARDWARE

A. General: Entrance door hardware units in sizes, quantities, and types recommended by manufacturer for all-glass entrance systems indicated. For exposed parts, match metal and finish of patch and rail fittings.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Avanti Systems, Inc.: Hinged

B. Push-Pull Set: As selected from manufacturer's full range.

C. Locksets: Center-housing combination deadbolt and latchbolt with ADA-compliant lever handles

1. Deadbolt operated by key outside and inside

D. Cylinders: Six-pin cylinder, BHMA A156.5, Grade 1.

E. Door Stops: BHMA A156.16, Grade 1, floor or wall mounted, as appropriate for door location indicated, with integral rubber bumper.

2.6 SEALANTS

A. Single-Component, Nonsag, Acid-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Uses NT, G, and A.

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

   a. Bostik, Inc.
   b. Dow Corning Corporation.
   c. GE Construction Sealants; Momentive Performance Materials Inc.
e. Pecora Corporation.
f. Polymeric Systems, Inc.
g. Schnee-Morhead, Inc., an ITW company.
h. Tremco Incorporated.

2. Sealant shall have a VOC content of 250 g/L or less.

2.7 FABRICATION

A. Provide holes and cutouts in glass to receive hardware, fittings, and accessory fittings before tempering glass. Do not cut, drill, or make other alterations to glass after tempering.

1. Fully temper glass using horizontal (roller-hearth) process, and fabricate so that when glass is installed, roll-wave distortion is parallel with bottom edge of door or lite.

B. Factory assemble components and factory install hardware and fittings to greatest extent possible.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, 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

A. General:
   1. Comply with manufacturer's written instructions.
   2. Do not install damaged components.
   3. Fit joints to produce hairline joints free of burrs and distortion.
   4. Rigidly secure nonmovement joints.
   5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.

B. Metal Protection:
   1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with materials recommended by manufacturer for this purpose or installing nonconductive spacers.

C. Set units level, plumb, and true to line, with uniform joints.

D. Maintain uniform clearances between adjacent components.

E. Lubricate hardware and other moving parts according to manufacturer's written instructions.
F. Set, seal, and grout floor closer cases as required to suit hardware and substrate indicated.

G. Install sealants according to manufacturer's written instructions.

3.3 ADJUSTING AND CLEANING

A. Adjust doors and hardware to produce smooth operation and tight fit at contact points.

B. Remove excess sealant and glazing compounds and dirt from surfaces.

END OF SECTION 08 18 00
SECTION 08 31 13 - ACCESS DOORS AND FRAMES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS
A. Submittals: Product Data.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS
A. Fire-Rated Access Doors and Frames: Labeled by a testing and inspecting agency acceptable to authorities having jurisdiction based on testing per the following:
   1. Vertical Access Doors: NFPA 252 or UL 10B.

2.2 ACCESS DOORS AND FRAMES FOR WALLS AND CEILINGS
A. Manufacturers: Acudor, Cendrex, Babcock Davis, O.A.E.
B. Flush Access Doors with Concealed Flanges: Prime-painted steel units with gypsum board bead flange.
D. Locks: Flush to finished surface, key operated.

2.3 MATERIALS
A. Steel Sheets: ASTM A 1008/A 1008M or ASTM A 591/A 591M.

PART 3 - EXECUTION

3.1 INSTALLATION
A. Install access doors and panels accurately in position. Adjust hardware and door and panels for proper operation.
B. Install fire-rated access doors and panels according to NFPA 80.

END OF SECTION 08 31 13
SECTION 09 22 16 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data.

PART 2 - PRODUCTS

2.1 METAL FRAMING AND SUPPORTS

A. Framing Systems:
   1. Studs and Runners: In depth indicated and 20 gauge thick unless otherwise indicated.
   2. Hat-Shaped, Rigid Furring Channels: In depth indicated and 0.033 inch thick.
   3. Z-Furring: In depth required, 1-1/4-inch face flange, 7/8-inch wall-attachment flange, and 0.018 inch thick.
   4. Resilient Channel – 18mil (25ga), 2" x 1/2" deep with 1-1/4" screw flange

2.2 ACCESSORIES

A. General: Comply with referenced installation standards.
   1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install steel framing to comply with ASTM C 754."
   1. Gypsum Board Assemblies: Also comply with ASTM C 840.

B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.

C. Isolate steel framing from building structure, except at floor, to prevent transfer of loading imposed by structural movement.
   1. Where studs are installed directly against exterior walls, install isolation strip between studs and wall.

D. Fire-Resistance-Rated Assemblies: Comply with requirements of listed assemblies.

END OF SECTION 09 22 16
SECTION 09 29 00 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product data.

PART 2 - PRODUCTS

2.1 PANEL PRODUCTS

A. Interior Gypsum Board: ASTM C 1396/C 1396M, in 5/8” thickness, with manufacturer's standard edges. Abuse Resistant, Mold-and-Mildew Resistant Type.
   2. USG Sheetrock® Brand Mold Tough AR Firecode X panel.
   3. Or approved equal.

B. Cementitious Backer Units: ANSI A118.9, ASTM C 1288, or ASTM C 1325.
   2. USG Durock® Brand cement board.

C. Provide all products in maximum lengths available to minimize end-to-end butt joints.

2.2 ACCESSORIES

A. Trim Accessories: ASTM C 1047, formed from galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet. For exterior trim, use accessories formed from hot-dip galvanized-steel sheet, plastic, or rolled zinc.
   1. Provide cornerbead at outside corners unless otherwise indicated.
   2. Provide LC-bead (J-bead) at exposed panel edges.
   3. Provide control joints where indicated.

B. Joint-Treatment Materials: ASTM C 475/C 475M.
   1. Joint Tape: Paper unless otherwise recommended by panel manufacturer.
   2. Joint Compounds: Setting-type taping compound and drying-type, ready-mixed, compounds for topping.
   3. Cementitious Backer Unit Joint-Treatment Materials: Products recommended by cementitious backer unit manufacturer.
PART 3 - EXECUTION

3.1 INSTALLATION

A. Install gypsum board to comply with ASTM C 840.
   1. Isolate gypsum board assemblies from abutting structural and masonry work. Provide edge trim and acoustical sealant.
   3. Multilayer Fastening Methods: Fasten base layers and face layer separately to supports with screws.

B. Install cementitious backer units to comply with ANSI A108.11.

C. Fire-Resistance-Rated Assemblies: Comply with requirements of listed assemblies.

D. Finishing Gypsum Board: ASTM C 840.
   1. At concealed areas, unless a higher level of finish is required for fire-resistance-rated assemblies, provide Level 1 finish: Embed tape at joints.
   2. At substrates for tile, provide Level 2 finish: Embed tape and apply separate first coat of joint compound to tape, fasteners, and trim flanges.
   3. Unless otherwise indicated, provide Level 4 finish: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges.

E. Cementitious Backer Units: Finish according to manufacturer's written instructions.

END OF SECTION 09 29 00
SECTION 09 30 13 - CERAMIC TILING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product data and Samples.

B. Obtain tile of each type and color or finish from same production run for each contiguous area.

C. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use.

PART 2 - PRODUCTS

2.1 CERAMIC TILE

A. Ceramic tile that complies with ANSI A137.1.
   1. Manufacturer: American Olean, or approved equal.

B. Ceramic Tile Type 01: Porcelain Wall Tile – Base and Accent Stripe.
   1. Module Size: 4 ¼” x 4 ¼”
   2. Finish: Matte
   3. Color: Selection by Owner and Architect, to match existing Restroom
   4. Grout Color: Selection by Owner and Architect
   5. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoining flat tile. Provide shapes as follows, selected from manufacturer's standard shapes:
      a. Base: Coved, of size to match field tile.
      b. Wainscot Cap: Bullnose, of size to match field tile.
      c. Internal Corners: Field-butted square corners. For coved base and cap, use angle pieces designed to fit with stretcher shapes.
   6. Performance Criteria
      b. Scratch Hardness: 7 (Mohs Scale)

C. Ceramic Tile Type 02: Porcelain Wall Tile – Field Tile.
   1. Module Size: 4 ¼” x 4 ¼”
   2. Finish: Matte
   3. Color: Selection by Owner and Architect, to match existing Restroom
   4. Grout Color: Selection by Owner and Architect
   5. Performance Criteria – match Ceramic Tile Type 01

D. Ceramic Tile Type 03: Porcelain Floor Tile – Field Tile.
   1. Module Size: 2” x 2”
   2. Finish: Matte
3. Color: Selection by Owner and Architect, to match existing Restroom
4. Grout Color: Selection by Owner and Architect
5. Performance Criteria
   a. Dynamic Coefficient of Friction (DCOF) ≥ 0.42 (wet) per ANSI A137.1-2012 and ANSI A326.3 (DCOF AcuTest)
   b. Chemical Resistance: Unaffected (ASTM C650)
   c. Scratch Hardness: 7 (Mohs Scale)

E. Ceramic Tile Type 04: Porcelain Floor Tile – Perimeter Accent
   1. Module Size: 2” x 2”
   2. Finish: Matte
   3. Color: Selection by Owner and Architect, to match existing Restroom
   4. Grout Color: Selection by Owner and Architect
   5. Performance Criteria – match Ceramic Tile Type 03

2.2 INSTALLATION MATERIALS

A. Setting and Grouting Materials: Comply with material standards in ANSI's "Specifications for the Installation of Ceramic Tile" that apply to materials and methods indicated.
   1. Thinset Mortar Type: Standard dry-set, ANSI A118.1 mortar; white. Mapei Corporation, or approved equal.
   2. Grout: 100%-solids epoxy grout with high chemical and stain resistance, ISO 13007 Classification RG, meets or exceeds ANSI 118.3 and 118.5 requirements. Mapei Corporation Kerapoxy IEG CQ, or approved equal.
      a. Joints: 1/8” to 3/16” width

PART 3 - EXECUTION

3.1 INSTALLATION

A. Contractor and Architect shall inspect existing concrete slab upon complete removal of existing finish (e.g. carpeting, tile, etc) and associated components (e.g. mortar, mastic, etc.).

B. Architect to review grout sample with tile prior to installation.

C. Comply with TCNA's "Handbook for Ceramic, Glass, and Stone Tile Installation" for TCNA installation methods specified in tile installation schedules. Comply with parts of ANSI A108 Series "Specifications for Installation of Ceramic Tile" that are referenced in TCNA installation methods, are specified in tile installation schedules, and apply to types of setting and grouting materials used.

D. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight, aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
E. Lay tile in grid pattern unless otherwise indicated. Align joints where adjoining tiles on floor, base, walls, and trim are the same size.

F. Interior Wall Tile Installation Method(s):
   1. Over Wood or Metal Studs or Furring: TCNA W244C or TCNA W244F; thinset mortar on cementitious backer units or fiber-cement underlayment.

END OF SECTION 09 30 13
SECTION 09 51 00 – ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.1 Summary

A. Section Includes:
   1. Acoustical ceiling tile systems –
      a. Mineral Fiber Tiles
      b. Metal Tiles
   2. Exposed grid suspension system
   3. Wire hangers, fasteners, main runners, cross tees, and wall angle moldings
   4. Perimeter trim

B. Submittals:
   1. Product data including manufacturer’s technical data.
   2. Shop drawings including layout, details, and items to be coordinated with, and/or supported by the ceiling system.

PART 2 - PRODUCTS

2.1 Manufacturers – Armstrong World Industries, Inc, or approved equal.

2.2 Acoustical Ceiling Units

A. Mineral Fiber Tiles shall be as follows:
   1. Salvage existing from Technical Services Office for re-use at Young Adult Lounge Area

B. Metal Tiles shall be as follows: MetalWorks Secure Lock Plus custom ceiling system
   1. Manufacturer: Armstrong World Industries, Inc, or approved equal.
   2. Product Name: MetalWorks Secure Lock Plus 24”x24” custom ceiling system
   3. Model No.: 5488 P4 WH
   4. Color : White (WH)
   5. Perforations : P4 Perforated w/ fiberglass infill (#8200T10)
   6. Acoustic Performance : 0.80 NRC / 38 CAC
   7. Light Reflectance : min. 75%
   8. Fire Rating : Class A (UL)
   9. Accessories:
      a. Hold down border clips (Part # 5396)
      b. Compression strut (Part # 5594)
      c. Security screws (Part # 5596)
      d. Access Door – 18ga (Part # 5398)
2.3 Metal Suspension System

A. For areas with Mineral Fiber Ceiling Tiles, match existing metal lay-in grid and attachment system.

B. For areas with Metal Ceiling Tiles, suspension system shall be *Armstrong Prelude® XL® 15/16“, or approved equal.
   1. Material : Electrogalvanized Steel – min. 18ga thickness
   2. Finish : Factory-applied powder coat finish
   3. Color : White
   4. Fire Performance :
      a. Class A (ASTM E84)
      b. Flame Spread Index ≤ 25
      c. Smoke Development Index ≤ 50

5. Coordinate installation of special compression struts and other hardware listed in the Accessories above.

PART 3 - EXECUTION

3.1 Storage and Handling

A. The ceiling panels shall be stored in a dry interior location and shall remain in cartons prior to installation to avoid damage. The cartons shall be stored in accordance with the instructions on the carton. Proper care should be taken when handling to avoid damage or soiling.

3.2 Preparation

A. Installer shall project scope with General Contractor and all subcontractors who must work above areas to be finished with security ceilings.

3.3 Installation

A. Installation shall be as per these specifications as well as Manufacturer’s Installation Instructions. Discrepancies between these specifications, the Construction Documents and Manufacturer’s written instructions shall be brought to the immediate attention of the Architect.

B. Perimeter Channel : Install perimeter channel (Part # 5650) at elevation datum defined in Construction Documents with specified fasteners. Fasteners shall be installed at each stud and not to exceed 16”o.c.
   1. Miter or butt all perimeter trim sections at corners. Do not overlap bottom flanges.

C. Grid : Lay out suspension grid per Reflected Ceiling Plan in Construction Documents. Verify said layout ensures partial tiles on opposite ends of the room are of equal size and complies with manufacturer’s requirements.
   1. Suspension wire shall be 9ga. spaced 2’o.c. Position wires such that each will fall at a cross tee/main beam intersection.

D. Compression Struts : Install Compression Struts (Part #5594) adjacent to each wire.

E. Hold Down Clips : Install Hold Down Clips ( Part #5396) in accordance with manufacturer’s instructions.

F. Panels: Install panels in accordance with manufacturer’s instructions.
1. Acoustic Infill – install acoustic infills on the backside of each panel.
2. Install exit panel(s) and access doors(s)
3. G. Leave behind Security Screwdriver (Part # 5597) for facility maintenance personnel.

3.4 Adjusting and Cleaning
A. Touch up scatches and dings with matching paint.
B. Clean smudges and fingerprints as with warm soapy water and soft cloth.
C. Provide Owner and/or facility maintenance personnel with cleaning and maintenance instructions.

END OF SECTION 09 51 00
SECTION 09 68 00 – CARPETING

PART 1 – GENERAL

1. RELATED DOCUMENTS
   a. Division 01 Specification Sections

2. SUMMARY
   a. This section relates to carpet tile.

3. PREINSTALLATION MEETINGS
   a. Preinstallation Conference: Conduct conference at Project Site at a suitable time selected by the Contractor so as to not negatively impact the project schedule.

4. SUBMITTALS
   a. Product Specification
   b. Specification for Adhesive
   c. Shop Drawings
   d. Samples
   e. Schedule
   f. Qualifications for Installer

5. CLOSEOUT SUBMITTALS
   a. Maintenance Instructions
   b. Warranty Documents

6. QUALITY ASSURANCE
   a. Environmental:
      i. Green Label Plus Certified
      ii. Cradle to Cradle Certified Gold
      iii. NSF 140 Gold
      iv. Health Product Declaration
      v. Declare Label, red list compliant
      vi. No PVC components
   b. Installer Qualifications: Installer who has been trained in the installation of carpet tile.
   c. Manufacturer Qualifications
      i. ISO 14001
      ii. ISO 9001
      iii. Reclamation Program: Will recycle EcoWorx carpet tile free of charge for quantities of 500 SY (418 SM) or more within continental United States and Canada or 5000 SY (4180 SM) globally.
   d. Mockups at designated location for architect review and approval.

7. MATERIAL STORAGE AND HANDLING
   a. Store rolls on a flat surface, away from vents and direct sunlight.
   b. Store in protected dry conditions between 65 and 85 degrees.

8. SITE CONDITIONS
The following conditions must be maintained for 24 hours prior to, during and permanently after installation:

a. HVAC System must be operational.
b. The installation site, carpet and adhesive must be between 50°F and 95°F.
c. The installation site’s ambient relative humidity must not fall below 40%.
d. Conduct relative humidity or Anhydrous Calcium Chloride testing. Results must be within the proper range for Shaw 5000 adhesive:
   i. Calcium Chloride ASTM F-1869 5.0 lbs per 1000 SF /24 hours
   ii. Relative Humidity ASTM F-2170 85%
   iii. EcoLogix ES does not require moisture or pH testing.
e. Conduct pH testing on the floor in several locations. A reading below 5.0 or above 9.0 requires corrective measures.

PART 2 – PRODUCTS

1. TESTING REQUIREMENTS
   a. Pill Test CPSC FF 170: Pass
   b. Radiant Panel ASTM E648: Class I
   c. NBS smoke ASTM E662 NF: <450
   d. Static AATCC 134: <3.5 kv
   e. Coefficient of Friction: 0.6 (Meets ADA requirements)

2. TILE CARPETING
   a. Manufacturer: Patcraft
   b. Product: cube & colour 24" x 24", I0426
   c. Construction: Multi-Level Pattern Loop
   d. Fiber: solution q® extreme nylon
   e. Dye Method: 100% solution dyed
   f. Backing: ecoworx® tile
   g. Protective Treatment: N/A
   h. Size: 24 in x 24 in
   i. Gauge: 0.0833333333333333 in
   j. Stitches: 9.83333333333334 per in
   k. Finished Pile Thickness: 0
   l. Average Density: 8165 oz/yd³
   m. Total Thickness: 0.234 in
   n. Tufted Weight: 0

3. INSTALLATION MATERIALS
   a. High Moisture Management Solutions (10 Year Warranty)
      i. Concrete with %RH <99%, MVER <=10, pH < 11
         1. Apply USG Advanced skim coat as necessary for patch/skim coat.
         2. Install flooring with Shaw 4151* adhesive.
      ii. Concrete with %RH >= 99%, MVER <=12, pH <= 12
          1. Apply Shaw Surface Prep EXT followed by Shaw Moisture Shield.
2. Apply USG Advanced skim coat as necessary for patch/skim coat.
3. Install flooring with Shaw 4151* adhesive.

iii. **Concrete with %RH \( \geq 99\% \), MVER \( \leq 17 \), pH > 12**
   1. Apply Surface Prep
   2. Apply Shaw Moisture Shield.
   3. Apply MRP
   4. Apply USG Advanced Skim Coat as necessary for patch/skim coat.
   5. Install flooring with Shaw 4151* adhesive

iv. **Concrete with %RH \( \geq 99\% \), MVER > 17, pH > 12**
   1. Apply Shaw Surface Prep EXT followed by Shaw MoistureTek.
   2. Apply USG Advanced skim coat as necessary for patch/skim coat.
   3. Install flooring with Shaw 4151* adhesive.

b. Adhesives:
   i. For EcoWorx (fiberglass reinforced):
      1. Lokworx+ Carpet Tile Adhesive 15 lbs. 97% RH  pH 5-11
      2. Lokworx Carpet Tile Adhesive 10 lbs. 95% RH  pH 5-11
      3. Shaw 3800 indoor/outdoor: 8 lbs. 90% RH  pH 5-9
      4. Shaw 4151 high moisture: 10 lbs. 99% RH  pH 12
      5. LokDots dry adhesive: No visible moisture pH 12
      6. LokWorx tabs: 10 lbs. 85 RH  pH 12
      7. Mill-applied ES: No visible moisture
   
   ii. For EcoLogix (attached cushion): All, excluding LokDots and LokWorx.
   
   iii. For StrataWorx (light weight tile alternative to broadloom)
      1. Lokworx+ Carpet Tile Adhesive 15 lbs. 97% RH  pH 5-11
      2. Lokworx Carpet Tile Adhesive 10 lbs. 95% RH  pH 5-11
      3. Shaw 3800 indoor/outdoor: 8 lbs. 90% RH  pH 5-9
      4. Shaw 4151 high moisture: 10 lbs. 99% RH  pH 12
      5. LokDots dry adhesive: No visible moisture pH 12
      6. LokWorx tabs: 10 lbs. 85 RH  pH 12

   c. Primer (if needed): 9050 is an acrylic solution made to neutralize excess alkali that is also recommended as a primer coat to prevent over absorption of adhesive and to ensure a better bond. Formulated with an antimicrobial agent, it provides protection against bacteria, fungi, and mildew in the wet or dry state. Contains no solvent, alcohol, or other hazardous materials per OSHA 29 CFR 1910.1200. Non-photo chemically reactive per rule #102. Available in 4-gallon pails.

   d. Leveling and Patching Compounds: Use a cementitious patching/leveling compound that meets or exceeds the required moisture level and pH requirements. Use of gypsum-based patching and/or leveling compounds which contain Portland or high alumina cement and meet or exceed the compressive strength of 3,000 psi are acceptable.

   e. FinishWorx Transition Strips (Micro Transition, Metal TrimMaster)
   
f. FinishWorx Wall Base Accessories
   
g. FinishWorx Cove Base Accessories:
PART 3 – EXECUTION

1. EXAMINATION
   a. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content, pH, smoothness and level.
   b. If dusting or powdering exists, seal the floor with a latex primer such as Shaw 9050.

2. PREPARATION
   a. Substrates shall be smooth, structurally sound, permanently dry, clean and free of all foreign material such as dust, wax, solvents, paint, grease, oils, old adhesive residue, curing and hardening/curing compounds, sealers and other foreign material that might prevent adhesive bond.
   b. Pre-existing Adhesive
      i. Remove existing adhesives to prevent adhesive incompatibility/reactions and bonding issues.
      ii. Cutback Adhesive: Wet scrape the adhesive, reduce to a well bonded residue and encapsulate with a product such as Shaw MRP.
      iii. Do not use adhesive removers, they will adversely affect the new adhesive and product installed.
   c. Fill depressions or cracks with a cementitious patching/leveling compound that meets or exceeds the required moisture level and pH requirements. Use of gypsum-based patching and/or leveling compounds which contain Portland or high alumina cement and meet or exceed the compressive strength of 3,000 psi are acceptable.
   d. Flooring considerations:
      i. Installing over VCT and VAT: Tiles must be secure to the subfloor. Strip any wax from the surface.
      ii. Installing over wood subfloors: Prime with a liquid latex such as Shaw 9050.
      iii. Installing over raised access flooring: Must be smooth, level, secure and clean. Install carpet tile at an offset from panel seams. Gaps must not exceed 1/16” (1.6 mm).

3. LAYOUT AND INSTALLATION
   a. Start the tile installation as near to the center of the room as possible and position it to use the largest perimeter cut tile size.
   b. Snap a chalk line parallel to one major wall bisecting the starting point. It may be necessary to offset the center chalk line to assure perimeter tiles will be at least half size.
   c. Snap a second chalk line from the starting point at 90° to the first line. Use a 3-4-5, 6-8-10, or larger triangle depending on the room size. Meters or feet may be used to lay out the triangle in these proportions.
d. Use a full spread of adhesive applied with a 3/8” foam paint roller or 1/16 x 1/32 x 5/64 u-notch trowel. The adhesive must be allowed to dry completely before installing the carpet. Installing into wet adhesive will result into a permanent bond and may cause the carpet to bubble. Trowel application of adhesive is recommended for EcoLogix. EcoWorx ES / EcoLogix ES no adhesive required. Approximate coverage rates are 35-40 yards per gallon when applied with a roller, and 28 -33* yards per gallon when applied with a trowel.

e. Install each full carton and complete an entire pallet before starting another pallet to minimize product variation. Each tile has directional arrows on the back. These arrows allow for one-directional or multi-directional installation. Some styles may be large scale or linear in design and require quarter turning. If you are unsure about whether or not your product requires a quarter turned installation, please contact 1.877.502.7429. Numbers within the arrows are for manufacturing purposes and are not related to installation.

f. Begin installation at the intersection of two chalk lines. Continue until you complete one quadrant. Proceed to an adjoining quadrant until all four quadrants are completed. Larger areas may require chalk lines bisecting the original four quadrants.

g. Install tiles using the pyramid technique. This gives you multiple alignment checks. If the edges do not align and the misalignment increases with progression of the installation, find and correct the source of the problem.

h. Carpet tiles come in various sizes. All Shaw tiles have directional arrows on the back of the tile. Slide tiles into position to prevent yarn from being trapped between the tiles. Trapped yarn will adversely affect the appearance of the installation and will cause alignment problems.

i. EcoWorx ES /EcoLogix ES are manufactured with the adhesive already applied. Once the tile is ready to install, simply peel the liner from the back and position snugly to the adjacent tile.

j. Tiles must fit snugly, but not be compressed. Press the entire surface of the tile to ensure adhesion. Check for fit by measuring the length of ten full tiles after installation. The measurement must not be less than, or exceed by more than 1/4 inch, the length of the tiles being multiplied by ten. For example: if 24" X 24" tiles are being installed, the measurement should be between 240 and 240 1/4 inches.

k. Measure and cut tiles from the back using a straight edge. Be sure the arrows are pointing in the correct direction.

l. Roll the entire installation with a 75 lb. or greater roller to assure the proper adhesion to the substrate.

4. MAINTENANCE

   a. Post-installation Care

      i. Place plywood over the carpet when heavy objects will be moved within 24 hours after installation.

   b. Preventative Floor Care
i. Use protective chair mats under chairs with casters.
ii. Use soil removal mats at exterior entrances.
iii. Use absorbent mats in areas where moisture, oil and grease are present.

c. Routine Maintenance
   i. Set a schedule depending on traffic and vacuum regularly.
   ii. Remove spots with spot removers as soon as they occur.
   iii. Use encapsulation agents periodically.
   iv. Clean with hot water extraction periodically.

<table>
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<th>Traffic Level</th>
<th>Vacuum</th>
<th>Spot Removal</th>
<th>Interim Cleaning</th>
<th>Hot Water Extraction</th>
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<td>As needed</td>
<td>As needed</td>
<td>1/year</td>
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<td>1/day</td>
<td>As needed</td>
<td>As needed</td>
<td>2/year</td>
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<td>Heavy</td>
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<td>As needed</td>
<td>Monthly</td>
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<td>Extra Heavy</td>
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<td>As needed</td>
<td>Weekly</td>
<td>Monthly</td>
</tr>
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END OF SECTION 09 68 00
SECTION 09 91 23 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals:
   1. Product Data.
   2. Samples.

B. Extra Materials: Deliver to Owner 1 gal. of each color and type of finish-coat paint used on Project, in containers, properly labeled and sealed.

PART 2 - PRODUCTS

2.1 PAINT

A. MPI Standards: Provide materials that comply with MPI standards indicated and listed in its "MPI Approved Products List."
   1. Primer Sealer, Latex: MPI #50.
   2. Latex, High-Performance Architectural, (Gloss Level 3): MPI #139.

B. Material Compatibility: Provide materials that are compatible with one another and with substrates. 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.

C. Color(s): Selection by Owner and Architect

PART 3 - EXECUTION

3.1 PREPARATION

A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.

B. Remove hardware, lighting fixtures, and similar items that are not to be painted. Mask items that cannot be removed. Reinstall items in each area after painting is complete.

C. Clean and prepare surfaces in an area before beginning painting in that area. Schedule painting so cleaning operations will not damage newly painted surfaces.
3.2 APPLICATION

A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.

B. Paint exposed surfaces, new and existing, unless otherwise indicated.
   1. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces.
   2. Paint surfaces behind permanently fixed equipment or furniture with prime coat only.
   3. Paint the back side of access panels.
   5. Do not paint prefinished items, items with an integral finish, operating parts, and labels unless otherwise indicated.
   6. Paint Schedule is for bare materials. Modify primer/sealer per MPI recommendations for coating over existing painted surfaces.

C. Apply paints according to manufacturer's written instructions.
   1. Use brushes only where the use of other applicators is not practical.
   2. Use rollers for finish coat on interior walls and ceilings.

D. 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. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

3.3 INTERIOR PAINT APPLICATION SCHEDULE

A. Gypsum Board/Plaster: Gloss Level 3 Eggshell High-Performance Architectural Latex: Two coats over latex primer/sealer: MPI INT 9.2B. Color: As Selected by Owner.

END OF SECTION 09 91 23
SECTION 09 93 00 – STAINING AND TRANSPARENT FINISHES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals:
   1. Product Data: Include printout of MPI's "MPI Approved Products List" with product highlighted.
   2. Samples.

B. Mockups: Full-coat finish Sample of each type of coating, color, and substrate, applied where directed.

C. Extra Materials: Deliver to Owner min. 1 quart of each color and type of stain and transparent finish used on Project, in containers, properly labeled and sealed.

PART 2 - PRODUCTS

2.1 STAINED AND TRANSPARENT FINISHES

A. MPI Standards: Provide materials that comply with MPI standards indicated and listed in its "MPI Approved Products List."

3. Primer, Alkyd for Exterior Wood: MPI #5.
4. Preservative, for Exterior Wood: MPI #37.
10. Stain, for Exterior Wood Decks: MPI #33.
11. Stain, Semitransparent, for Interior Wood: MPI #90.
13. Varnish, Water Based, Clear, Semigloss (Gloss Level 5): MPI #129.
15. Varnish, with UV Inhibitor, Exterior, Semigloss (Gloss Level 5): MPI #30.
17. Varnish, Marine Spar, Exterior, Gloss (Gloss Level 7): MPI #28.
18. Varnish, Interior, Flat (Gloss Level 1): MPI #73.
20. Varnish, Interior, Gloss (Gloss Level 6): MPI #75.
22. Varnish, Interior, Polyurethane, Oil Modified, Gloss (Gloss Level 6): MPI #56.
24. Varnish, Aliphatic Polyurethane, Two Component (Gloss Level 6 or 7): MPI #78.
25. Danish Oil: MPI #92.

B. Material Compatibility: Provide materials that are compatible with one another and with substrates.
   1. 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.

C. Low-Emitting Materials: Stain and transparent finishes shall have a VOC level ≤ 250 ug/m3.

D. Colors: Match existing.

PART 3 - EXECUTION

3.1 PREPARATION
   A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
   B. Remove hardware, lighting fixtures, and similar items that are not to be finished. Mask items that cannot be removed. Reinstall items in each area after finishing is complete.
   C. Clean and prepare surfaces in an area before beginning finishing in that area. Schedule finishing so cleaning operations will not damage newly finished surfaces.

3.2 APPLICATION
   A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
   B. Finish exposed surfaces, new and existing, unless otherwise indicated.
   C. Apply stains and transparent finishes according to manufacturer's written instructions.
   D. Apply stains and transparent finishes to produce surface films without color irregularity, cloudiness, holidays, lap marks, brush marks, runs, ropiness, or other imperfections. Use multiple coats to produce a smooth surface film of even luster.

3.3 INTERIOR STAIN AND CLEAR FINISH APPLICATION SCHEDULE
   A. Wood substrates, nontraffic surfaces, including wood trim, architectural woodwork, wood doors, wood windows and wood-based panel products.
1. Semitranparent Stain: Two coats: MPI INT 6.1G
2. Semitranparent Stain: Two coats: MPI INT 6.3C.
3. Semi-Gloss Water-Based Varnish over Stain: Minimum two coats over stain: MPI INT 6.1R.

END OF SECTION 09 93 00
SECTION 10 28 00 - WASHROOM ACCESSORIES

PART 1 GENERAL

1.1 SECTION INCLUDES
A. Grab Bar
B. Mirror
C. Toilet Tissue Dispenser
D. Soap Dispenser
E. Paper Towel Dispenser and Trash Receptacle

1.2 RELATED REQUIREMENTS
A. Section 06 10 00 – Rough Carpentry, coordination with blocking.
B. Section 09 29 00 – Gypsum Board, coordination with blocking.
C. Section 09 30 13 – Ceramic Tiling, coordination with layout and installation.

1.3 SUBMITTALS
A. Product Data: Submit manufacturer's data sheets for each product specified, including the following:
   1. Installation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Cleaning and maintenance instructions.
   4. Replacement parts information.
B. Schedule: Submit a toilet accessory schedule, indicating the type and quantity to be installed in each washroom. Use room numbers as indicated on the Drawings.
C. Country of Origin: Manufacturer must supply, with first submittal, Country of Origin information for each type of washroom accessory for this project.
D. Substitutions: Per procedures in Division 1 of the Project Manual. Documentation shall include a list of five similar projects of equivalent size where products have been installed for a minimum of two years, and manufacturer's certification that products are fabricated in the United States.

1.4 QUALITY ASSURANCE
A. Single Source Requirements: To the greatest extent possible provide products from a single manufacturer.
B. Accessibility Requirements: Comply with requirements applicable in the jurisdiction of the project, including but not limited to ADA and ICC/ANSI A117.1 requirements as applicable.

1.5 DELIVERY, STORAGE, AND HANDLING
A. Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and recommendations. Protect from damage.

1.6 WARRANTY
A. Manufacturer’s Warranty for Washroom Accessories: Manufacturer’s standard 1 year warranty for materials and workmanship.
B. Manufacturer’s Warranty for Electric Hand Dryers: Manufacturer’s standard 5 year warranty on parts, except 3 year warranty on motor brushes from date of purchase.
PART 2 PRODUCTS

2.1 GRAB BAR
   A. Basis of Design: Bobrick Washroom Equipment, Inc. B-6806 Series Concealed Mounting Grab Bar
   B. Description: 1-1/2 inch diameter
   C. Drawing Designation: 10 28 00 - A

2.2 MIRROR
   A. Basis of Design: Bobrick Washroom Equipment, Inc. B-1556 2436 Frameless Mirror
   B. Description: 23-1/2 inch W x 35-1/2 inch H brightly-polished, stainless steel frameless mirror with 1/4 inch tempered Masonite backing.
   C. Drawing Designation: 10 28 00 - B

2.3 TOILET TISSUE DISPENSER
   A. Basis of Design: Match existing
   B. Drawing Designation: 10 28 00 - C

2.4 SOAP DISPENSER
   B. Drawing Designation: 10 28 00 - D

2.5 PAPER TOWEL DISPENSER AND TRASH RECEPTACLE
   B. Drawing Designation: 10 28 00 - E

PART 3 EXECUTION

3.1 INSTALLATION
   A. Install products in strict compliance with manufacturer’s written instructions and recommendations, including the following:
      1. Verify blocking has been installed properly.
      2. Verify location does not interfere with door swings or use of fixtures.
      3. Comply with manufacturer’s recommendations for backing and proper support.
      4. Use fasteners and anchors suitable for substrate and project conditions.
      5. Install units rigid, straight, plumb, and level, in accordance with manufacturer’s installation instructions and approved shop drawings.
      6. Conceal evidence of drilling, cutting, and fitting to room finish.
      7. Test for proper operation.

3.2 CLEANING AND PROTECTION
   A. Clean exposed surfaces of compartments, hardware, and fittings using methods acceptable to the manufacturer.
   B. Touch-up, repair or replace damaged products until Substantial Completion.

END OF SECTION 10 28 00
SECTION 22 00 00 - GENERAL PLUMBING

PART 1 - GENERAL

1.1 SUMMARY
A. Section includes all components required to make a complete plumbing system.
B. Related Sections:
   1. 22 40 00 – Plumbing Fixtures.

1.2 QUALITY ASSURANCE
A. Installer Qualifications: All plumbing work shall be completed by a NJ licensed plumber.
B. Code Compliance: All plumbing works shall comply with the National Standard Plumbing Code (Current Edition) as well as any locally applicable codes and utility company requirements.
C. Complete System: Provide and install all components, including but not limited to piping, valves, traps, fittings and vents to constitute a completely operational plumbing system.
D. Pipe and Pressure-Vessel Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.

PART 2 - PRODUCTS

2.1 SYSTEM COMPONENTS:
A. DRAINAGE, WASTE, VENT (DWV) PIPING: Schedule 40 PVC or No Hub Cast Iron (ASTM A888).
B. DOMESTIC SUPPLY PIPING: ¾”dia. Type L copper tube.
   1. All hot water piping shall be insulated.
   2. Cold water piping in unconditioned spaces shall be insulated.
C. GAS PIPING: Schedule 40 black iron. Size piping in accordance with overall gas load requirements and pipe run lengths.
D. CLEANOUTS: Zurn Z1400-SZ, in all visible locations.
E. P-TRAPS: At all new sinks and lavatories, P-traps shall contain integral cleanouts.
F. PIPE HANGERS + SUPPORT: Horizontal and vertical spacing between supports shall not exceed the following limitations. Additional supports shall be located at areas of concentrated load such as valves and flanges.
1. Copper tubing ≤ 1 ¼” dia. : 5’ (horizontal), 10’ (vertical)
2. Copper tubing ≥ 1 ½” dia. : 8’ (horizontal), 10’ (vertical)
3. Cast Iron : 5” (horizontal), 15’ (vertical)
4. PVC Sched. 40 : 4’ (horizontal), 10’ (vertical) with mid-story guides for diameters ≤ 2”
5. Steel ≤ 1 ¼” : 7’ (horizontal), 15’ (vertical)
6. Steel ≥ 1 ½” dia. : 10’ (horizontal), 15’ (vertical)

G. SHUT OFFS: Service shut off valves shall be located at each fixture, appliance or piece of equipment in accordance with the code and manufacturer's requirements. Where permitted, all shut off valves shall be full bore (full port) quarter-turn type ball valves for easy identification of system condition.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Review existing conditions prior to undertaking installation. Immediately report discrepancies between Construction Documents and existing conditions to Architect.

3.2 INSTALLATION

A. Firestopping: All penetrations through rated partitions and assemblies shall be as per UL Firestop details in Drawings and requirements of Section 07 84 13 – Penetration Firestopping.

B. Cutting and Notching: All holes drilled, and notches made, in structural members shall conform to permissible locations and sizes as per the building code.

C. Support: Comply with aforementioned requirements for pipe hangers and supports. Allow for thermal movements from ambient and surface temperature changes.

END OF SECTION 22 00 00
SECTION 22 40 00 - PLUMBING FIXTURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Lavatories
B. Toilets
C. Drinking Fountains

1.2 REQUIREMENTS

A. Submittals:
   1. Product Data for each type of plumbing fixture, including trim, fittings, accessories, appliances, appurtenances, equipment, and supports.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS


C. NSF Standard: Comply with NSF 61, "Drinking Water System Components - Health Effects," for fixture materials that will be in contact with potable water.

2.2 LAVATORIES

A. Basis of Design: Toto LT307A #01, or approved equal.

B. Description: 21” wall mounted lavatory with two holes drilled and overflow, ADA-compliant.

C. Drawing Designation: 22 40 00 A.

D. Accessories:
   1. Faucet: American Standard NextGen Selectronic commercial faucet (#775B.303.002) with power supply (#PK00HAC.000)
   2. Drain: THP5067 #CP Grid strainer type.
3. Trap: Chrome-plated with slip joint inlet and wall flange, and integral cleanout.
4. Soft plastic covering for supply and drain per ADA specifications.
5. Concealed mounting arm.

2.3 TOILETS

A. Basis of Design: American Standard Madera 1.28 gpf ADA Toilet with Selectronic Exposed Battery Flush Valve System (model 3461.528.020), or approved equal.

B. Description: Floor-mounted, floor-outlet, vitreous china, white.

C. Drawing Designation: 22 40 00 B.

D. Accessories:
   1. Flush valve: included.
   2. Toilet Seat: Heavy Duty Commercial type (model 5901.100.020)

2.4 DRINKING FOUNTAINS

A. Basis of Design: Elkay EZH20 Bottle Filler Station, or approved equal.


C. Drawing Designation: 22 40 00 C.

2.5 FITTINGS

A. Supply Fittings:
   1. Standards: Comply with NSF/ANSI 61, "Drinking Water System Components - Health Effects," for faucet materials that will be in contact with potable water. ASME A112.18.1/CSA B125.1.
   2. Supply Piping: Chrome-plated-brass pipe or chrome-plated-copper tube matching water-supply piping size. Include chrome-plated wall flange.
   3. Stops: Chrome-plated brass, one-quarter-turn, ball-type or compression stop with inlet connection matching water-supply piping type and size.

B. Waste Fittings:
   2. Drain: Grid type with straight tailpiece for standard sinks.
2.6 GROUT


1. Characteristics: Nonshrink; recommended for interior and exterior applications.
2. Design Mix: 5000-psi, 28-day compressive strength.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install fitting insulation kits on fixtures for people with disabilities.
B. Install fixtures with flanges and gasket seals.
C. Install flushometer valves for accessible water closets and urinals with handle mounted on wide side of compartment. Install other actuators in locations that are easy for people with disabilities to reach.
D. Fasten wall-hanging plumbing fixtures securely to supports attached to building substrate when supports are specified and to building wall construction where no support is indicated.
E. Fasten floor-mounted fixtures to substrate. Fasten fixtures having holes for securing fixture to wall construction to reinforcement built into walls.
F. Fasten wall-mounted fittings to reinforcement built into walls.
G. Fasten counter-mounting plumbing fixtures to casework.
H. Secure supplies to supports or substrate within pipe space behind fixture.
I. Install individual supply inlets, supply stops, supply risers, and tubular brass traps with cleanouts at fixture.
J. Install water-supply stop valves in accessible locations.
K. Install traps on fixture outlets. Omit traps on fixtures having integral traps. Omit traps on indirect wastes unless otherwise indicated.
L. Install dishwasher air-gap fitting at each sink indicated to have air-gap fitting.
M. Install escutcheons at wall, floor, and ceiling penetrations in exposed, finished locations and within cabinets and millwork. Use deep-pattern escutcheons where required to conceal protruding pipe fittings.
N. Seal joints between fixtures and walls, floors, and counters using sanitary-type, one-part, mildew-resistant, silicone sealant. Match sealant color to fixture color.
O. Install piping connections between plumbing fixtures and piping systems and plumbing equipment. Install insulation on supplies and drains of fixtures for people with disabilities.
P. Ground equipment.

END OF SECTION 22 40 00
SECTION 23 00 00 GENERAL HVAC

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes all components required to make a complete HVAC system.

B. Related Sections:
   1. 23 05 93 – Testing, Adjusting and Balancing for HVAC Systems.

1.2 QUALITY ASSURANCE

A. Installer Qualifications: All HVAC work shall be completed by a NJ licensed Mechanical Contractor.

B. Code Compliance: Mechanical subcontractor shall be responsible for code compliance of all mechanical systems.

C. Mechanical subcontractor shall review, and work from, a full set of construction documents and perform a site visit prior to the commencement of construction. Any existing or proposed elements that may pose as an impediment to the Mechanical Systems as proposed shall be made known to the Architect immediately.

1.3 SUBMITTALS

A. SHOP DRAWINGS: Mechanical contractor shall provide shop drawings for Architect and Engineer to review. Mechanical contractor shall indicate location of all diffusers, registers, grilles and other exposed elements for coordination with Architect and Engineer.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

B. Structural Performance: Duct hangers and supports shall withstand the effects of gravity loads and stresses within limits and under conditions described in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible".

C. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1.
D. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and System Start-up."

E. ASHRAE/IESNA Compliance: Applicable requirements in ASHRAE/IESNA 90.1, Section 6.4.4 - "HVAC System Construction and Insulation."

F. Comply with UL 181 for ducts and closures.

2.2 DUCTS

A. Galvanized-Steel Sheet: ASTM A 653/A 653M, with hot-dip galvanized coating.

B. Joint and Seam Tape, and Sealant: Comply with UL 181A.

C. Rectangular Metal Duct Fabrication: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

2.3 DIFFUSERS, REGISTERS AND GRILLES

A. Unless otherwise noted, diffusers, registers and grilles shall match existing in material, finish and mounting.

2.4 ACCESSORIES

A. Volume Dampers and Control Dampers: Single-blade and multiple opposed-blade dampers, standard leakage rating, and suitable for horizontal or vertical applications; factory fabricated and complete with required hardware and accessories.

B. Fire Dampers: Rated and labeled according to UL 555 by an NRTL; factory fabricated and complete with required hardware and accessories.

C. Ceiling Fire Dampers: Labeled according to UL 555C by an NRTL and complying with construction details for tested floor- and roof-ceiling assemblies as indicated in UL's "Fire Resistance Directory." Provide factory-fabricated units complete with required hardware and accessories.

D. Smoke Dampers: Labeled according to UL 555S by an NRTL. Combination fire and smoke dampers shall also be rated and labeled according to UL 555. Provide factory-fabricated units complete with required hardware and accessories.

E. Flexible Connectors: Flame-retarded or noncombustible fabrics, coatings, and adhesives complying with UL 181, Class 1.

F. Flexible Ducts: Factory-fabricated, insulated, round duct, with an outer jacket enclosing glass-fiber insulation around a continuous inner liner complying with UL 181, Class 1.
PART 3 - EXECUTION

3.1 INSTALLATION
   A. Sheet metal ductwork shall be fabricated and installed as per SMACNA standards.
   B. Conceal ductwork from view in finished and occupied spaces.
   C. All duct penetrations through rated partitions and assemblies shall be properly sealed and firestopped. Fire damper assemblies, where ductwork and registers penetrate rated partitions and ceiling assemblies shall be the responsibility of the mechanical contractor.
   D. Install diffusers, registers and grilles level and plumb.
   E. Clean duct system before testing, adjusting and balancing.

3.2 TESTING, VERIFICATION AND WARRANTY
   A. All ductwork shall be tested for air leakage. Air system shall also be balanced. Mechanical contractor shall certify that the system is free of leaks and properly balanced prior to completion of construction. Refer to section 23 05 93 for Testing, Adjusting and Balancing requirements.
   B. Warranty: Contractor shall provide a one (1) year warranty on full system (materials & labor) from a date as agreed upon by with the Owner stating that the systems will function in compliance with the guidelines established in the Owner’s Project Requirements document. All material and component warrantees and guarantees provided by the manufacturer shall be turned over to the Owner.
   C. Operations Manuals: All operations and maintenance manuals and information provided with installed materials, fixtures, appliances or other components shall be submitted to the Owner.

END OF SECTION 23 00 00
SECTION 23 05 93 TESTING, ADJUSTING AND BALANCING FOR HVAC SYSTEMS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals:
   1. Certified TAB reports.
   2. Documentation of work performed per ASHRAE 62.1, Section 7.2.2 - "Air Balancing."
   3. Documentation of work performed per ASHRAE/IESNA 90.1, Section 6.7.2.3 - "System Balancing."

B. TAB Firm Qualifications: AABC, NEBB, or TABB certified.


D. Perform TAB after leakage and pressure tests on air and/or water distribution systems have been satisfactorily completed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine the Contract Documents to become familiar with Project requirements and to discover conditions in systems' designs that may preclude proper TAB of systems and equipment.

B. Examine the approved submittals for HVAC systems and equipment.

C. Examine systems for installed balancing devices, such as test ports, gage cocks, thermometer wells, flow-control devices, balancing valves and fittings, and manual volume dampers. Verify that locations of these balancing devices are accessible.

D. Examine system and equipment installations and verify that field quality-control testing, cleaning, and adjusting specified in individual Sections have been performed.

E. Examine HVAC equipment and filters and verify that bearings are greased, belts are aligned and tight, and equipment with functioning controls is ready for operation.

F. Examine terminal units, such as variable-air-volume boxes, and verify that they are accessible and their controls are connected and functioning.

G. Examine automatic temperature system components to verify the following:
1. Dampers, valves, and other controlled devices are operated by the intended controller.
2. Dampers and valves are in the position indicated by the controller.
3. Integrity of dampers and valves for free and full operation and for tightness of fully closed and fully open positions. This includes dampers in multizone units, mixing boxes, and variable-air-volume terminals.
4. Automatic modulating and shutoff valves, including two-way valves and three-way mixing and diverting valves, are properly connected.
5. Thermostats and humidistats are located to avoid adverse effects of sunlight, drafts, and cold walls.
6. Sensors are located to sense only the intended conditions.
7. Sequence of operation for control modes is according to the Contract Documents.
8. Controller set points are set at indicated values.

H. Report deficiencies discovered before and during performance of test and balance procedures.

3.2 GENERAL PROCEDURES FOR TESTING AND BALANCING

A. Perform testing and balancing procedures on each system according to the procedures contained in SMACNA's "HVAC Systems - Testing, Adjusting, and Balancing" and in this Section.
B. Balance airflow within distribution systems, including submains, branches, and terminals, to indicated quantities.
C. Cut insulation, ducts, pipes, and equipment cabinets for installation of test probes to the minimum extent necessary for TAB procedures. After testing and balancing, patch probe holes in ducts with same material and thickness as used to construct ducts. Install and join new insulation that matches removed materials. Restore insulation, coverings, vapor barrier, and finish.
D. Mark equipment and balancing devices, including damper-control positions, valve position indicators, fan-speed-control levers, and similar controls and devices, with paint or other suitable, permanent identification material to show final settings.
E. Take and report testing and balancing measurements in inch-pound (IP) units.

3.3 GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

A. Prepare schematic diagrams of systems' "as-built" duct layouts.
B. Determine the best locations in main and branch ducts for accurate duct airflow measurements.
C. Check for airflow blockages.
D. Check for proper sealing of air duct system.

3.4 TOLERANCES

A. Set HVAC system airflow and water flow rates within the following tolerances:
1. Supply, Return, and Exhaust Fans and Equipment with Fans: Plus or minus 10 percent.
2. Air Outlets and Inlets: Plus or minus 10 percent.

END OF SECTION 23 05 93
SECTION 26 00 00 - GENERAL ELECTRIC

PART 1 - GENERAL

1.1 SUMMARY

A. License: All electrical work shall be completed by a New Jersey licensed electrician with working knowledge of the applicable codes of the State of New Jersey that govern all aspects of an electrical system.

B. Code Compliance: All wiring and system components shall comply with NFPA 70: National Electrical Code (2020) as well as any locally applicable codes. The Architect shall be immediately notified of any non-compliant existing conditions, as well as any errors or omissions in the Construction Documents.

C. Complete System: Provide and install all components, including but not limited to wiring, receptacles, distribution panels, circuit breakers, and switches to constitute a completely operational electrical system. System shall be properly grounded and bonded.

D. Related Sections:
   1. 26 09 23 – Lighting Control Devices
   2. 26 50 00 – Lighting

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

B. Warranty: Provide a minimum one (1) year warranty on full system (material and labor) from the date of Substantial Completion. Additionally, all material and component warranties and guarantees provided by the manufacturer shall be turned over to the Owner.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

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. Unless otherwise noted, all devices shall be Ivory.

2.2 PERFORMANCE REQUIREMENTS

General Electric 26 00 00 - 90/100
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.

2.3 RACEWAY SYSTEM

A. Legrand Wiremold® 800 series power-rated, non-metallic raceway system. Device boxes for receptacles shall be compatible with raceway system. Color: Ivory.

2.4 COMMERCIAL-GRADE DEVICES

A. Duplex Ground-Fault Circuit-Interrupter (GFCI) Convenience Receptacles: 125V, 20A; NEMA WD 1, NEMA WD 6, UL 498, UL 943, Class A, and include indicator light that is lighted when device is tripped.

2.5 FURNITURE POWER CENTERS

A. Legrand LEG-RDZ-BK : (2) 15A, 125 VAC Tamper Resistant Receptacles / (2) 5Vdc, 3.1A USB 1. Meets UL 962A Spill Water Test

PART 3 - EXECUTION

3.1 INSTALLATION

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

B. Wiring Method: Install conductors and cables in raceways and conduits except within cabinets and in gypsum board partitions where unenclosed wiring method may be used. Conceal raceway and cables except in unfinished spaces. Conceal conductors and cables in accessible ceilings, walls, and floors where possible.

C. Wiring within Enclosures: Bundle, lace, and train conductors to terminal points with no excess and without exceeding manufacturer's limitations on bending radii. Install lacing bars and distribution spools.

D. Hangers and Supports:
   1. Comply with NECA 1 and NECA 101 for installation requirements.
   2. Separate dissimilar metals and metal products from contact with wood or cementitious materials by painting each metal surface in area of contact with a bituminous coating or by other permanent separation.

END OF SECTION 26 00 00
SECTION 26 09 23 - LIGHTING CONTROL DEVICES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS
   A. Submittals: Product Data.
   B. Related Sections:
      1. 26 00 00 – General Electric
      2. 26 50 00 – Lighting

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS
   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.

2.2 OCCUPANCY/VACANCY SENSOR – CEILING MOUNTED
   A. Basis of Design: Lutron® LOS C Series, or approved equal.
   B. Description: Ceiling Mounted Occupancy Sensor
      1. Type: Dual technology (passive infrared and ultrasonic).
      3. Time Delay: Adjustable up to 30 minutes.
      5. Field of View: 180 degrees.

2.3 OCCUPANCY/VACANCY SENSOR – WALL MOUNTED
   A. Basis of Design: Lutron® LOS W Series, or approved equal.
   B. Description: Wall Mounted Occupancy Sensor
      1. Type: Dual technology (passive infrared and ultrasonic).
      3. Time Delay: Adjustable up to 30 minutes.
      5. Field of View: 180 degrees.
PART 3 - EXECUTION

3.1 INSTALLATION

A. Install and aim sensors in locations to achieve at least 90 percent coverage of areas indicated. Do not exceed coverage limits specified in manufacturer's written instructions.

B. Install field-mounting transient voltage suppressors for lighting control devices in Category A locations that do not have integral line-voltage surge protection.

C. Verify actuation of each sensor and adjust time delays.

END OF SECTION 26 09 23
SECTION 26 50 00 – LIGHTING

PART 1 - GENERAL

1.1 SECTION INCLUDES
   A. Interior lighting fixtures.

1.2 RELATED SECTIONS
   A. Section 26 00 00 – General Electric.
   B. Section 26 09 23 – Lighting Control Devices.

1.3 SUBMITTALS
   A. Product Data.

1.4 CLOSEOUT SUBMITTALS
   A. Operation and maintenance data.

1.5 WARRANTY
   A. Manufacturer's Warranty: Installer agrees to repair or replace Lighting Fixtures that fail(s) in materials or workmanship within specified warranty period.

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

PART 2 - PRODUCTS

2.1 2’x2’ Recessed Troffer
   A. Basis of Design: Match existing.
   B. Description: Match Existing
   C. Drawing Designation: 26 50 00 A
   D. Mounting:
      1. Lay-in grid
   E. Components:
      1. Occupancy Sensor, per Section 26 09 23 – Lighting Control Devices.
      2. Emergency Battery Pack. Coordinate installation of battery on one (1) fixture in each room.
2.2 6” Recessed Downlight

A. Basis of Design: 6” Recessed Downlight, *Juno Series 257*
B. Description: 6” deep cone trim, White / Clear Alzak finish / PAR 38 E26 base (100W max.) / dimmable
C. Housing: *Juno IC2 6 inch IC New Construction Housing*
D. Drawing Designation: 26 50 00 B
E. Mounting: Recessed
   1. Provide IC-rated housings were acoustic insulation is present.
F. Components:
   1. Occupancy Sensor, per Section 26 09 23 – Lighting Control Devices.

2.3 Linear LED Task Light

A. Basis of Design: *Coronet, Inc. UC LED-S*, or approved equal.
B. Description: 3000K, 70 lumens/watt, 90 CRI, tempered glass optics with micro-prismatic texture, gang-able.
C. Drawing Designation: 26 50 00 C
D. Mounting: Surface
E. Components: Integral Driver / Integral Switch

2.4 2” Recessed Downlight

A. Basis of Design: 2” Recessed Downlight, *Juno 2LED 2IN RD*
B. Description: 2” cone trim, 600 lumens, 3500K, 90 CRI, 40° flood optic, HZSN (Haze Reflector / Satin Nickel Trim)
C. Drawing Designation: 26 50 00 D
D. Mounting: Recessed
   1. Provide IC-rated housings were acoustic insulation is present.
E. Components:
   1. Occupancy Sensor, per Section 26 09 23 – Lighting Control Devices.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install products in strict compliance with manufacturer’s written instructions and recommendations, including the following:
   1. Comply with manufacturer’s recommendations for backing and proper support.
   2. Use fasteners and anchors suitable for substrate and project conditions.
3. Install fixtures straight, plumb and level, in accordance with manufacturer’s installation instructions.
4. Test for proper operation.

END OF SECTION 26 50 00
SECTION 28 31 00 – FIRE DETECTION AND ALARM

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data and system operating description.

B. Submittals to Authorities Having Jurisdiction: In addition to distribution requirements for submittals, make an identical submittal to authorities having jurisdiction. To facilitate review, include copies of annotated Contract Drawings as needed to depict component locations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Comply with NFPA 72.

B. UL listed and labeled.

C. 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.

2.2 SYSTEM SMOKE DETECTORS

A. Match existing devices.

B. General Requirements for System Smoke Detectors: Comply with UL 268.

C. Photoelectric Smoke Detectors: Detector address shall be accessible from fire-alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting.

2.3 HEAT DETECTORS

A. Match existing devices.

B. General Requirements for Heat Detectors: Comply with UL 521.

C. Heat Detector, Combination Type: Actuated by either a fixed temperature or a rate of rise that exceeds 15 deg F per minute unless otherwise indicated.
2.4 NOTIFICATION APPLIANCES

A. Match existing devices.

B. General Requirements for Notification Appliances: Connected to notification appliance signal circuits, zoned as indicated, equipped for mounting as indicated and with screw terminals for system connections.

C. Horns: Comply with UL 464. Horns shall produce a sound-pressure level of 70-90 dBA, measured 10 feet from the horn, using the coded signal prescribed in UL 464 test protocol.

D. Visible Notification Appliances: Xenon strobe lights comply with UL 1971, with clear or nominal white polycarbonate lens mounted on an aluminum faceplate. The word "FIRE" is engraved in minimum 1-inch-high letters on the lens.

   1. Rated Light Output:
      a. 15 cd. min.
      b. 15/30/75/110 cd, selectable in the field.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with NFPA 72 for installation of fire-alarm equipment.

B. Connecting to Existing Equipment: Verify that existing fire-alarm system is operational before making changes or connections.

   1. Connect new equipment to existing control panel in existing part of the building.
   2. Connect new equipment to existing monitoring equipment at the supervising station.
   3. Expand, modify, and supplement existing equipment as necessary to extend existing functions to the new points. New components shall be capable of merging with existing configuration without degrading the performance of either system.

3.2 FIELD QUALITY CONTROL

A. Field tests shall be witnessed by Architect and authorities having jurisdiction.

B. Tests and Inspections:

   1. Visual Inspection: Conduct visual inspection prior to testing.

      a. Inspection shall be based on completed record Drawings and system documentation that is required by NFPA 72 in Chapter 10 "Fundamentals," Section 10.18.21 "Completion Documents, Preparation."
b. Comply with NFPA 72, Chapter 14, "Inspection, Testing, and Maintenance," Section 14.4, "Inspection" and the "Visual Inspection Frequencies" Table; retain the "Initial/Reacceptance" column and list only the installed components.


C. Prepare test and inspection reports.

D. Maintenance Test and Inspection: Perform tests and inspections listed for weekly, monthly, quarterly, and semiannual periods. Use forms developed for initial tests and inspections.

E. Annual Test and Inspection: One year after date of Substantial Completion, test fire-alarm system complying with visual and testing inspection requirements in NFPA 72. Use forms developed for initial tests and inspections.

END OF SECTION 28 31 00