Renovations to:

15 Second Street
Andover, NY 14803

Allegany County LAND BANK

6087 State Route 19 North- Suite 300 Belmont, NY 14813

Architect's Project No. 32-25

August 18, 2025

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ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

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

1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

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

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

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

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

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

SECTION 001230

ALTERNATES

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. None

END OF SECTION

SECTION 011000

SUMMARY OF THE WORK

1.01 GENERAL

1.02 RELATED DOCUMENTS

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

1.03 SUMMARY

B. This Section includes the following:

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

1.04 WORK COVERED BY CONTRACT DOCUMENTS

C. Project Identification: Renovations to a single family home. Work requires demolition of existing framing, all new interior walls, structural work, masonry repairs, and new porches.

1. Project Owner: Allegany County Land Bank Corporation
   6087 State Route 19 North- Suite 300 Belmont, NY 14813

2. Project Location: 15 Second St., Andover, NY 14806.

3. Owner's Representatives: Jonathon Barnes, Project Manager, Jason P. Iasaman – Exec. Director / Kate Williams Operations Manager.

D. Architect: Peter L. Morse & Associates – Architects AIA 311 Alexander St.,, Suite 215, Rochester, NY 14604.

E. In paragraph and first subparagraph below, include an abbreviated summary of the Work for Project described above. See Evaluations.

F. The Work consists of the following:
   1. The Work includes

SECTION 011000

SUMMARY OF THE WORK

a. Complete interior gut and remodel work per specs, with preservation of existing incoming electrical, plumbing, with modifications for new connections as noted on plans.
b. Complete removal of exterior items such as roofing, siding, windows, and porch.
c. New composite front porch with aluminum handrails.
d. New driveway (by others)

1.2 TYPE OF CONTRACT

A. Project will be constructed under a single contract.

1. Construction renovations with all new Mechanical/ Plumbing/ Electrical systems.

1.3 WORK PHASES

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

1.4 WORK UNDER OTHER CONTRACTS

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

1.5 USE OF PREMISES

A. General: Contractor shall have full use of premises for construction operations, including use of Project site, during construction period. Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

B. Use of Site: Limit use of premises to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Limits: Confine constructions operations to fifty feet around the perimeter of the work area.

2. Owner Occupancy: Allow for Allegany County Land Bank Corporation and the Architect's representative inspection of Project site. Keep general public away from the Project site by securing the site with temporary fencing.

3. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.

    a. Schedule deliveries to minimize use of driveways and entrances.

C. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.6 OWNER'S OCCUPANCY REQUIREMENTS

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

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Allegany County Land Bank Corporation and authorities having jurisdiction.
2. Provide not less than 24 hours' notice to Allegany County Land Bank Corporations of activities that will affect Allegany County Land Bank Corporation operations.

B. Subparagraphs below describe procedures and requirements necessary before partial occupancy of portions of Project.

1. Architect and Allegany County Land Bank Corp. will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied before Owner occupancy.
2. Obtain a Certificate of Occupancy from authorities having jurisdiction before occupancy.
3. Before partial Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of building.
4. On occupancy, the new Owner will assume responsibility for maintenance and custodial service for occupied portions of building.

1.7 WORK RESTRICTIONS

A. On-Site Work Hours: Work shall be generally performed inside the existing building during normal business working hours of 7 a.m. to 5 p.m., Monday through Friday except otherwise indicated.

1. Weekend Hours: With Allegany County Land Bank Corporation's approval.
2. Early Morning Hours: 7 am.
3. Hours for Utility Shutdowns: as necessary.

B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify the Allegany County Land Bank Corporation's representative not less than four days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without their written permission.

1.8 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 16-division format and CSI/CSC's "MasterFormat" numbering system.

1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
2. Division 1: Section 1 in Division 1 govern the execution of the Work of all Sections in the Specifications.

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.

a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.9 MISCELLANEOUS PROVISIONS

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012200

UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

B. Related Sections include the following:

1. Division 1 Section "Allowances" for procedures for using unit prices to adjust quantity allowances.
2. Division 1 Section "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
3. Division 1 Section "Quality Requirements" for general testing and inspecting requirements.
4. Division <**Insert Division number**> Section "<**Insert Section title**>" for procedures for measurement and payment for <**Insert unit-price item**>.

1.3 DEFINITIONS

A. Unit price is [**an amount proposed by bidders, stated on the Bid Form, as**] a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

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

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

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

SECTION 012200

UNIT PRICES

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF UNIT PRICES

A. Unit Price No. <**Insert unit-price number**> - <**Insert unit-price item**>:

1. Description: <**Insert unit-price item description**> according to Division <**Insert Division number**> Section "<**Insert Section title**>."
2. Unit of Measurement: <**Insert unit of measurement.**>
3. Provide unit prices for the following items specified herein:
   a. Plywood for roof and siding replacement.
   b. Framing lumber
   c. Plumbing drainage and supply lines.
   d. Gas lines replacement
   e. Ductwork replacement
   f. Electrical lines
   g. Electrical outlets and switches.

END OF SECTION

SECTION 013300

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

1.3 DEFINITIONS

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

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

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

1.4 ACTION SUBMITTALS

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

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will not be provided by Architect for Contractor's use in preparing submittals.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
   1. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
   2. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
   3. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
      a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
   4. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
   5. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
   6. Resubmittal Review: Allow 10 days for review of each resubmittal.
   7. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.

C. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
   1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
   2. Name file with submittal number or other unique identifier, including revision identifier.
      a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).
   3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
   4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Architect**,** containing the following information:
      a. Project name.
      b. Date.
      c. Name and address of Architect.
      d. Name of Contractor.
      e. Name of firm or entity that prepared submittal.
      f. Names of subcontractor, manufacturer, and supplier.
      g. Category and type of submittal.
      h. Submittal purpose and description.
      i. Specification Section number and title.
      j. Specification paragraph number or drawing designation and generic name for each of multiple items.
      k. Drawing number and detail references, as appropriate.
      l. Location(s) where product is to be installed, as appropriate.

m. Related physical samples submitted directly.
n. Indication of full or partial submittal.
o. Transmittal number, numbered consecutively.
p. Submittal and transmittal distribution record.
q. Other necessary identification.
r. Remarks.

5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
   a. Project name.
   b. Number and title of appropriate Specification Section.
   c. Manufacturer name.
   d. Product name.

D. Options: Identify options requiring selection by Architect.

E. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

F. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
   1. Note date and content of previous submittal.
   2. Note date and content of revision in label or title block and clearly indicate extent of revision.
   3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

G. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

H. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
   1. Submit electronic submittals via email as PDF electronic files.
      a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
   2. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

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

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
a. Identification of products.
b. Schedules.
c. Compliance with specified standards.
d. Notation of coordination requirements.
e. Notation of dimensions established by field measurement.
f. Relationship and attachment to adjoining construction clearly indicated.
g. Seal and signature of professional engineer if specified.
2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.
3. Submit Shop Drawings in the following format:
a. PDF electronic file.

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

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.

2. Identification: Attach label on unexposed side of Samples that includes the following:
   a. Generic description of Sample.
   b. Product name and name of manufacturer.
   c. Sample source.
   d. Number and title of applicable Specification Section.
   e. Specification paragraph number and generic name of each item.
3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
   a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
   b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
   a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
   a. Number of Samples: Submit one set of Samples. Architect will retain Sample set;
      1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
      2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
   1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
   2. Manufacturer and product name, and model number if applicable.
   3. Number and name of room or space.
   4. Location within room or space.
   5. Submit product schedule in the following format:
      a. PDF electronic file.

F. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

G. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

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

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

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

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

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

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

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

2.2 DELEGATED-DESIGN SERVICES

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

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

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

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

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

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

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

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

E. Submittals not required by the Contract Documents may be returned by the Architect without action.

END OF SECTION 013300

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

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

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

1.2 DEFINITIONS

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

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

C. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.

D. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

E. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

F. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
   1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

G. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 CONFLICTING REQUIREMENTS

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

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

1.4 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. Manufacturer's Field Reports: Prepare written information documenting tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
5. Other required items indicated in individual Specification Sections.

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

1.5 QUALITY ASSURANCE

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

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

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

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
   1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
   1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
   2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

H. Manufacturer's Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

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

1.6 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
   1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
   2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
   1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
      a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
   2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
   3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
   4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
   5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a manufacturer's representative to observe and inspect the Work. Manufacturer's representative's services include examination of substrates and conditions, verification of materials, inspection of completed portions of the Work, and submittal of written reports.

D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
   1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
   2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
   3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
   4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
   5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
   6. Do not perform any duties of Contractor.

F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
   1. Access to the Work.
   2. Incidental labor and facilities necessary to facilitate tests and inspections.
   3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
   4. Facilities for storage and field curing of test samples.
   5. Delivery of samples to testing agencies.
   6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
   7. Security and protection for samples and for testing and inspecting equipment at Project site.

G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
   1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.7 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Owner will engage a qualified testing agency and special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, and as follows:
   1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.
   2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.

3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and reinspecting corrected work.

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

3.1 TEST AND INSPECTION LOG

A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
   1. Date test or inspection was conducted.
   2. Description of the Work tested or inspected.
   3. Date test or inspection results were transmitted to Architect.
   4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.2 REPAIR AND PROTECTION

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

B. Protect construction exposed by or for quality-control service activities.

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

END OF SECTION 014000

SECTION 016000

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

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

1.2 DEFINITIONS

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

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

1.3 ACTION SUBMITTALS

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

B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.4 QUALITY ASSURANCE

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

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

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

B. Delivery and Handling:
   1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
   2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
   3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
   4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:
   1. Store products to allow for inspection and measurement of quantity or counting of units.
   2. Store materials in a manner that will not endanger Project structure.
   3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
   4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
   5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
   6. Protect stored products from damage and liquids from freezing.

1.6 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
   1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
   2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
   1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.

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

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

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.

B. Product Selection Procedures:
1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
3. Products:
    a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.
    b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
4. Manufacturers:
    a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.

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

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

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

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.

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

2.2 COMPARABLE PRODUCTS

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

1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 017300

EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
   1. Construction layout.
   2. Installation of the Work.
   3. Progress cleaning.
   4. Starting and adjusting.
   5. Protection of installed construction.
   6. Correction of the Work.

1.2 INFORMATIONAL SUBMITTALS

A. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.

B. Certified Surveys: Submit two copies signed by land surveyor.

1.3 QUALITY ASSURANCE

A. Land Surveyor Qualifications: If required, a professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, and other construction affecting the Work.
   1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
   2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

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

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

3.2 PREPARATION

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

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

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

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

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.
   1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
   2. Establish limits on use of Project site.
   3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
   4. Inform installers of lines and levels to which they must comply.
   5. Check the location, level and plumb, of every major element as the Work progresses.

6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

3.4 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.

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

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

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

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

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

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

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and

items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

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

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

3.5 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
   1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
   2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
   3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

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

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
   1. Remove liquid spills promptly.
   2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

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

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

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

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.

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

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

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

3.6 STARTING AND ADJUSTING

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

B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements"

3.7 PROTECTION OF INSTALLED CONSTRUCTION

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

B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION

SECTION 017329

CUTTING AND PATCHING

PART 1 - GENERAL

1.01 DESCRIPTION

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

1.02 SUBMITTALS

A. Prior to cutting which affects structural safety or Project or work of another contractor, submit written notice to architect requesting consent to proceed with cutting, including:
    1. Identification of Project
    2. Description of affected work.
    3. Necessary for cutting.
    4. Affect on other work, on structural integrity of Project.
    5. Description of proposed work; designate:
        a. Scope of cutting and patching.
        b. Products proposed to be used.
        c. Extent of refinishing.

B. Prior to cutting and patching done on instruction of architect, submit cost estimate if work in not a part of the contract agreement.

PART 2 - PRODUCTS

2.01 MATERIALS

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

SECTION 017329

CUTTING AND PATCHING

PART 3 - EXECUTION

3.01 INSPECTION

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

3.02 PREPARATION

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

3.03 PERFORMANCE

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

END OF SECTION

SECTION 017700

CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

1. Inspection procedures.
2. Warranties.
3. Final cleaning.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.

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

11. Submit changeover information related to Allegany County Land Bank's occupancy, use, operation, and maintenance.
12. Complete final cleaning requirements, including touchup painting.
13. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, the Contractor, Allegany County Land Bank or the Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

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

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

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

1. Organize list of spaces in sequential order,
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:

    a. Project name.
    b. Date.
    c. Name of Architect
    d. Name of Contractor.
    e. Name of Sponsor.
    f. Page number.

1.6 WARRANTIES

A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

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

1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

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

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 FINAL CLEANING

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

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:

    a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
    g. Sweep concrete floors broom clean in unoccupied spaces.
    h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.

i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
j. Remove labels that are not permanent.
k. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

    1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.

l. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
m. Replace parts subject to unusual operating conditions.
n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
p. Clean ducts, blowers, and coils if units were operated without filters during construction.
q. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
r. Leave Project clean and ready for occupancy.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

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

1.2 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:
   1. Number of Copies: Submit copies of record Drawings as follows:
      a. Submit PDF electronic files of scanned record prints and three set(s) of paper prints.

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

C. Record Product Data: Submit PDF electronic files of scanned record product data and one set of paper copy.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

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

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

2.2 RECORD SPECIFICATIONS

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

2.3 RECORD PRODUCT DATA

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

2.4 MISCELLANEOUS RECORD SUBMITTALS

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

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

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

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

END OF SECTION 017839

SELECTIVE DEMOLITION

SECTION 024119

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Selective demolition which meets the certification goals as established by the Allegany County Land Bank's Program for the individual Project requirements, of the following types.

B. Section Includes:

1. Demolition and removal of selected portions of building. Demolition includes the specifically the following items.
   a. Remove all siding, roofing, roof sheathing, windows doors, and exterior metal trim
   b. Remove all noted studs, sub-floor, drywall, interior trim.
   c. Remove all flooring throughout the work area noted.
   d. Remove all cabinets and vanities.
   e. Remove all plumbing fixtures.
   f. Remove all Sheet metal ductwork.
   g. Remove any and all stoves, hot water tanks,
   h. Remove all wiring and electrical devices.
2. Salvage of existing items noted to be reused or recycled.
3. Protecting existing work to remain.
4. Cleaning soiled materials that are to remain.
5. Disconnecting and capping utilities.
6. Removing debris and equipment.
7. Removal of items indicated on Drawings.
8. Salvageable items to be retained by the Allegany County Land Bank Corp's.as indicated on the Drawings and during the pre-construction job walk.

C. Related Requirements:

1. Section 011000 "Summary of the Work" for restrictions on the use of the premises, Owner-occupancy requirements, and phasing requirements.
2. Section 017329 " Cutting and Patching "procedures.
3. Section 033000: Concrete

1.3 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.

B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Allegany County Land Bank.

C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.

D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

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

B. Ownership of Materials: Except for items or materials indicated to be reused, salvaged, or otherwise indicated to remain Allegany County Land Bank's property, demolished materials shall become the Contractor's property and shall be removed from the site with further disposing at the Contractor's option.

1.5 INFORMATIONAL SUBMITTALS

A. Proposed Protection Measures: Submit report, including drawings if required, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and , for noise control. Indicate proposed locations and construction of barriers.

B. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's, staff, and clientele on-site operations are uninterrupted.
2. Interruption of utility services. Indicate how long utility services will be interrupted.
3. Coordination for shutoff, capping, and continuation of utility services.
4. Use of elevator and stairs.
5. Coordination of Allegany County Land Bank's completed Work.

C. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start of demolition.

D. Pre-demolition Photographs (or Video): Submit before Work begins. (Required).

E. Warranties: Documentation indicated that existing warranties are still in effect after completion of selective demolition.

1.6 CLOSEOUT SUBMITTALS

A. Inventory: Submit a list of items that have been removed and salvaged.

B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.7 QUALITY ASSURANCE

A. Carefully perform demolition work, by skilled workers experienced in building demolition procedures, using appropriate tools and equipment. Perform work, at all times, under the direct supervision of a supervisor approved by the Allegany County Land Bank Corps Project Manager.

B. Coordinate demolition with other trades to ensure correct sequence, limits, and methods of proposed demolitions. Schedule work to create least possible inconvenience to the public and to facility operations.

PART 2 - PRODUCTS

2.1 PEFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

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

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Review record documents of existing construction provided by Allegany County Land Bank Corps, and the Architect does not guarantee that existing conditions are same as those indicated in record documents.

C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

E. Survey of Existing Conditions: Record existing conditions by use of measured drawings.

3.2 GENERAL

A. Protection:
1. Do not begin demolition until safety partitions, barricades, warning signs and other forms of protection are installed.
2. Provide safeguards, including warning signs, lights and barricades, for protection of occupants and the general public during demolition.
3. Provide and maintain fire extinguishers onsite. Comply with requirements of governing authorities.
4. Maintain existing utilities which are to remain in service and project from damage during operations.

B. Safety: If at any time safety of existing construction appears to be endangered, take immediate measures to correct such conditions; cease operations and immediately notify the Owner Inspector. Do not resume demolition until directed by the Allegany County Land Bank's Inspector.

C. Dust Control: Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations. Do not create hazardous or objectionable conditions, such as flooding and pollution, when using water.

D. Debris Removal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grades level.

E. Progress Cleaning: Clean adjacent buildings and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing before start of demolition.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

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

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.

3.4 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Comply with requirements for access and protection specified in Section 015000 "Temporary Facilities and Controls."

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

3.5 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations.

B. Removed and Salvaged Items:

1. Clean salvaged item that are noted for salvage.
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in a secure area until delivery to Contractor.
4. Transport items to Allegany County Land Bank's storage area designated by Allegany County Land Bank Corps.
5. Protect items from damage during transport and storage.

C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Allegany County Land Bank Corp's items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.6 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.

B. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

C. Resilient Floor Coverings/ carpeting: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.

D. Doors and Windows: Remove all windows and doors. Secure the site at the end of the day.

E. Plumbing: Remove all plumbing lines and fixtures.

F. Electric. existing electric lines shall be removed in the existing residence.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Allegany County Land Bank's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Allegany County Land Bank's property and legally dispose of them.

3.8 PATCHING AND RESTORATION

A. Patching: Where removals leave holes and damaged surfaces that will be exposed in the completed construction, such holes and damaged surfaces shall be patched and resorted to match adjacent finished surfaces.

B. Restoration of Building Finishes: Touch up scratched finishes as recommended by manufacturer of original finish.

C. Restoration of Site Finishes at interior.
   1. Restore any broken concrete slabs.

3.9 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION

SECTION 024200

DISPOSAL OF NON- HAZARDOUS WASTE

PART 1 GENERAL

1.01 REFERENCES

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

1.02 DESCRIPTION

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

1.03 SUBMITTALS

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

1.04 QUALITY ASSURANCE

A. Before the Work of this Section is scheduled to commence an Allegany County Land Bank Corp's Representative shall discuss and review the Work procedures.

1.05 PROJECT CONDITIONS

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

END OF SECTION

SECTION 033000

CAST-IN-PLACE CONCRETE

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 cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:
   1. Installation of concrete posts for porches.
   2. Concrete floor for basement.
   3. Concrete pads for Adjust-a-post columns.

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.4 INFORMATIONAL SUBMITTALS

A. Material Certificates: For each of the following, signed by manufacturers:
   1. Cementitious materials.
   2. Accessories.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

2.2 Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
   1. Portland Cement: ASTM C 150, Type I,. Supplement with the following:
      a. Fly Ash: ASTM C 618, Class F or C.

B. Normal-Weight Aggregates: ASTM C 33, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source with documented service record data of at least 10 years'

satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials.

1. Maximum Coarse-Aggregate Size: 3/4 inch nominal.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Water: ASTM C 94/C 94M and potable.

2.3 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.

B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:

1. Fly Ash: 25 percent.

2.4 CONCRETE MIXTURES FOR BUILDING ELEMENTS

A. Slabs-on-Grade: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: 4,000 psi at 28 days.
2. Maximum Water-Cementitious Materials Ratio: 0.45.
3. Slump Limit: 4 inches, plus or minus 1 inch.
4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 3/4-inch nominal maximum aggregate size.
5. Air Content: Do not allow air content of trowel-finished floors to exceed 3 percent.

2.5 CONCRETE MIXING (FOR CONCRETE TRENCHING AND PATCHING)

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Construct forms tight enough to prevent loss of concrete mortar.

D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide

top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.

E. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

F. Install 12” dia. Sonotube cardboard forms for concrete piers for porches. Install 48” deep.

G. Install 24” x 24” x 8” thick concrete pads at each Adjust-a-Post steel column. Top of pad shall be at the same elevation as the floor.

3.2 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
   1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
   2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

3.3 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.

3.4 FINISHING WALKS FLOORS AND CONCRETE SLABS

A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.
   1. Apply float finish to surfaces to receive broom finish.

C. Broom Finish: Apply a broom finish to exterior concrete slabs, steps, ramps, and elsewhere as

indicated.

1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

D. Basement Concrete floor: Apply a 3 ½" concrete topping over existing gravel. Install 6 mil poly sheets as a vapor barrier under the slab. Metal trowel finish. Saw cut the floor in control joints as indicated on the plans.

E. Apply ½" expansion joint equal to Jolly around the perimeter of the concrete floor.

3.5 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing

3.6 FIELD QUALITY CONTROL

A. Inspect concrete for final acceptance. Floor patch must be flush with surrounding concrete.

END OF SECTION

SECTION 040342

STONE MASONRY REPAIR

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

B. Work in this section is for repairs only to existing stone foundation walls. Work shall be limited to distressed sections of the masonry, as needed. Use this specification section as a guid.

1.2 SUMMARY

A. Section includes historic treatment work consisting of repairing historic stone assemblies as follows:

1. Repairing stone plaster, and painting exterior plastered stone.
2. Repairing stone wall in basement, as needed.

1.3 ALLOWANCES

A. Allowances for historic masonry repair are specified in Section 012100 "Allowances."

B. Stone removal and replacement is part of stone removal and replacement allowance.

C. Partial stone replacement (dutchman repair) is part of stone removal and replacement allowance.

D. Crack injection is part of crack-injection allowance.

E. Patching stone units is part of masonry patching allowance.

1.4 DEFINITIONS

A. Face Bedding: Setting of stone with the rift or natural bedding planes (strata) vertical and parallel to the wall plane rather than horizontal or "naturally bedded," which holds bedding planes together by gravity.

B. Rebuilding (Setting) Mortar: Mortar used to set and anchor masonry in a structure, distinct from pointing mortar installed after masonry is set in place.

C. Rift: The most pronounced direction of splitting or cleavage of a stone.

D. Stone Terminology: ASTM C119.

SECTION 040342

STONE MASONRY REPAIR

1.5 SEQUENCING AND SCHEDULING

A. Order sand and gray Portland cement for colored mortar immediately after approval of Samples. Take delivery of and store at Project site a sufficient quantity to complete Project.

B. Work Sequence: Perform stone historic treatment work in the following sequence, which includes work specified in this and other Sections:

1. Remove any plant growth.
2. Inspect stonework for open mortar joints and permanently or temporarily point them before cleaning to prevent the intrusion of water and other cleaning materials into the wall.
3. Clean stone.
4. Rake out mortar from joints surrounding stone to be replaced and from joints adjacent to stone repairs along joints.
5. Repair stonework, including replacing existing stone with new stone. If required, repair backup masonry.
6. Rake out mortar from joints to be repointed.
7. Point mortar and sealant joints.
8. After repairs and repointing have been completed and cured, perform a final cleaning to remove residues from this work.
9. Where water repellents are to be used on or near stonework, delay application of these chemicals until after pointing and cleaning.

1.6 SUBMITTALS

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

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

C. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components Retain "Samples for Initial Selection" and "Samples for Verification" paragraphs below for two-stage Samples. Submit to Allegany County Land Bank Construction Representative.

1.7 QUALITY ASSURANCE

A. Mockups: Prepare mockups of historic treatment to demonstrate aesthetic effects and to set quality standards for materials and execution and for fabrication and installation.

1. Stone Repair: Prepare sample areas for each type of stone indicated to have repair work performed. If not otherwise indicated, size each mockup not smaller than two adjacent whole units or approximately 48 inches in least dimension. Construct sample areas in locations in existing walls where directed by Allegany County Land Bank Corp. unless otherwise indicated. Demonstrate quality of materials, workmanship, and blending with existing work. Include the following as a minimum:

a. Replacement: ten stone units replaced.
b. Partial Stone Replacement: Two partial stone replacements (dutchman repairs).
c. Stone Plug Repair: four stone plug repairs for each type of stone indicated to be plugged.
d. Crack Injection: Apply crack injection in two separate areas each approximately 36 inches long.
e. Patching: Three small holes at least 1 inch in diameter for each type of stone indicated to be patched, so as to leave no evidence of repair.

2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Director's Representative specifically approves such deviations in writing.

1.8 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit repair work to be performed according to product manufacturers' written instructions and specified requirements.

B. Temperature Limits: Repair stonework only when air temperature is between 40 and 90 deg F and is predicted to remain so for at least seven days after completion of the Work unless otherwise indicated.

C. Cold-Weather Requirements: Comply with the following procedures for stone repair unless otherwise indicated:

1. When air temperature is below 40 deg F, heat mortar ingredients, repair materials, and existing stone to produce temperatures between 40 and 120 deg F.
2. When mean daily air temperature is below 40 deg F, provide enclosure and heat to maintain temperatures above 32 deg F within the enclosure for seven days after repair.

D. Hot-Weather Requirements: Protect stonework repairs when temperature and humidity conditions produce excessive evaporation of water from mortar and patching materials. Provide artificial shade and wind breaks, and use cooled materials as required to minimize evaporation. Do not apply mortar to substrates with temperatures of 90 deg F and above unless otherwise indicated.

E. For manufactured repair materials, perform work within the environmental limits set by each manufacturer.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Source Limitations: Obtain each type of material for repairing historic masonry (stone, cement, sand, etc.) from single source with resources to provide materials of consistent quality in appearance and physical properties.

2.2 MASONRY MATERIALS

A. Stone Matching Existing: Natural building stone of variety, color, texture, grain, veining, finish, size, and shape that match existing stone and with physical properties.

1. Physical Properties for matching foundation stone.
2. For existing stone that exhibits a range of colors, textures, grains, veining, finishes, sizes, or shapes, provide stone that proportionally matches that range rather than stone that matches an individual color, texture, grain, veining, finish, size, or shape within that range.
3. Quarry: Subject to compliance with requirements, provide stone from the home.

4. For Sample that exhibits a range of colors, textures, grains, veining, finishes, sizes, or shapes, provide stone that proportionally matches that range rather than stone that matches an individual color, texture, grain, veining, finish, size, or shape within that range.

B. Salvaged Stone: Obtain from location indicated on Drawings. Clean off residual mortar.

2.3 MORTAR MATERIALS

A. Portland Cement: ASTM C150, Type I or Type II; white or gray, or both, where required for color matching of mortar.

1. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C114.

B. Hydrated Lime: ASTM C207, Type S.

C. Factory-Prepared Lime Putty: ASTM C1489.

D. Quicklime: ASTM C5, pulverized lime.

E. Mortar Sand: ASTM C144 unless otherwise indicated.

1. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.

2. Colored Mortar: Natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.
3. For exposed mortar, provide sand with rounded edges.

F. Mortar Pigments: ASTM C979, compounded for use in mortar mixes, and having a record of satisfactory performance in masonry mortars.

G. Water: ASTM C270, potable.

2.4 MANUFACTURED REPAIR MATERIALS

A. Stone-Patching Compound: Factory-mixed cementitious product that is custom manufactured for patching stone.

1. Use formulation that is vapor and water permeable (equal to or more than the stone), exhibits low shrinkage, has lower modulus of elasticity than the stone units being repaired, and develops high bond strength to all stone types.
2. Use formulation having working qualities and retardation control to permit forming and sculpturing where necessary.
3. Formulate patching compound in colors, textures, and grain to match stone being patched. Provide a sufficient number of colors to enable matching each piece of stone.

B. Cementitious Crack Filler: Ultrafine superplasticized grout that can be injected into cracks, is suitable for application to wet or dry cracks, exhibits low shrinkage, and develops high bond strength to all stone types.

C. Stone-to-Stone Adhesive: Two-part polyester or epoxy-resin stone adhesive with a 15- to 45-minute cure at 70 deg F, recommended in writing by adhesive manufacturer for type of stone repair indicated, and matching stone color.

2.5 ACCESSORY MATERIALS

A. Stone Anchors and Pins: Type and size indicated or, if not indicated, to match existing anchors in size and type. Fabricate from Type 304 stainless steel.

B. Setting Buttons and Shims: Resilient plastic, nonstaining to stone, sized to suit joint thicknesses and bed depths of stone units, less the required depth of pointing materials unless removed before pointing.

C. Masking Tape: Nonstaining, nonabsorbent material; compatible with mortar, joint primers, sealants, and surfaces adjacent to joints; and that easily comes off entirely, including adhesive.

2.6 MORTAR MIXES

A. Preparing Lime Putty: Slake quicklime and prepare lime putty according to appendix in ASTM C5 and to manufacturer's written instructions.

B. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.

C. Colored Mortar: Produce mortar of color required by using specified ingredients. Do not alter specified proportions without Director's Representative's approval.

1. Mortar Pigments: Where mortar pigments are indicated, do not add pigment exceeding 10 percent by weight of the cementitious or binder materials, except for carbon black, which is limited to 2 percent, unless otherwise demonstrated by a satisfactory history of performance.

D. Do not use admixtures in mortar unless otherwise indicated.

E. Mixes: Mix mortar materials in the following proportions:

1. Rebuilding (Setting) Mortar by Volume: ASTM C270, Proportion Specification, 1 part portland cement, 2 parts lime, and 7 parts sand
2. Colored Mortar: Add mortar pigments to produce exposed, setting (rebuilding) mortar of colors required.

F. Masonry paint: Paint all exposed foundation walls. Paint equal to Behr. #SC-125 Stonehedge Satin Interior/Exterior Masonry, Stucco and Brick Paint. Color: Gray.

PART 3 - EXECUTION

3.1 PROTECTION

A. Prevent mortar from staining face of surrounding stone and other surfaces.

1. Cover sills, ledges, and other projecting items to protect them from mortar droppings.
2. Keep wall area wet below rebuilding and repair work to discourage mortar from adhering.
3. Immediately remove mortar splatters in contact with exposed masonry and other surfaces.

B. Remove gutters and downspouts and associated hardware adjacent to immediate work area and store during stone repair work. Reinstall when repairs are complete.

1. Provide temporary rain drainage during work to direct water away from building.

3.2 STONE REPAIR, GENERAL

A. Have repair work performed only by qualified masons.

3.3 STONE REMOVAL AND REPLACEMENT

A. Carefully remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.

B. Support and protect remaining masonry that was supported by removed stone.

C. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition. Coordinate with new flashing, reinforcement, and lintels, which are specified in other Sections.

D. Remove in an undamaged condition as many whole stone units as possible.

1. Remove mortar, loose particles, and soil from stone by cleaning with hand chisels, brushes, and water.
2. Remove sealants by cutting close to stone with utility knife and cleaning with solvents.
3. Store stone for reuse. Store off ground, on skids, and protected from weather.
4. Deliver cleaned stone not required for reuse to Director's Representative unless otherwise indicated.

E. Clean masonry surrounding removal areas by removing mortar, dust, and loose particles in preparation for stone replacement.

F. Install replacement stone into bonding and coursing pattern of existing stone. If cutting is required, use a motor-driven saw designed to cut stone with clean, sharp, unchipped edges. Finish edges to blend with appearance of edges of existing stone.

1. Maintain joint width for replacement stone to match existing joints.
2. Use setting buttons or shims to set stone accurately spaced with uniform joints.

G. Set replacement stone with rebuilding (setting) mortar and with completely filled bed, head, and collar joints. Butter vertical joints for full width before setting, and set units in full bed of mortar unless otherwise indicated. Replace existing anchors with new anchors matching existing configuration.

1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing stonework.
2. When mortar is hard enough to support units, remove shims and other devices interfering with pointing of joints.

H. Curing: Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours, including weekends and holidays.

1. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.

3.4 BACKUP MASONRY REMOVAL AND REPLACEMENT

A. Where backup masonry is fractured or unstable and at locations indicated, remove mortar and masonry units that are broken or deteriorated, and rebuild with whole, new brick or whole, salvaged backup masonry units. Carefully remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.

B. Support and protect remaining masonry that surrounds removal area.

1. Remove mortar, loose particles, and soil from brick by cleaning with hand chisels, brushes, and water.
2. Remove sealants by cutting close to brick with utility knife and cleaning with solvents.
3. Store brick for reuse. Store off ground, on skids, and protected from weather.
4. Deliver cleaned brick not required for reuse to Director's Representative unless otherwise indicated.

C. Clean masonry surrounding removal areas by removing mortar, dust, and loose particles in preparation for brick replacement.

D. Where new beam is inserted in the house, replace removed damaged stone and replace with brick or salvaged backup brick in good condition, where possible, or with new building brick matching existing backup brick. No steel beam is to be exposed to the weather. Do not use broken units unless they can be cut to usable size. Waterproof entire assembly.

E. Install replacement brick into bonding and coursing pattern of existing brick. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.

F. Lay replacement brick with rebuilding (setting) mortar and with completely filled bed, head, and collar joints. Butter ends with sufficient mortar to fill head joints and shove into place. Wet both replacement and surrounding bricks that have ASTM C67 initial rates of absorption (suction) of more than 30 g/30 sq. in. per min. Use wetting methods that ensure that units are nearly saturated but surface is dry when laid.

G. Curing: Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours, including weekends and holidays.

1. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.

3.5 PARTIAL STONE REPLACEMENT

A. Remove defective portion of existing stone unit (backing stone). Carefully remove defective portion of stone by making vertical and horizontal saw cuts at face of backing stone and removing defective material to depth required for fitting partial replacement (dutchman).

1. Make edges of backing stone at cuts smooth and square to each other and to finished surface; essentially rectangular. Make back of removal area flat and parallel to stone face.

2. Do not overcut at corners and intersections. Hand trim to produce clean sharp corners with no rounding and no damage to existing work to remain.
3. If backing stone becomes further damaged, remove damaged area and enlarge partial replacement as required.

B. Remove mortar from joints that abut area of stone removal to same depth as stone was removed. Remove loose mortar particles and other debris from surfaces to be bonded and surfaces of adjacent stone units that will receive mortar by cleaning with stiff-fiber brush.

C. Cut and trim partial replacement to accurately fit area where material was removed from backing stone. Fabricate to size required to produce joints between partial replacement and backing stone of no more than 1/16 inch in width, and to produce joints between partial replacement and other stones that match existing joints between stones.

D. Concealed Pinning: Before applying adhesive, prepare for concealed mechanical anchorage consisting of 1/4-inch-diameter, plain stainless-steel pins set into 1/4-inch-diameter holes drilled into backing stone and into, but not through, the partial replacement.

1. Center and space pins between 3 and 5 inches apart and at least 2 inches from any edge. Insert pins at least 2 inches in backing stone and 2 inches in partial replacement, but no closer than 3/4 inch from exposed face of partial replacement.

E. Apply stone-to-stone adhesive according to adhesive manufacturer's written instructions. Coat bonding surfaces of backing stone and partial replacement, completely filling all crevices and voids.

F. Apply partial replacement while adhesive is still tacky, and hold securely in place until adhesive has cured. Use shims, clamps, wedges, or other devices as necessary to align face of partial replacement with face of backing stone.

G. Clean adhesive residue from exposed surfaces and patch chipped areas.

3.6 CRACK INJECTION

A. General: Comply with cementitious crack-filler manufacturer's written instructions.

B. Drill 1/4-inch-diameter injection holes as follows:

1. Transverse Cracks Less Than 3/8 inch Wide: Drill holes through center of crack at 12 to 18 inches o.c.
2. Delaminations: Drill holes at approximately 18 inches o.c., both vertically and horizontally.
3. Drill holes 2 inches deep.

C. Clean out drill holes and cracks with compressed air and water. Remove dirt and organic matter, loose material, sealants, and failed crack repair materials.

D. Place plastic injection ports in drilled holes, and seal face of cracks between injection ports with clay or other nonstaining, removable plugging material. Leave openings at upper ends of cracks for air release.

E. Inject cementitious crack filler through ports sequentially, beginning at one end of area and working to opposite end; where possible, begin at lower end of injection area and work upward. Inject filler until it extrudes from adjacent ports. After port has been injected, plug with clay or other suitable material, and begin injecting filler at adjacent port, repeating process until all ports have been injected.

F. Clean cementitious crack filler from face of stone before it sets, by scrubbing with water.

G. After cementitious crack filler has set, remove injection ports, plugging material, and excess filler. Patch injection holes and surface of cracks as specified in "Stone Patching" Article.

3.7 STONE PATCHING

A. Patch the following stone units unless another type of repair or replacement is indicated:

1. Units indicated to be patched.
2. Units with holes.
3. Units with chipped edges or corners.

B. Remove and replace existing damaged stone.

3.8 MASONRY PAINTING

A. Masonry paint: Paint all exposed foundation walls. Paint equal to Behr. #SC-125 Stonehedge Satin Interior/Exterior Masonry, Stucco and Brick Paint. Color: Gray.

3.9 FINAL CLEANING

A. After mortar has fully hardened, thoroughly clean exposed stone surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water applied by low-pressure spray.

1. Do not use metal scrapers or brushes.
2. Do not use acidic or alkaline cleaners.

B. Clean adjacent non-stone surfaces. Use detergent and soft brushes or cloths.

C. Clean mortar and debris from roof; remove debris from gutters and downspouts. Rinse off roof and flush gutters and downspouts.

3.10 FIELD QUALITY CONTROL

A. Allegany County Land Bank Corp. will assign Project representatives to help carry out Architect's responsibilities at the site, including observing progress and quality of portion of the Work completed. Allow Architect's Project representatives use of lift devices as needed, to observe progress and quality of portion of the Work completed.

END OF SECTION 040342

SECTION 055200

ALUMINUM HANDRAILS AND RAILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions, Division 01 - General Requirements, and other applicable specification sections in the Project Manual apply to the work specified in this Section.

1.2 SUMMARY

A. Scope: Provide labor, material, equipment, related services, and supervision required, including, but not limited to, manufacturing, fabrication, erection, and installation for aluminum handrails and railings as required for the complete performance of the work, and as shown on the Drawings and as herein specified.

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

1. Aluminum exterior handrails.
2. Aluminum porch railings.

C. Related Sections:
1. Section 062000 – Finish Carpentry.

1.3 REFERENCES

A. General: The publications listed below form a part of this Specification to the extent referenced. The publications are referred to in the text by the basic designation only. The edition/revision of the referenced publications shall be the latest date as of the date of the Contract Documents, unless otherwise specified.

B. Aluminum Association, Inc. (AA):
1. AA SAS-30, "Specifications for Aluminum Structures."

C. American Architectural Manufacturers Association (AAMA):
1. AAMA 611, "Voluntary Specifications for Anodized Architectural Aluminum (Revised)."
2. AAMA 2604, "Voluntary Specification, Performance Requirements, and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels."

D. American Welding Society (AWS):
1. AWS D1.2, "Structural Welding Code – Aluminum."

E. ASTM International (ASTM):
1. ASTM B26/B26M,"Standard Specification for Aluminum-Alloy Sand Castings."
2. ASTM B209/B209M,"Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate."

3. ASTM B210/B210M, “Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes.”
4. ASTM B221/B221M, “Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.”
5. ASTM B247/B247M, “Standard Specification for Aluminum and Aluminum-Alloy Die Forgings, Hand Forgings, and Rolled Ring Forgings.”
6. ASTM B429/B429M, “Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube.”

F. Code of Federal Regulation (CFR):
1. 16 CFR Part 1201, "Safety Standard for Architectural Glazing Material" (Consumer Products Safety Commission).

G. National Association of Architectural Metal Manufacturers (NAAMM):
1. NAAMM MFM, "Metal Finishes Manual."

1.4 DEFINITIONS

A. See definitions in ASTM E985 for railing-related terms that apply to this Section.

1.5 PERFORMANCE REQUIREMENTS

A. General: Handrails and railings shall withstand structural loading as determined by allowable design working stresses of materials based on the following standards.
1. Aluminum: AA SAS-30.

B. Structural Performance: Provide handrails and railings capable of withstanding the following structural loads without exceeding allowable design working stress of materials for handrails, railings, anchors, and connections:
1. Top Rail: Shall withstand the following loads:
   a. Concentrated load of 200 lbf (890 N) applied at any point and in any direction.
   b. Uniform load of 50 lbf per foot (730 N/m) applied horizontally or vertically downward.
   c. Concentrated and uniform loads above need not be assumed to act concurrently.
2. Handrails not Serving as Top Rails: Shall withstanding the following loads:
   a. Concentrated load of 200 lbf (890 N) applied at any point and in any direction.
   b. Uniform load of 50 lbf per foot (730 N/m) applied in any direction.
   c. Concentrated and uniform loads above need not be assumed to act concurrently.
3. Guard Infill Area: Shall withstand the following loads:
   d. Concentrated horizontal load of 50 lbf (222 N) applied to 1 square foot (0.09 m^2) at any point in system, including panels, intermediate rails, balusters, or other elements composing infill area. Loads need not be assumed to act concurrently with loads on top rails in determining stress on guard.
   e. Pickets shall be spaced no more than 4”apart.

C. Thermal Movements: Handrails and railings shall allow for movements resulting from 120 degree F (49 degree C) changes in ambient and 180 degree F (82 degree C) surface temperatures. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

D. Corrosion Resistance: Separate incompatible materials to prevent galvanic corrosion.

1.6 SUBMITTALS

SECTION 055200

ALUMINUM HANDRAILS AND RAILINGS

A. General: Submit under provisions of Section 01 33 00 - Submittal Procedures.

B. Product Data:
   1. Submit manufacturer's data sheets on each product to be used, including, but not limited to, the following:
      a. Preparation instructions and recommendations.
      b. Storage and handling requirements and recommendations.
      c. Installation methods.
   2. Submit product data for manufacturers product lines of handrails and railings assembled from standard components, including, but not limited to, the following:
      a. Grout, anchoring cements and paint products.

C. Shop Drawings: Submit shop drawings showing fabrication and installation of handrails and railings. Include plans, elevations, sections, details, and attachments to other work.

D. Samples:
   1. Color Selection: Submit manufacturer's color charts showing the full range of colors available for products with factory-applied color finishes.
      a. Finish Selection: Provide sections of railing or flat sheet metal which depict available mechanical surface finishes.
      b. Color: Satin

E. Quality Control Submittals:
   1. Design Data: For installed handrails and railing systems indicated to comply with certain design loadings, include structural analysis data signed and sealed by the professional engineer who was responsible for their preparation.

1.7 QUALITY ASSURANCE

A. Qualifications:
   1. Manufacturer Qualifications: Manufacturer shall be a firm engaged in the manufacture of aluminum handrails and railings of types and sizes required, and whose products have been in satisfactory use in similar service for a minimum of 15 years.

B. Regulatory Requirements: Comply with applicable requirements of the laws, codes, ordinances, and regulations of Federal, State, and local authorities having jurisdiction. Obtain necessary approvals from such authorities.

C. Single Source Responsibility: Obtain aluminum handrails and railings from a single source with resources to produce products of consistent quality in appearance and physical properties without delaying the work.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.9 PROJECT CONDITIONS

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

1.10 WARRANTY

A. General: See Section 0177 00 - Closeout Procedures.

B. Warranty: Provide manufacturer's standard form outlining the terms and conditions of their Standard Limited Warranty:
   1. Surface Finish Warranty: One-year limited warranty.
   2. Material Integrity Warranty: One year limited warranty.

C. Additional Owner Rights: The warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

1.11 EXTRA MATERIALS

A. All supplemental materials not expressly specified in this section shall be approved by the Architect prior to installation.
   1. Provide 6 additional Pickets for attic storage.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design: Items specified are to establish a standard of quality for design, function, materials, and appearance. Equivalent products by other manufacturers are acceptable. The Architect will be the sole judge of the basis of what is equivalent.

2.2 MATERIALS

A. Aluminum
   1. Architectural railings spindles and posts.

B. Basis of Design:, Equal to:
   1. Color Guard Railing Systems. ColorGuardRailing.Com.
   2. Provide all matching aluminum accessories from manufacturer for all post and base attachment.
      a. Lincoln Series. – 36” overall height.

b. ¾" Square Pickets with system top rail.
c. Color: White.

C. Provide all connectors for mounting hardware for all parts.
1. Provide base assembly and internal mounting bracket.
2. Swivel brackets for handrail connections at posts.

D. Metals: Provide metal free from pitting, seam marks, roller marks, stains, discolorations, and other imperfections where exposed to view on finished units.
1. Aluminum: Provide alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than strength and durability properties of alloy and temper designated below for each aluminum form required.
   a. Extruded Bar and Tube: ASTM B221/B221M, Alloy 6063-T5/T52.
   b. Extruded Structural Pipe and Tube: ASTM B429/B429M, Alloy 6063-T832.
   c. Drawn Seamless Tube: ASTM B210/B210M, Alloy 6063-T832.
   d. Plate and Sheet: ASTM B209/B209M, Alloy 6061-T6.
   e. Die and Hand Forgings: ASTM B247/B247M, Alloy 6061-T6.
   f. Castings: ASTM B26/B26M, Alloy A356-T6.
2. Brackets, Flanges, and Anchors: Provide cast or formed metal of same type of material and finish as supported rails, unless otherwise indicated.
   a. Provide manufacturers brackets with flange tapped for concealed anchorage to threaded hanger bolt.
   b. Provide formed or cast brackets with predrilled hole for exposed bolt anchorage.
   c. Provide formed steel brackets with predrilled hole for bolted anchorage and with snap-on cover that matches rail finish and conceals bracket base and bolt head.
   d. Provide brackets with interlocking pieces that conceal anchorage. Locate set screws on bottom of bracket.

E. Railing Components:
1. Extruded Aluminum Components: Provide manufacturer's standard extruded aluminum components as follows: See manufacturer's standards.
   a. Standard Post: 2.376 inches by 2.376 inches with radiused corner, 0.100 inch wall thickness.
   b. Bottom Rail: 1.6926 inches high by 1.676 inches wide with a 0.765 inch wide pocket on the top and an open bottom.
   c. Picket: 1-1/2" inch square with (1.57 mm) wall thickness.
   d. Top Rail: as indicated on the Drawings and in the specifications or, if not indicated, as selected by the Architect from the manufacturer's standards with an open bottom, 0.0866 inch (2.20 mm) wall thickness.

F. Fasteners:
1. Handrail Anchors: Select fasteners of type, grade and class required to produce connections suitable for anchoring handrails and railings to other types of construction indicated and capable of withstanding design loads.
2. Handrail and Railing Component Anchors: Use fasteners fabricated from same basic metal, unless otherwise indicated. Do not use metals that are corrosive or incompatible with materials joined.

a. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless exposed fasteners are unavoidable or are standard fastening method for handrail and railing indicated.
b. Provide Phillips flat-head machine screws for exposed fasteners, unless otherwise indicated.
a. Cast-in-Place and Post Installed Anchors: Provide anchors of type indicated below, fabricated from corrosion-resistant materials with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry and equal to four items the load imposed when installed in concrete, as determined by testing per ASTM E488 conducted by a qualified independent testing agency.
b. Chemical anchors.
c. Expansion anchors.

2.3 FABRICATION

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

B. Form changes in direction of railing members as shown on the Drawings.

C. Fabricate handrails and railings by connecting members with railing manufacturer's standard concealed mechanical fasteners and fittings, unless otherwise indicated. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.

D. Provide manufacturer's standard wall brackets, flanges, miscellaneous fittings, and anchors to connect handrail and railing members to other construction.

E. Provide inserts and other anchorage devices to connect handrails and railings to concrete or masonry. Fabricate anchorage devices capable of withstanding loads imposed by handrails and railings. Coordinate anchorage devices with supporting structure.

F. Shear and punch metals cleanly and accurately. Remove burrs from exposed cut edges.

G. Cut, reinforce, drill, and tap components as indicated on the Drawings to receive finish hardware, screws, and similar items.

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

I. Provide mounted handrail wall returns at wall ends unless otherwise indicated. Close ends of returns, unless clearance between end of railing and wall is 1/4 inch (6 mm) or less.

2.4 FINISHES

A. General: Comply with NAAMM MFM for recommendations for applying and designating finishes.
1. Appearance of Finished Work:
a. Variations in appearance of abutting or adjacent units are acceptable if they are within one-half of the range of final samples. Noticeable variations in the same unit are not acceptable.
b. Variations in appearance of other components are acceptable if they are within the range of final samples and are assembled or installed to minimize contrast.

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

1. Powder Coat Finish: AA-C12-C42-R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Prepare, pretreat, and apply manufacturer's standard baked powder coat finish. Comply with coating manufacturer's written instructions for cleaning, surface preparation, pretreatment, and application.
    1) Color: Satin Anodized.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of Conditions: Examine areas and conditions under which the work is to be installed, and notify the Contractor in writing, with a copy to the Owner and the Architect, of any conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected.
1. Examine substrates to receive anchors verifying that locations of concealed reinforcements have been clearly marked for the Installer. Locate reinforcements and mark locations if not already done.
2. Beginning of the work shall indicate acceptance of the areas and conditions as satisfactory by the Installer.

3.2 PREPARATION

A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installing anchors, such as sleeves, concrete inserts, anchor bolts, and miscellaneous items having integral anchors, that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to the Project site.

3.3 INSTALLATION

A. General:
1. Fitting: Fit exposed connections together to form tight, hairline joints.
2. Cutting and Placement: Set handrails and railings accurately in location, alignment, and elevation measured from established lines and levels and free from rack.
    a. Do not weld, cut, or abrade coated or finished surfaces of railing components that are intended for field connection by mechanical or other means without further cutting or fitting.
    b. Align rails so variations from level or parallel alignment do not exceed 1/4 inch in 12 feet (1.6 mm per m).

1) Cover anchorage joint with a round steel flange attached to post by set screws.
2) Leave anchorage joint exposed, wipe off surplus anchoring material, and leave 1/8 inch (3 mm) buildup, sloped away from post.

3. Corrosion Protection: Provide separation as recommended by manufacturer on concealed surfaces of aluminum that will be in contact with grout, concrete, masonry, wood, or dissimilar metals.
4. Adjusting: Adjust handrails and railings before anchoring to ensure alignment at abutting joint's space posts at interval indicated, but not less than required to achieve structural loads.
5. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing handrails and railings and for properly transferring loads to in-place construction.

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

3.4 ADJUSTING AND CLEANING

A. Touch-Up Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and appoint exposed areas with same material.

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

3.5 PROTECTION

A. Provide final protection and maintain conditions in a manner acceptable to the Installer, that shall ensure that the aluminum handrails and railings shall be without damage at time of Substantial Completion.

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

END OF SECTION

SECTION 061000

ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
1. Framing with dimension lumber.
2. Interior stairs installation. (Bulder's stairs, plus extension for non-standard length).
3. Window and door blocking.
4. Adjust-a-post basement columns.
5. Interior 2 x 4 wood studs under each joist for direct bearing of floor joist framing.
6. Wood blocking and nailers for drywall, wall sinks, and misc items.
7. OSB floor sheathing and luan.
8. Structural LVL basement beams and bracing each side of new stair opening.
9. Infill of studs at relocated doors and windows.
10. Exterior Deck and porch framing with steps.

1.3 FRAMING LUMBER:

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

A. Interior partitions: 2 x 4's at 16" o.c. (insulate all interior walls with sound batts).

B. All framed openings shall have structural wood headers as indicated on plans. Note: Provide (3) 2 x 8's above each new window/ door opening.

C. Double floor joists under all interior partitions. Full width of the house.

D. Triple 2 x 8 LVL center floor support beams in basement as noted. Provide full 4" bearing at each end. Cut into masonry stone walls.

E. Steel Pipe Columns: Adjust-a-post columns on new concrete pads in basement. With mounting plates. Telescopic Support Brace: 3 Sections, 2,588 lb Max Capacity, 150 in Max Ht, 54 in Min Ht. Mfr. Model 3CA83.

a. Approved equal: Tiger Brand Super S Series 8 ft. 4 in. Jack Post.

F. Provide Louisiana Pacific LVL glue laminated beams where indicated on plans.

G. Provide 2" x 2" wood cross bracing at new and existing floor joists.

H. Replacement Roof Rafters: Replace damaged 2 x 10's at 24" o.c. with 2 x 8 collar ties at 4'-0".

I. Hurricane Connectors: H1 Simpson Strong Tie. One per rafter.

J. ¼ ” luan sub-flooring for <u>all floors</u>. Glued and nailed.

K. All new exterior sheathing shall be Huber “Zip system” R sheathing. Green board 1” insulation board (R=3.5) continuous. Cover all seams with approved tape.

L. Tear off of existing roof. Replace with new roof sheathing: 7/16 ” CDX OSB Board. Provide ply-clips at non-supported areas of sheathing. Apply to entire roof.
   1. Specialty wood products: LP Smart Side exterior trim boards, and with solid sheets for all fascia, window, and soffit. Paint all surfaces to match windows.

PART 2 - EXTERIOR DECK/ STOOP CARPENTRY

A. Provide AWPA Wolmanized UC4A pressure treated lumber for all structural lumber for deck, and steps. (Non-ground contact rated PT lumber.) posts shall be 6 x 6 nominal. Notch for full beam bearing on deck.
   1. Provide double dipped galvanized nails and Simpson Strong Tie fasteners and post bases for all connectors as shown.
   2. Provide aluminum flashing as necessary at wall/ deck/ exterior at all joints. Caulk with clear silicone.
   3. Use Column base equal to: Simpson Strong-Tie 8 In. x 8 In. Post Base MPBZ. Attach to existing Masonry on front porch.
   4. Use Column top metal anchor equal to: Simpson Strong-Tie. CCOQ3. Attach to wood framing and top of finished column.
   5. At Column top corners, use metal anchors equal to: Simpson Strong Tie RTC42 18-Gauge 2X Rigid Tie Connector.
   6. Apply weather membrane barrier on walls and counterflash over deck framing. Weather barrier equal to: Grace Peel-and-Stick
   7. Fasten ledger board to residence using approved ledger screws. Screws shall be equal to FastenMaster “Ledger Lok”. Length 5” min. Install at 16” o.c. as noted on plans.
   8. Steps: form stringers out of (2) 2 x 12’s each side. Cut one stringer for full bearing. Steps – 2 x 12. Risers 2 x 6. Bottom of stair stringers shall be placed on metal bearing plates. Use Simpson Strong Tie Angle brackets for stringer attachment and secure to concrete slab.
   9. Provide solid PVC skirting at deck as indicated on plans. Stain to match ramp. Place solid wood matching between posts and stringers and picture frame with 1” x 1” PT trim. Provide trim at all intersections. No raw edges. Galvanized finish nails. NOTE: skirting shall not touch the ground.
   10. Composite deck: Equal to Azek “Harvest Collection”. Color: Brownstone. Fasten all composite deck to pressure treated lumber, with matching recessed blind fasteners equal to FastenMaster Cortex for decking. Install deck with 2 ¾” screws.
   11. Provide Cortex concealed fastening system and plugs at each deck fastener screw with matching composite plug. Use manufacturer’s approved adhesive.
   12. Provide matching composite edge banding, spindles, and handrails as detailed.
   13. Handrails and Spindles: Aluminum.

2.2 DEFINITIONS

A. Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.

B. Lumber grading agencies, and the abbreviations used to reference them, include the following:
   1. WCLIB: West Coast Lumber Inspection Bureau.
   2. WWPA: Western Wood Products Association.

2.3 ACTION SUBMITTALS

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

2.4 DELIVERY, STORAGE, AND HANDLING

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

PART 3 - PRODUCTS

3.1 WOOD PRODUCTS, GENERAL

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

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

3.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2.
   1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat items indicated on Drawings, and the following:
   1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
   2. Wood floor plates that are installed over concrete slabs-on-grade.

3.3 DIMENSION LUMBER FRAMING

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

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

C. Ceiling Joists: Construction or No. 2 grade.
   1. Species:
      a. Hem-fir; WCLIB or WWPA.

3.4 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
   1. Blocking, for handrails.
   2. Nailers for attaching doors, windows.
   3. ¾ wood sheathing at floor infill, and ¼" luan throughout.

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

C. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.

D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

3.5 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
   1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

B. Nails, Brads, and Staples: ASTM F 1667.

C. Power-Driven Fasteners: NES NER-272.

D. Wood Screws: ASME B18.6.1.

E. Lag Bolts: ASME B18.2.1.

F. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.

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

3.6 METAL FRAMING ANCHORS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. Phoenix Metal Products, Inc.
   2. Simpson Strong-Tie Co., Inc.
   3. USP Structural Connectors.

B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation.
   1. Use for interior locations unless otherwise indicated.

C. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A 653/A 653M; structural steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 coating designation; and not less than 0.036 inch thick.
   1. Use for wood-preservative-treated lumber and where indicated.

D. Rafter Tie-Downs: Bent strap tie for fastening rafters or roof trusses at each rafter to wall studs below, 1-1/2 inches wide by 0.050 inch thick. Tie fastens to side of rafter or truss, face of top plates, and side of stud below.

E. Wall Bracing: T-shaped bracing made for letting into studs in saw kerf, 1-1/8 inches wide by 9/16 inch deep by 0.034 inch thick with hemmed edges.

3.7 MISCELLANEOUS MATERIALS

A. Sill-Sealer Gaskets: (At new exterior wood framing plates) Closed-cell neoprene foam, 1/4 inch thick, selected from manufacturer's standard widths to suit width of sill members indicated.

B. Water-Repellent Preservative: NWWDA-tested and -accepted formulation containing 3-iodo-2-propynyl butyl carbamate, combined with an insecticide containing chloropyrifos as its active ingredient.

PART 4 - EXECUTION

4.1 INSTALLATION, GENERAL

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

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

C. Metal Framing Anchors: Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.

D. Install sill sealer gasket to form continuous seal between sill plates and foundation walls.

E. Do not splice structural members between supports unless otherwise indicated.

F. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.

G. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:
   1. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than 96 inches o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2-inch nominal- thickness.
   2. Fire block concealed spaces behind combustible cornices and exterior trim at not more than 20 feet o.c.

H. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

I. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
   1. Use copper naphthenate for items not continuously protected from liquid water.

J. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
   1. NES NER-272 for power-driven fasteners.
   2. Table 2304.9.1, "Fastening Schedule," in Building Code of New York State (ICC's International Building Code).

K. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

4.2 WOOD BLOCKING, AND NAILER INSTALLATION

A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated. Install (1) 2 x 12” either side of the shop made stair. Attach to shop made stringer.

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

4.3 WALL AND PARTITION FRAMING INSTALLATION

A. General: Provide single bottom plate and double top plates using members of 2-inch nominal thickness whose widths equal that of studs, except single top plate may be used for non-load-bearing partitions. Fasten plates to supporting construction unless otherwise indicated.

B. Construct corners and intersections with three or more studs.

C. Frame openings with multiple studs and headers. Provide nailed header members of thickness equal to width of studs. Support headers on jamb studs.
   1. For non-load-bearing partitions, provide double-jamb studs and headers not less than 4-inch nominal depth for openings 48 inches and less in width, 6-inch nominal depth for openings 48 to 72 inches in width, 8-inch nominal depth for openings 72 to 120 inches in width, and not less than 10-inch nominal depth for openings 10 to 12 feet in width.
   2. For load-bearing walls, provide double-jamb studs for openings 60 inches and less in width, and triple-jamb studs for wider openings. Provide headers of depth indicated.

D. Provide diagonal bracing in exterior walls, at both walls of each external corner, at 45-degree angle, full-story height unless otherwise indicated. Use 1-by-4-inch nominal- size boards, let-in flush with faces of studs or metal wall bracing, let into studs in saw kerf.

4.4 INTERIOR STAIRS

A. Provide and install shop fabricated wood stairs with SOLID/ OPEN / OPEN configuration as shown on drawings. (adjacent to walls, and then open either side). Stairs shall be 8 ¾" h x 9 ½"t. Southern Pine. Carpet grade.

B. Basement stairs shall be SOLID stringer configuration. Attach handrails to side stringer with 2 x 2 wood posts.

C. Attach stairs to 2 x 12 support framing adjacent to stringers full height (solid board).

D. Add additional 2 x 12 at open portion of stairs for baluster finish trim caps.

END OF SECTION

SECTION 062000

FINISH CARPENTRY

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Rough Carpentry: Section 061000.

B. Doors: Section 081400.

1.02 REFERENCES

A. Comply with the applicable provisions of the "Architectural Woodwork Standards" (First Edition-2009) (AWS) except as otherwise specified herein. References to "Premium", "Custom" and "Economy" Grades herein, shall be as defined in that Standard.

B. Lumber Standard: AWS Section 3.

B. Lumber Standard; American Softwood Lumber Standard: U.S. Dept. of Commerce Product Standard PS-20.

C. Panel Products: AWS Section 4.

D. Preservative Treatment Standard: American Wood Protection Association Standard (AWPA) U1-02

1.03 SUBMITTALS

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

1.04 QUALITY ASSURANCE

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

1.05 DELIVERY, STORAGE, AND HANDLING

A. Store materials and completed fabricated wood items in a dry, well ventilated area completely protected from the weather. Comply with temperature and humidity requirements for storage and installation as specified in the applicable quality standards.

B. Protect sanded and prefinished surfaces during handling and installation. Keep such surfaces covered with polyethylene film or other suitable protective covering.

1.06 PROJECT CONDITIONS

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

PART 2 PRODUCTS

2.01 MATERIALS

A. Trim Lumber: MDF Board, or pine.

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

2.02 STANDING AND RUNNING TRIM AND FINISHES.

A. Comply with AWS Sections 6 and/or 12 as applicable, and as otherwise specified herein.

B. Interior Woodwork (to receive painted finish): AWS Custom Grade.
Doors and Frames.
1. Type: MDF Board (or pine) - One Piece
2. Square 1 x 3 molding profile. (and skirting at window sill).
3. Window Sills and stools (with overlap, as drawn)

C. Interior base trim (throughout): Interior running and standing trim: Base shall be MDF (as noted) Paint white.
1. Base shall be Burton Moldings Style # 095, with quarter round base finish.

D. Exterior Trim: as noted.
1. LP Smartside. – Smooth Finish. 1” thickness. Paint White.
2. Caulk all around.

E. Finishes: All interior Finish Carpentry shall be painted white.

2.03 STAIRS AND BANISTERS:

A Remove existing Stair handrails and balusters. Install new Equal to WM Coffman Co. New stairs equal to:

1. Stairs and risers shall be Oak. (exposed) on 1st and 2nd floors.
   a. Standard builder stairs to basement.
2. Balusters shall be: Post to Post. Oak Rail. No. C-6010.
   a. Newel Post. Square: 4095 (White).
   b. Balusters: 2" x 2" Square. (White).
3. Handrails. A. Metal: Wall Brackets. for railings fabricated from steel components.
   a. Brackets equal to: Rejuvenation Co. (rejuvenation.com). (888) 401-1900 – Simple Handrail Bracket kit including mounting hardware. Model # C3379. 1 - 1/2" x 3" x 3 5/8".
   b. Color: Satin.

B. Wood Handrails

1. Wood handrails shall be equal to: Stair Supplies or approved equal supplier.
   a. Size: 2- ¼ " o.d. 6040 with bottom flat bottom for mounting. Verify size in field.
2. Material: Pine
3. Stain and Varnish.
4. Miter and return handrails to wall surface.

2.04 CLOSET AND UTILITY SHELVING AND RODS

A. Comply with AWS Section 10 and as otherwise specified herein.

B. Closet Rod & shelf:

1. Shelf Rod Bracket (3 req'd) Knape and Vogt - Model VM1195CR 12 ½" bracket. Color: Crème.
2. Closet Rod: Epco Model 890-41 - 1/16" round 48" polished chrome rod.
3. Rod supports: (2 req'd) Epco Model EPC –850-SS Open flange. Secure at ends of closet.
4. Closet rod supports. Shelf: ¾" Melamine covered shelf – full length of closet.

3.01 FABRICATION

A. Machine and sand wood surfaces to comply with the requirements of the AWS Quality Grade specified.

B. Mill assemble items to largest sizes practicable, to minimize field cutting and jointing. Allow for cutting and fitting where necessary to fit at the Site.

PART 4 EXECUTION

4.01 EXAMINATION

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

4.02 PREPARATION

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

4.03 INSTALLATION

A. Comply with workmanship and finishing standard requirements of the AWS Quality Grade specified herein.

B. Install the Work plumb, level, and free of distortion. Shim where required, with concealed shims.

C. Cut wood items to fit unless specified to be shop-fabricated, or shop-cut to exact size. Scribe and cut for accurate fit where Work abuts other finish Work. Drill pilot holes at corners before making cutouts.

D. Distribute defects to the greatest appearance advantage possible.

E. Trim and Molding: Install in single, un-jointed lengths at openings and for runs less than the maximum lumber length available. For long runs, use only 1 piece less than the maximum length available in any straight run. Stagger joints in adjacent members. Cope molding at returns. Miter at corners.

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

5.01 CLEANING

A. Clean exposed surfaces of prefinished Work.

5.02 PROTECTION

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

SECTION 062000

FINISH CARPENTRY

END OF SECTION

SECTION 062013

EXTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Exterior siding, and trim boards.
   2. Exterior Fiberglass Structural Decorative Columns.
   3. Soffits and fascias.
   4. Trim Dentils

1.3 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials, dimensions, profiles, textures, and colors and include construction and application details.

1.4 DELIVERY, STORAGE, AND HANDLING

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

B. Protect decorative trim, and columns in an area free from traffic. Keep dry until use.

1.5 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecast weather conditions permit work to be performed and at least one coat of specified finish can be applied without exposure to rain, snow, or dampness.

B. Do not install finish carpentry materials that are wet, moisture damaged, or mold damaged.
   1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
   2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 EXTERIOR FINISH PRODUCTS

A. Product/Manufacturer: Basis of design.
Subject to compliance with requirements, available products may be incorporated into the Work include, but are not limited to, the following:
   1. Exterior porch ceiling: James Hardi Company. Hardi-Plank cementitious siding lap siding

a. Style: “Beaded Cedarmill”. Color: by architect.
b. Apply air barrier on all surfaces to receive siding equal to DuPont “Tyvek” Commercial air barrier.

2 Soffits: LP SmartSide solid soffit - Architectural Collection. Cedar
Soffit trim: LP SmartSide.

3. Architectural Columns: Architectural Mall – Raised Non tapered square 8” column Plain PVC structural.
   a. Architectural Mall, Inc. 17 W. 300 22nd. Street 2nd Floor Oakbrook Terrace, IL 60181 T. 630-279-9993 F. 630-279-9994 Website: www.architecturalmall.com E-mail: sales@architecturalmall.com.
   b. Approved equal: Perma-Cast Co.

1. Vinyl Lattice skirting. Install vinyl lattice on rear deck equal to: Permalatt DuraShell vinyl lattice. 2” square rectangular pattern. Color: Sandtone. Permalatt Products, Inc. 3462 US 6E, Bremen, In. 46506. www.permalatt.com. Picture frame lattice with 1 x 3 wood frame equal to LP Smartside.
   a. Screw lattice assembly to substrate with countersunk stainless steel screws. Keep assembly 1” from grade. (min.). Paint to match.

2.2 MISCELLANEOUS MATERIALS

A. Fasteners for Exterior Finish Carpentry: Provide nails or screws, in sufficient length to penetrate not less than 1-1/2 inches into wood substrate.
   1. For face-fastening soffits, provide ringed-shank siding nails or hot-dip galvanized-steel siding nails unless otherwise indicated.

B. Sealants: Latex, complying with ASTM C 834 Type OP, Grade NF and with applicable requirements in Section 079200 "Joint Sealants," recommended by sealant manufacturer and manufacturer of substrates for intended application.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

B. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.

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

3.2 PREPARATION

A. Clean substrates of projections and substances detrimental to application.

3.3 INSTALLATION, GENERAL

A. Do not use materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements.
   1. Do not use manufactured units with defective surfaces, sizes, or patterns.

B. Install exterior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.
   1. Scribe and cut exterior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
   2. Install to tolerance of 1/8 inch in 96 inches for level and plumb. Install adjoining exterior finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
   3. Coordinate exterior finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate exterior finish carpentry.

3.4 ADJUSTING

A. Replace exterior finish carpentry that is damaged or does not comply with requirements. Exterior finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing. Adjust joinery for uniform appearance.

3.5 CLEANING

A. Clean exterior finish carpentry on exposed and semi-exposed surfaces. Touch up factory-applied finishes to restore damaged or soiled areas.

3.6 PROTECTION

A. Protect installed products from damage from weather and other causes during construction.

B. Remove and replace finish carpentry materials that are wet, moisture damaged, and mold damaged.
   1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
   2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 062013

SECTION 064000

KITCHEN AND VANITY CABINETS

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Finish Carpentry: Section 062000.
B. Plumbing Fixtures Section 224200

1.02 REFERENCES

A. Comply with the applicable provisions of the "Architectural Woodwork Standards" (First Edition-2009) (AWS) except as otherwise specified herein. References to "Premium", "Custom", and "Economy" Grades herein, shall be as defined in that Standard.

1.03 SUBMITTALS

A. Shop Drawings: Show fabrication details and connections to adjacent Work.

B. Product Data: Manufacturers' catalog sheets, specifications, and installation instructions for plastic laminates and hardware items.

PART 2 PRODUCTS

2.01 CABINETS AND COUNTERTOPS

A. Comply with AWS Sections 10 and 11 except as otherwise specified herein. Reference KCMA and The National Kitchen + Bath Association (NKBA) standards for Kitchen Cabinets manufacturer.

B. Kitchen and Vanity Cabinets:
1. Provide and install Kitchen cabinets as detailed on the plans. Kitchen Cabinets equal to:
   a. Smart Cabinets 70680 County Road 23, New Paris Indiana 46553. WWW.SMARTCABINETRY.COM
. 2. Solid Slab doors.
   a. Style: Montana
   b. Color: Polar White.

C. Countertops: Custom Grade with plastic laminate cover, including backsplash and end splash as shown. Mount on 3/4” marine plywood. Plywood, MDF board, or particle board are acceptable. 1-3/8” standard front profile.

1. Finish exposed edges and ends of counter tops with matching plastic laminate.

2. Note: Contractor shall verify all appliance electrical, plumbing hookups and dimension coordination prior to installation of cabinets.

D. Bathroom Vanity integral countertop/ base 2-6" width.

1. Vanity top. Equal to Kohler. Model K-2779-1-G82 Ceramic/Impressions 31-Inch Rectangular Vanity-Top Bathroom Sink with Single Faucet Hole, Dune Impressions: Solid surface with integral single sink bathroom vanity top. Match with base indicated.

   a. Model #SQ231-DUN3-SS.

2. Vanity Base cabinet equal to: Smart Cabinetry – Vanity base. (Matching cabinet style)

E.. Plastic Laminate: NEMA Standards Publication LD3 for the following types; color, texture, and finish as indicated, or if not indicated, as selected by the Architect.

1. Horizontal Surfaces: General Purpose Type; GP 50 Grade; 0.050 inch nominal thickness.
2. Post-Formed Surfaces: Postforming Type; PF 42 Grade; 0.042 inch nominal thickness.
3. Vertical Surfaces: General Purpose Type; GP 28 Grade; 0.028 inch

F.. Plastic laminate style equal to: WilsonArt Laminates.

1. Color and style: Tungsten EV. Model 4814-60.

G. Countertop standard L angle support bracket: Mount 8" high x 20" long steel L bracket flush under kitchen countertop at seating area. Attach to countertop and to side of cabinets per manufacturer's instructions. Use flush countersunk screws. Install three brackets equal to:

1. Iron Supports, Inc. ironsupports.com.

H. Provide 4 "coved rubber base on fronts of all cabinets equal to Johnsonite. 1/8" Rubber wall base Color: #259 "Terra Firma".

2.02 HARDWARE

A. Provide hardware as required for architectural woodwork, including cabinet hardware and miscellaneous items. Hardware Standard: Comply with BHMA A156.9 for items indicated by reference to BHMA numbers or referenced to this standard.

B. Provide Kitchen cabinet pulls equal to: Doug Mockett. Doug Mockett & Company, Inc.- PO Box 3333, Manhattan Beach, CA 90266
800-523-1269 /FAX 800-235-7743 / info@mockett.com • www.mockett.com

1. Model: DP270-90T - Cambridge Cast Iron Drawer Pull

C. Provide and install Vanity cabinet pull hardware. Hardware equal to:
   1. Amerock. "Blackrock" - 5" Centers Pull Satin Nickel
      Model # BP55277G10

PART 3 EXECUTION

3.01 INSTALLATION

A. Install the Work of this Section in strict accordance with the manufacturer's printed instructions and approved shop drawings (if any).

B. Fit joints neatly and accurately with adjoining surfaces in same plane. Maintain field joint tolerances equal to those specified in AWS Standards.

C. Fastening:
   1. Use concealed fasteners for work to receive transparent finish.
   2. Fasten assembled items together securely.
   3. Fasten items securely to supporting surfaces.
   4. Set exposed nails for putty stopping.
   5. Plug stop screws in exposed-to-view surfaces.
   6. Perform gluing operations in such a manner that the glued surfaces will be in close contact throughout, firmly cemented together and with joints as nearly invisible as possible.

END OF SECTION

SECTION 066500

SOLID SURFACING MATERIAL

PART 1 - 1.01 GENERAL

1.1 SECTION INCLUDES

A. Shower walls and vanity backsplash

B. Kitchen backsplash.

C. Metal termination bars.

1.2 SUBMITTALS

A. Product Data: Submit manufacturer's current product literature, including installation instruction.

B. Quality Assurance Submittals

1. Manufacturer Instructions: Provide manufacturer's written installation instructions.

1.3 DELIVERY, STORAGE AND HANDLING

A. Deliver solid surfacing materials and components in manufacturer's original, unopened, undamaged containers with identification labels intact.

B. Store panels as recommended by manufacturer.

1.4 WARRANTY

A. Manufacturer standard warranty indicating that all materials will be free from defects from the date of substantial completion for the time periods indicated below:

1. Solid Surfacing: Homogenous compression molded material composed of acrylic resins or polyester/acrylic resin blend, fire-retardant filler materials, fiber reinforcement, and coloring agents.
2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following: 1 year warranty.

1.5 MATERIALS

A. Shower tub surround and vanity backsplash. Basis of design: Basis of Design: Avonite.

1. Aristech Acrylics; "Avonite Surfaces"; www.aristechsurfaces.com . Color: White

B. Approved equals

a. Formica Corp.; “Formica Solid Surfacing”; www.formica.com
b. LGHausys; “HI-MACS Solid Surface”; www.lghimacsusa.com
c. Swan Surfaces, LLC; “Swanstone”; www.swanstone.com
d. Wilsonart; “Wilsonart Solid Surface”; www.wilsonart.com

C. Kitchen wall backsplash: Equal to: Fasade. Vista 24.25-in x 18.25-in Gloss White Backsplash Panels Item 2967375. Model #PB6900.

1. Install wall mounted plastic laminate backsplash from top of countertop backsplash to underside of upper cabinets.

2. All edges shall be finished.

D. Tub and Shower Walls with Trim Kit:

1. Surfaces of material adhesively joined with inconspicuous seams, consisting of four panels, typical, with batten strips, vertical edge and ceiling trim strips, adhesively applied to approved substrate using thin-set neoprene-based panel adhesive or Type 1 ANSI A 136.1 solvent-based adhesive with matching color.
2. Thickness: 1/4 inch
3. Size: 30 or 36 inches by needed height.
4. Finish: Matte
5. Color: Selected from manufacturer’s standard range of available colors. White.

2.02 FABRICATION

A. Fabricate components in shop to greatest extent practical to sizes and shapes needed.
B. Form joints between components using manufacturer’s standard joint adhesive without conspicuous joints.
C. Provide holes and cutouts for plumbing fittings and bath accessories.
D. Rout and finish component edges to a smooth, uniform finish. Rout cutouts, then sand edges smooth. Repair or reject defective or inaccurate work.
E. Fabrication Tolerances: Plus or minus 1/16 inch overall.

3.03 ACCESSORIES

A. Joint adhesive: Manufacturer’s standard one- or two-part adhesive kit to create inconspicuous, nonporous joints.
B. Panel adhesive: Manufacturer’s standard neoprene-based panel adhesive complying with ANSI A136.1-1967, UL listed.
C. Sealant: Manufacturer’s standard mildew-resistant, FDA-compliant, NSF 51-compliant (food zone — any type), UL-listed silicone sealant in colors matching components.
D. Metal fabrications – termination bars. At all raw edges of laminate, install metal trim equal to: Schluter: ECK-E. (See also countertops).

E. Shower shampoo shelf. Glue applied corner shelf. By manufacturer.

Part II. EXECUTION

4.01 EXAMINATION

1. Examine substrates and conditions, with fabricator/installer present for compliance with requirements for installation tolerances, and other conditions affecting performance of work.
2. Caulk and seal all penetrations due to installation of grab bars, plumbing trim and other accessories.
3. Proceed with installation only after unsatisfactory conditions have been corrected.

4.02 INSTALLATION

A. Install components plumb, level, and rigid, scribed to adjacent finishes.
B. Provide product in the largest pieces available.
C. Form field joints using manufacturer's recommended adhesive, with joints inconspicuous in finished work.
D. Exposed joints/seams shall not be allowed.
E. Cut and finish component edges with clean, sharp returns.
F. Rout radii and contours to template.
G. Carefully dress joints smooth, remove surface scratches and clean entire surface.
H. Seal between wall and components with joint sealant.

5.02 CLEAN AND REPAIR

A. Repair minor imperfections and cracked seams and replace areas of severely damaged surfaces in accordance with manufacturer's instructions.
B. Clean all surfaces prior to final acceptance.

Section End.

SECTION 070160

FLASHING AND TRIM

PART 1 GENERAL

1.01 PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

A. Asphalt Shingle Roofing Section 0730110

B. Vinyl Siding. Section 074640

C. Exterior Finish Carpentry. 062013

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Wood Nailers and Blocking: Section 061053.

B. Rough Carpentry. Section 061000

1.03 REFERENCES

A. SMACNA: Sheet Metal and Air Conditioning Contractors' National Association, 4201 Lafayette Center Dr., Chantilly, VA 20151-1209, (703) 803-2980, www.smacna.org.

B. CDA: Copper Development Association Inc., 260 Madison Ave., New York, NY 10016, (212) 251-7200, www.copper.org

C. ASTM: ASTM International, 100 Barr Harbor Dr., PO Box C700, West Conshohocken, PA, 19428-2959, (610) 832-9500, www.astm.org.

1.04 SYSTEM DESCRIPTION

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

1.05 SUBMITTALS

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

C. Samples:

1. Materials for Flashings: One 6 inch sq piece, for each type material specified.

2. Exterior window trim. Full section, 12 inches long.

1.06 QUALITY ASSURANCE

A. Except as otherwise shown or specified, comply with applicable recommendations, details, and standards of CDA, and SMACNA.

B. Manufacturer's Recommendations: For factory fabricated items, follow the manufacturer's recommendations and installation instructions unless specifically shown or specified otherwise.

1.07 PROJECT CONDITIONS

A. Do not execute the Work of this Section unless the Director's Representative is present, or unless they direct that the Work be performed during their absence.

B. Make the roof and all uncompleted flashings watertight at the end of each work day.

PART 2 PRODUCTS

2.01 MATERIALS FOR FLASHING FABRICATION

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

2.02 FASTENERS

A. Nails: "Stronghold" type large flat head roofing nail.
   1. For Aluminum: Hard aluminum alloy or stainless steel.
   4. For Galvanized: Galvanized.

B. Screws, Bolts, and Other Fastening Accessories:
   1. For Aluminum: Hard aluminum alloy or stainless steel.
   4. For Galvanized: Stainless steel.

C. Anchors: Provide one of the following types:
   1. Hammer driven anchors, consisting of a stainless steel drive pin and a plastic or corrosion resistant metal expansion shield inserted thru a stainless steel disc with an EPDM sealing washer.
   2. Self-tapping, corrosion resistant, concrete and masonry screw inserted thru a stainless steel disc with an EPDM sealing washer.

2.03 MISCELLANEOUS MATERIALS

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

2.04 FABRICATION

A. Where practicable, form and fabricate sheet metal Work in the factory or shop. Produce bends and profiles accurately to the indicated shapes. Where not indicated or specified, follow the applicable requirements of the reference standards listed in PART 1.

B. Base Flashing:
   1. Prefinished Aluminum: .032 inch.

C. Door trim and Window Flashing:
   1. Mill finish Aluminum: .025 inch.

PART 3 EXECUTION

3.01 EXAMINATION

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

3.02 PREPARATION

A. Do not install the Work of this Section unless all necessary nailers, blocking and other supporting components have been provided.

B. Do not install the Work of this Section unless all substrates are clean and dry.

3.03 INSTALLATION

A. Isolation: Separate dissimilar metals from each other with bituminous paint.

B. Installing Pipe Flashing: (See also roof vents)
   1. Extend the base flashing a minimum of 5 inches onto the roof surface. Terminate the bottom exposed edge with a 1/2 inch folded seam. Solder the base flashing to the tube flashing.
   2. Install the flashing after the course of shingles immediately below the pipe is installed so that the bottom side of the flashing is over the shingle and the sides and top are beneath the shingles. Nail the top and sides of the flashing only.
   3. Provide a cap flashing fabricated to slip over the tube flashing and the pipe. Lap the tube flashing a minimum of 3 inches and the pipe a minimum of one inch. Solder all seams.

C. Door and Window Flashing:
   1. Install the flashing in one continuous length from side to side.

END OF SECTION

SECTION 072100

THERMAL INSULATION

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Asphalt Shingle Roof and Trim: Section 073110

B. Rough Carpentry: Section 061000

1.02 SUBMITTALS

A. Product Data: Catalog sheets, specifications, and installation instructions for each type of insulation specified.
   1. Include data substantiating that the materials comply with the specified thermal resistance and vapor resistance qualities.

B. Quality Control Submittal:
   1. Certificate: Affidavit required under Quality Assurance Article.

1.03 QUALITY ASSURANCE

A. Allowable Thickness Variations: Manufacturer's standard units which vary slightly from the thickness indicated may be acceptable, subject to the approval of the Director.

B. Thermal Resistance: The thicknesses shown are for the thermal resistance (R-Value in accordance with ASTM C 177 or ASTM C 518) specified for each material. The R-Values specified are minimum acceptable. Provide adjusted thicknesses as directed for the use of material having a different thermal resistance.

C. Certification: Affidavit by the polystyrene thermal insulation manufacturer, certifying that the insulation was manufactured with CFC and HCFC-free blowing agents.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Do not allow insulation materials to become wet or soiled, or covered with ice or snow. Comply with manufacturer's recommendations for handling, storage, and protection during installation.

B. Complete the installation and concealment of insulation materials as rapidly as possible.

SECTION 072100

THERMAL INSULATION

1.05 PROJECT CONDITIONS

A. Do not proceed with the installation of insulation on walls or under slabs until the Work which follows (and which conceals the insulation) is ready to be performed.

B. Examination of Substrate: Examine the substrate and the conditions under which the insulation Work is to be performed. Do not proceed with the insulation Work until unsatisfactory conditions have been corrected.

PART 2 PRODUCTS

2.01 MATERIALS

A. SPRAY FOAM INSULATION (CLOSED CELL) ROOF AND WALLS

A. Provide and install closed cell spray foam insulation at exposed roof rafters in attics.
B. Make weather tight all work along the perimeter of the exterior.
C. Spray foam shall be closed cell type with the following characteristics.

2. Description

A. 2-component polyurethane spray foam roof system consisting of RT-2035 Resin Components A and B, which when sprayed through special plural component spray equipment, will produce a premium seamless, monolithic, and durable closed-cell polyurethane foam roof.

3. System Features

Surfacing options include Energy-Star listed coatings
UL, ICC-ES, Factory Mutual, Energy-Star, CEC Title 24

1. Apply sprayed in insulation in areas noted on plans.
2. All applications shall be provided by a professional a applicator.

4. Manufacturers:

Spray foam insulation manufacturers Equal to:

1. Henry Company, 909 N. Sepulveda, Ste. 650 El Segundo CA 90245 Tel: 800-486-1278 Email: techservices@henry.com www.henry.com
2. CertainTeed CertaSpray Closed Cell Foam. CertainTeed Corporation P.O. Box 860 ValleyForge, PA 19482-0105 Phone: (610) 341-7000 Website: www.certainteed.com.
3. Approved equals.

5. Properties

Typical Physical Properties of Cured Foam-Nominal Density,

1. ASTM D1622, lbs/ft3-Compressive Strength
2. ASTM D1621, psi -Tensile Strength
3. ASTM D1623, psi --Shear Strength
4. ASTM C273 , psi -Closed Cell Content Minimum %-Water Absorption
5. ASTM D2842, gm/cc -Water Vapour Transmission
6. ASTM C 355, perms 3.045-5070, 45,90 0.0171.9-Surface Burning Characteristics ASTM E84 Flame Spread Index Smoke Development Index
7. Aged Thermal Performance -K Factor ASTM C518 aged 140F @ 90 days -R Factor ASTM C518 aged 140F @ 90 days - K Factor ASTM C518 aged 75F @ 180 days -R Factor ASTM C518 aged 75F @ 180 days
8. Dimensional Stability ASTM D2126, % volume change @+158F, 100% R.H. 1day/7days/28 day @ -10F, Ambient R.H., 28 days 35>500 0.149, 6.71, 0.145, 6.89 3.1 / 5.5 / 10±1.

6. Compliance Standards

1. Coated SPF System: Acrylic Elastomeric Coating UL Class A ICC ESR- 2132 FMRC 4470 Listing # 3032539 FMRC 4470.
   a. Rated: 1-270 & Severe Hail
   b. Typical Physical Properties of RT-2035 Liquid Resins
   c. Liquid Resins – Component B-Specific Gravity @ 77°F. Liquid Resins – Component A -Specific Gravity @ 77°F, ASTM D1638 -Viscosity, cps1.24200 ±50
   d. ASTM D1638 -Viscosity, cps1.20, 650± 100

7. Coverage

1. Average cured foam density is 3.0 pounds per cubic foot 3,000 to 3,200 board feet per 1000 lbs ‘kit’ consisting of 1 drum Part A and 1 drum Part B - assuming proper field processing.
2. Storage and Shelf Life.

B. Both components should be stored in their original containers and away from excessive heat and moisture, especially after the seals have been broken or some materials have been used.

C. Drums must be stored indoors and jobsite tanks maintained between 50°F and 75°F. Containers should be opened carefully to allow any pressure buildup to be vented safely while wearing full safety protection. Excessive venting of the ‘B’ component may result in higher density foam and reduced yield. Materials stored at temperatures below 50°F will increase in viscosity and some application equipment may not reach adequate spray temperature set points. Supply pumps and hoses must be sized to provide adequate supply when materials are cold and at a higher viscosity. Shelf Life: Excessive low or high temperatures may decrease shelf life. When stored in the original unopened.

container at 50°F-75°F, the shelf life of the "Part B" component is six months. Temperature above 75°F decreases the shelf life.
The "Part A" component has a shelf life of 6 months in unopened containers when stored at 65°- 85°F.

8. Surface Preparation

A. Surfaces to receive spray foam insulation must be clean and dry, free of dirt, oil, solvent, grease, loose particulates, frost, ice and other foreign matter which could inhibit adhesion.

B. Moisture content and surface conditions of substrate are critical to adhesion of insulation and need to be verified by installing contractor in small test areas before proceeding with full application.

9. Priming options:

A, Substrate Primer Application Rate

1. New Construction: plywood, OSB, cleaned concrete, CMU Acryprime Substrate Primer or
2. Acryprime Substrate SG Primer ½ gallon / 100 ft2
3. Re-Cover: Existing cleaned roof surfaces to receive SPF
   Acryprime Substrate Primer or Acryprime Substrate SG Primer ½ gallon / 100 ft2 Galvanized steel or aluminum surfaces including: flashing, vents, ducts, piping, etc.
   Sherwin Williams® DTM Wash Primer or Krylon Industrial

10. Coatings

1. Water-Reducible Wash Primer
   ¼ to 1/3 gallon /100 ft2
   Note: All primers must be applied per published technical data sheets and product labels.
2. Plywood, OSB, a primer is not required for these surfaces. On substrates where the moisture content cannot be determined or exceeds 15%, a suitable primer is recommended.
3. Adhesion spray tests may be performed with insulating foam and the interface line checked upon cure for good cell structure and adhesion. Warming of these surfaces during winter conditions may increase adhesion.
4. CMU, structural and poured-in-place concrete must have a minimum 28-day cure and moisture content below 15%. Painted Steel, galvanized steel, and aluminum panels: check surfaces for mill oil used in the manufacturing process and moisture condensate. All oil must be removed and the surface clean and dry before priming. Washed and dry painted steel panels may not require priming. All aluminum and galvanized panels must be primed using Sherwin Williams DTM Wash Primer or Krylon Industrial Coatings Water-Reducible Wash Primer.

11. Application Equipment

A. The proportioning equipment shall be manufactured specifically for heating, mixing, and spray application of polyurethane foam and be able to maintain 1:1 metering with a +2% variance and adequate main heating capacity to deliver heated and pressurized materials up to 130°F.

B. Spray guns such as GX-7, GAP Pro Gun and Fusion gun, are to be used for roofing applications where 20 lbs/min or higher volume is desired.

12. Processing Temperatures and Material Data

A. Install per manufactures instructions. Provide Architect and Allegany County Land Bank Corp. the following items.

1. Material Safety Data Sheet shall be submitted to the Director prior to application for approvals.

B. Insulation baffles: at all perimeter rafter tails: Amerimax Home Products 41 in. x 22 in. Accuvent Vinyl Attic Airway and Soffit Vent in Black.

C. Adhesive for Bonding Insulation: The type recommended by the insulation manufacturer.

D. Mechanical Anchors: Type and size shown or, if not shown, as recommended by the insulation manufacturer for the type of application shown and condition of substrate.

E. Vapor Barrier: Polyethylene sheeting; ASTM D 4397; 6 mils minimum thickness, 3.7 g/ m2 per 24 hr maximum water vapor transmission rate.

PART 3 EXECUTION

3.01 PREPARATION

A. Verify that adjacent materials are dry and ready to receive all insulation types.

3.02 INSTALLATION

A. Comply with manufacturer's printed instructions for the particular conditions of installation in each case. If printed instructions are not available or do not apply to the project conditions, consult the manufacturer's technical representative for specific recommendations before proceeding with the work.

B. Extend insulation full thickness over entire surface to be insulated. Apply a single layer of insulation of the required thickness, unless otherwise indicated or required to make up the total thickness. Cut and fit tightly around obstructions, and fill voids with insulation.

1. Spray foam floor ribbon board into basement space 12" all around.
2. Do not spray foam around recessed light fixtures within 12" of the fixture.

SECTION 072100

THERMAL INSULATION

END OF SECTION

SECTION 073110

ASPHALT SHINGLE ROOF AND TRIM.

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Rough Carpentry: Section 061000.

B. Gutters and Downspouts: Section 077123.

1.02 REFERENCES

A. ASTM - American Society For Testing and Materials.

B. TIMA - Thermal Insulation Manufacturer's Association.

C. UL - Underwriter's Laboratories Inc.

1.03 SYSTEM DESCRIPTION

A. Asphalt Shingle Roof System: Architectural/Asphalt fiberglass or organic shingles, felt underlayment, concealed flashing, and perimeter edge metal installed over the structural deck.

B. Pre-finished .32 Aluminum soffits.

C. Aluminum trim.

1.04 SUBMITTALS

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

B. Product Data: Catalog sheets, specifications, and installation instructions for each material specified.

C. Samples:
1. Roof Shingles: One shingle selected from each of the manufacturer's standard colors.
2. Soffit. Manufacturer's material sheet.

D. Quality Control Submittals; Manufacturer's Warranty: Sample copy of the shingle manufacturer's warranty.

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

SECTION 073110

ASPHALT SHINGLE ROOF AND TRIM.

1.05 QUALITY ASSURANCE

A. Fire Resistance Rating: The asphalt shingle roof system shall have an Underwriters Laboratories External Fire Resistance Rating as follows:
   1. Asphalt Fiberglass Shingles: UL Class A.
   2. Asphalt Organic Shingles: UL Class C.

B. Wind Resistance Rating: The asphalt shingle roof system shall have an Underwriters Laboratories "Wind Resistant" label.

C. Shingle packages shall bear the UL fire resistance and wind resistant labels.

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to the Site in manufacturer's labeled, unbroken containers.

B. Store materials on raised platforms protected from the weather with waterproof covers.
   1. Do not stack bundles of shingles more than 4 feet high.
   2. Store roll goods on end.

1.07 PROJECT CONDITIONS

A. Do not install underlayment or shingles on wet surfaces.

B. Do not apply shingles when air temperature is below 40 degrees.

C. Do not perform the Work of this Section unless the Allegany County Land Bank's Representative or Architect is present or unless they direct that the Work be performed during their absence.

D. Moisture Protection:
   1. Cover, seal or otherwise protect the roof and flashings so that water cannot accumulate or flow under completed portions. When and where necessary to accomplish this, provide temporary water cut-offs.

   2. Limit the removal of existing materials to areas that can be completely re-roofed or temporarily protected within the **same day**.

1.08 WARRANTY

A. Manufacturer's Warranty: In addition to the 2 year period specified above, furnish the shingle manufacturer's warranty certifying that the shingles will not warp, shrink, or deteriorate, and that they are free from manufacturing defects as follows:
   1. Architectural Asphalt Shingles: 30 year warranty.

PART 2 PRODUCTS

2.01 MATERIALS

A. Do not substitute building materials specified herein without the permission of the Allegany County Land Bank Director or the Architect.

B. Submit material data on all materials for this project to the Allegany County Land Bank Director or Architect for approvals prior to ordering any materials.

C. Architectural Asphalt Shingles:
   1. UL Classified, fiberglass or organic, laminated, no cut out, 3 dimensional, self sealing wind resistant shingle with 30 year warranty, ASTM D 3462.
      a. Landmark Shingles by CertainTeed Corporation, Oakridge Shingles by Owens Corning, or Timberline Natural Shadow Shingles by GAF/Elk Corporation.

   2. Concealed Flashing (Ice & Water Shield): Self adhering, self sealing, rubberized asphalt sheet membrane with slip resistant surface and manufacturer's primer for masonry surfaces (if any).
      1. Thickness: 40 mils minimum, ASTM D 3767 Method A.
      2. Tensil strength: 250 psi minimum, ASTM D 412.
      3. Elongation: 250 percent minimum, ASTM D 412 (Die C Modified).
      4. Permeance: 0.05 Perms maximum, ASTM E 96.
         a. Grace Ice & Water Shield by Grace Construction Products or AC POLY Ice and StormSeal by NEI.

   3. Shingle and Underlayment Fasteners:
      1. Nails: Galvanized or aluminum, 11 or 12 gage, barbed shank roofing nails with 3/8 inch minimum diameter head, and a sufficient length to penetrate through the roofing materials and a minimum 3/4 inch into the roof sheathing.

   4. Perimeter Edge Metal:
      1. Prefinished Aluminum: ASTM B 209, 3003-H14 alloy, 0.032 inch thick.
         a. Finish: Fluorocarbon coating (polyvinylidene Fluoride PVDF). Reverse side primed. Shipped with strippable protective tape.

   5. Plastic Cement: Flashing grade, fibrated asphalt roofing cement, ASTM D 4586

2.01 PREPARATION

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

2.02 REMOVALS, CUTTING, AND ALTERING

A. In addition to the items indicated to be removed on the Drawings, remove existing construction superseded by the Work except items such as existing wood roof sheathing for the asphalt shingle area, which is to remain.

B. Remove and alter existing construction as required to install and connect the Work to adjacent construction in an approved manner.

C. Cut and alter existing materials as required to perform the Work. Limit cutting to the smallest amount necessary. Core drill round holes and saw cut other openings where possible.

D. Perform cutting, drilling, and removals in a manner which will prevent damage to construction which is to remain.

E. Perform removal of items to remain the property of Allegany County Land Bank with such care as necessary to prevent damage to these items.

2.03 PATCHING

A. Patching, except as otherwise indicated, shall be limited to the areas which have been cut altered or affected by the Work. Finish patched surfaces to match existing adjacent surfaces as closely as practicable.

B. Perform patching around items penetrating existing construction in a manner that will maintain the water resistive capability of the existing construction.

C. Paint exposed wood fascia areas to match existing adjacent surfaces as closely as practicable using same type of paint. Painting, except as otherwise indicated, shall be limited to the areas which have been patched.

D. Where surfaces exposed by removals are to remain as exposed surfaces, paint such areas to match existing adjacent surfaces as closely as practicable using same type of paint.

E. Schedule of Selective Demolition Activities: Indicate the following:

1. Review detailed sequence of roof removal and with starting and ending dates for each activity. Ensure Allegany County Land Bank staff, and Architect on-site operations are uninterrupted.
2. Interruption of utility services. Indicate how long utility services will be interrupted.
3. Continuous use of all exterior doors, stairs and fire stair.

PART 3 – ROOFING MATERIALS AND ACCESSORIES

3.01 ASPHALT SHINGLE ROOFING

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

B. Roofing and Underlayment:

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

3.02 PLUMBING VENT BOOTS.

A. Portals Plus, 484 N, Thomas Drive, Bensenville, IL 60106, (630)766-5240, www.portalsplus.com.
B. Oatey Corp.
C. Approved equal.

3.05 SOFFIT. (SEE ALSO SECTION 07640)

A. Install solid soffit along full length equal to:

1. Pre-finished .32 Aluminum: Color: White.
2. Approved equal.

PART 4 EXECUTION

4.01 EXAMINATION

A. Prior to cutting, drilling or removals, investigate all sides of the surface involved. Determine the exact location of items affected.

B. If unforeseen obstructions are encountered, take precautions necessary to prevent damage and obtain instructions from the Allegany County Land Bank representative before proceeding with the Work.

C. Uncovered damaged or rotten wood underlayment shall be documented and reported to the Allegany County Land Bank Director and the Architect immediately. Contractor shall discuss scope of removal with Allegany County Land Bank, and the Architect prior to proceeding.

4.02 PREPARATION

A. Cover cracks in existing roof deck exceeding 1/4 inch in width and knotholes with sheet metal nailed securely in place.

B. Do not proceed with application of shingles until surfaces are dry, free of debris and protruding nails, and properly supported for shingle nailing and application.

4.03 APPLICATION

A. Installing Concealed Flashings:
   1. Broom clean the deck surface before installation.
   2. Apply the flashing manufacturer's primer over masonry wall surfaces (if any), before installing flashing. Lap edges and ends a minimum of 6 inches. Press flashing into place. Cut out and patch blisters. Roll edges and ends to insure complete adhesion.
   3. Tack the concealed flashing in place if it does not adhere immediately to the deck.
   4. Eaves: Unless shown otherwise on the drawings extend the flashing from the roof edge to a line a minimum of 3 feet beyond the interior face of the building wall.
   5. Valleys: Install the metal flashing centered on the valley so that the flashing sheet extends a minimum of 3 feet on each side of the valley center line.
   6. Intersecting Walls, and Curbs: Install 18 inch wide concealed flashing. Extend the flashing one foot onto the roof surface and 6 inches up the vertical surface.

C. Installing Underlayment:
   1. Slopes 4 Inches Per Foot and More: Install one ply of underlayment over the entire surface to be shingled. Lap edges a minimum of 2 inches and ends a minimum of 6 inches.
   2. Slopes Less Than 4 Inches Per Foot: Install 2 plies of underlayment over the entire surface to be shingled. Install underlayment shingle fashion, lapping each ply 19 inches over the preceding ply.
   3. Install the underlayment parallel to the eaves. Secure the underlayment with only enough fasteners to hold it in place until the shingles are installed.
   4. At eaves install the underlayment over the metal drip edge, at rakes install the underlayment beneath the metal drip edge.

D. Installing Perimeter Edge Flashing:
   1. Install in lengths not to exceed 10'-0". Lap ends a minimum of 3 inches.
   2. At eaves install the flashing under the underlayment. At rakes install the flashing over the underlayment.
      a. Install edge flashings over all door and window heads.
      b. Install edge flashings over all horizontal decorative trim.
      c. Install edge flashings at siding termination at foundation.
   3. Secure the flashing to the roof deck with nails spaced 8 inches oc.

E. Installing Asphalt Shingles:
   1. Except as shown or specified otherwise, layout, install, and fasten the shingles in accordance with the shingle manufacturer's instructions and specifications.
   2. Fastening:
      a. Slopes Up To 60 Degrees (20 on 12 slope): Install 4 fasteners per shingle.
      b. Slopes Over 60 Degrees (20 on 12 slope): Install 6 fasteners per shingle. Place a one inch diameter dab of plastic cement under the center of each shingle tab above the cut out.
      c. Staples will not be allowed.
      d. Hand-tab shingles. Install 7 nails and a dollop of plastic cement under each shingle tab following the manufacturers' guidelines for "Steep Slope Application" method for each roof area.
      e. Do not install shingles when ambient temperature is below 40 degrees Fahrenheit.

   3. Eaves: Start shingles at eaves with a starter course. Overlap perimeter edge flashing 1/4 inch.

END OF SECTION

SECTION 074640

VINYL SIDING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Vinyl siding

B. Accessories and trim.

C. Metal Exterior Window Trim.

1.2 RELATED SECTIONS

A. Section 061000 - Rough Carpentry

B. Section 072500 – Weather Barriers

C. Section 079200 - Joint Sealers.

1.3 REFERENCES

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

1.4 DESIGN/PERFORMANCE REQUIREMENTS

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

1.5 SUBMITTALS

A. Submit under provisions of Section 013000
B. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.

C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

1.6 QUALITY ASSURANCE

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

1.7 DELIVERY, STORAGE, AND HANDLING

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

1.8 PROJECT CONDITIONS

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

1.9 WARRANTY

A. Provide manufacturer's standard lifetime limited warranty on siding products, transferable to Allegany County Land Bank Corp.

PART 2 PRODUCTS

2.1 MANUFACTURERS

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

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

2.2 MATERIALS

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

2. Provide products that meet weathering requirements of ASTM D 7254
3. In accordance with ICC – ES Acceptance Criteria AC366
4. Provide panel thermometer allowing for proper spacing in various temperatures

B. Vinyl Siding, Soffit and Components: Provide products made of extruded polyvinyl chloride as specified in this section and manufactured to comply with requirements of ASTM D 3679.
1. Provide elongated nailing slots on nailing flanges to allow for movement.
2. Factory-notch ends of horizontal panels to form overlapping joints.
3. Provide products that meet weathering requirements of ASTM D 3679.

2.3 VINYL SIDING
PRODUCTS

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

TYPE A CedarBoards S7 Insulated Siding:
1. Design: Single 7 inch (178 mm) clapboard; rough cedar finish with STUDfinder Installation System.
2. Lock: DuraLock post formed lock design.
3. Width: 7 inch (178 m).
4. Length: 12 feet 3 inch (3.73 m). plus, or minus .025 inch (6 mm).
5. Average Thickness: 0.044 inch (1.1 mm).
6. Panel Projection: Panel Projection: 3/4 inch (19 mm). (With foam 1-1/4 inch (30 mm).
7. Panel Exposure: 7 inches (178 mm) plus or minus .062 inch (1.57 mm).
8. Maximum Warp (per 2 panels): 0.250 inch (6 mm).
9. Color: As selected by Architect from manufacturer's standards.
10. Color shall be as follows:
    a. Matching color from manufacturer's standard color chart.

TYPE B CertainTeed CedarBoards Insulated Board and Batten siding.
1. Design. CedarBoards Insulated Board and Batten siding.
2. Color: Matching.

TYPE C: Bead board porch ceiling. Equal to:
1. Aeratis Traditions. Model: Twenty four.
2. Paint: Semi-gloss: White.

C. Approved equal.

2.4 VINYL CARPENTRY ACCESSORIES

A. Standard Accessories: Review drawings for applicable material selections.

1. Corner post: Standard width, 10 feet (3.05 m), 12 feet (3.66 m), and 20 feet lengths.
2. J-Channel: Standard width, 12 feet, 6 inches (3.81 m) length.
3. Undersill trim: ¾" face, 12 feet, 6 inch (3.81 m) length.
4. Dual undersill trim: ¾" face, 12 feet 6 inches (3.81 m) length.
5. 2-1/2 inch (64 mm) Metal Starter Strip. (No Color)
6. 2-1/4 inch (57 mm) Vinyl Starter Strip. (No Color)
7. Color: refer to CTS002 for color availability of accessories
8. **Window Trim – Brake Metal. Color White. 4" profile. Insert siding behind trim.**

B. 1-1/4 Inch Pocket Accessories:

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

C. Optional Accessories:

1. D7 Straight Edge Perfection Mitered Corner Post, 14 inches (355.6 mm).
2. T5 Straight Edge Perfection Mitered Corner Post, 15 inches (381 mm).
3. D7 Staggered Edge Perfection Mitered Corner Post, 14 inches (355.6 mm).
4. D7 Straight Edge Rough-Split Mitered Corner Post, 14 inches (355.6 mm)
5. D9 Staggered Rough-Split Mitered Corner Post, 18.5 inches (453.25 mm).
6. 2-1/2 inch (64 mm) Window and Door Casing.
7. 2-1/2 inch (64 mm) Vinyl Starter Strip.
8. 5 inch (127 mm) Lineal: 5 inch by 20 feet (127 mm by 6.1 m) length.
9. 3-1/2 inch (89 mm) Lineal: 3-1/2 inches by 12 feet, 6 inches (89 mm by 3.81 m) length.
10. Cornice Molding (64 mm).
11. Crown Molding: 2-1/2 inches by 10 feet (64 mm by 3.05 m) length.
12. SuperCorners: Fluted – 5-1/2 inches by 20 feet (140 mm by 6.1 m) length.
    Traditional – 6 inches by 20 feet (152 mm by 6.1 m) length.
13. Color: refer to CTS002 for color availability of accessories.

2.5 FASTENERS

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

SECTION 074640

VINYL SIDING

PART 3 EXECUTION

3.1 EXAMINATION

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

3.2 PREPARATION

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

3.3 INSTALLATION

A. Install products in accordance with the latest printed instructions of the manufacturer.
B. Installer should have qualified installer with Master Craftsman credentials.
C. Install products with all components true and plumb.
D. For Vinyl Siding: Nail horizontal panels by placing nail in center of slot. Nail vertical panels by placing first nail at top of top slot and remaining nails in center of slots. Drive nails straight, leaving 1/16 inch (1.6 mm) space between nail head and flange of panel.
E. Allow space between both ends of siding panels and trim for thermal movement. Overlap horizontal panel ends one-half the width of factory pre-cut notches.
F. Stagger lap joints in horizontal siding in uniform pattern as successive courses of siding are installed.
G. Install J-channel and flashing to accommodate successive courses of siding. Install wood shims at building corners to bring cut edges of vertical siding out to correct plane.

3.4 PROTECTION

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

3.5 CLEANING

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

END OF SECTION

SECTION 077123

GUTTERS AND DOWNSPOUTS

PART 1 GENERAL

1.01 SUBMITTALS

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

PART 2 PRODUCTS

2.01 MATERIALS

A. Gutter: Free floating box or K style, .032 gage aluminum, 5 inch wide seamless gutter.

B. Fascia Cleat (Surface Mounted): Gutter manufacturer's continuous aluminum fascia cleat designed for attachment directly to the fascia board.

C. Gutter Hanger Brackets: Gutter manufacturer's aluminum hanger brackets designed to span across the top of the gutter forming a spreader and stiffener bar. Equal to:
   1. US Aluminum Hangers. Model. AM5ZIP500. Aluminum 5” Zip Hanger. Screw attached.

D. Downspout: 3 x 4 inch corrugated, .027 gage aluminum, in 12 foot lengths. Connect to drain hub.

E. Downspout Strap: Downspout manufacturer's standard strap.

F. Finish:
   1. Baked on enamel. Color to match siding.
   2. Accessories: Gutter manufacturer's standard or recommended sealant, pop rivets, screws, and bolts.

G. Install Gutter Guard over all gutters equal to:
   1. Amerimax Home Products.
      a. Solid 4 ft. White Vinyl Surface Tension Gutter Guard.

PART 3 EXECUTION

3.01 INSTALLATION

A. Unless shown or specified otherwise, install the gutter system in accordance with the manufacturer's installation instructions.

B. Install continuous fascia cleat.
   1. Secure the fascia cleat to the fascia board with aluminum nails 6 inches oc.
   2. Secure the fascia cleat to the roof deck with aluminum nails 6 inches oc.

C. Trim the top front and back edges of one end of each gutter section so the sections will overlap each other 2 inches and nest snugly together. Before joining sections together, apply sealant between the mating surfaces.

D. Install gutter brackets 3 feet on center.
   1. Lock the front of the bracket to the gutter edge and secure the other end to the fascia board with aluminum screws.
   2. Lock the front of the bracket to the gutter edge and secure the other end to the roof deck with aluminum screws.

E. Install gutter end pieces, mitered corners, and drop tubes. Apply sealant between mating surfaces and secure with pop rivets.

F. Install downspouts with end joints that telescope a minimum of 1-1/2 inches.

G. Install necessary offsets and elbows.

H. Install a minimum of 2 straps at each downspout section. Fasten downspouts to straps with pop rivets.

I. Secure straps to masonry or concrete wall with machine bolts in lead shields.

J. Secure straps to wood walls with screws.

K. Discharge Elbows: Fasten leader shoes to downspouts with pop rivets.

END OF SECTION

SECTION 079200

JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Silicone joint sealants.
2. Urethane joint sealants.
3. Latex joint sealants.
4. Fire Stop Caulk

1.3 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

1.4 QUALITY ASSURANCE

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

B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.

C. Product Testing: T joint sealants using a qualified testing agency.

1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.
2. Test according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.

1.5 PROJECT CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.

2. When joint substrates are wet.

3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.

4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.6 WARRANTY

A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.

B. Special Manufacturer's Warranty: Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:

1. Movement of the structure caused by structural settlement or errors attributable to design or construction resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.

2. Disintegration of joint substrates from natural causes exceeding design specifications.

3. Mechanical damage caused by individuals, tools, or other outside agents.

4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

B. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

C. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

D. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

A. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, for Use NT.

1. Products: Subject to compliance with requirements, provide the following:

a. Dow Corning Corporation; 756 SMS.

B. Mildew-Resistant, Single-Component, Acid-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.

1. Products: Subject to compliance with requirements, provide the following::

a. Dow Corning Corporation; 786 Mildew Resistant.

2.3 URETHANE JOINT SEALANTS

A. Single-Component, Pourable, Traffic-Grade, Urethane Joint Sealant: ASTM C 920, Type S, Grade P, Class 25, for Use T.

1. Products: Subject to compliance with requirements, provide the following:

a. BASF Building Systems; Sonolastic SL 1.

2.4 LATEX JOINT SEALANTS

A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

1. Products: Subject to compliance with requirements, provide one of the following:

a. BASF Building Systems; Sonolac.

b. Bostik, Inc.; Chem-Calk 600.

c. Tremco Incorporated; Tremflex 834.

2. 5 FIRESTOP SEALANT.

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

2.6 JOINT SEALANT BACKING

B. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

C. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

D. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.7 MISCELLANEOUS MATERIALS

E. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

F. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

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

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

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

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.

2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:

    a. Concrete.

    b. Masonry.

    c. Drywall.

3. Remove laitance and form-release agents from concrete.

4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:

5.

    a. Metal.

    b. Glass.

    c. Porcelain enamel.

d. Glazed surfaces of ceramic tile.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.

2. Do not stretch, twist, puncture, or tear sealant backings.

3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

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

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.

2. Completely fill recesses in each joint configuration.

3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form

smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.

2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.

3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.

4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.

    a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

G. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations.

3.4 CLEANING

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

3.5 PROTECTION

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

3.6 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.

1. Joint Locations: at exterior door.

    a. Isolation and contraction joints in cast-in-place concrete slabs.

    b. Joints between plant-precast architectural concrete paving units.

    c. Tile control and expansion joints.

d. Joints between different materials listed above.

e. Other joints as indicated.

2. Urethane Joint Sealant: Single component, pourable, traffic grade.

B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal non-traffic surfaces.

1. Joint Locations:

a. Control and expansion joints in unit masonry.

b. Joints between different materials listed above.

c. Perimeter joints between materials listed above and frames of doors, windows, and louvers.

d. Control and expansion joints in ceilings and other overhead surfaces.

2. Silicone Joint Sealant: Single component, nonsag, neutral curing, Class 50**.**

C. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.

1. Joint Locations:

a. Isolation joints in cast-in-place concrete slabs.

b. Control and expansion joints in tile flooring.

c. Other joints as indicated.

2. Urethane Joint Sealant: Single component, pourable, traffic grade.

D. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:

a. Control and expansion joints on exposed interior surfaces of exterior walls.

b. Perimeter joints of exterior openings where indicated.

c. Vertical joints on exposed surfaces of interior unit masonry walls and partitions.

d. Perimeter joints between interior wall surfaces and frames of interior doors, and windows.

e. Other joints as indicated.

2. Joint Sealant: Latex.

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

1. Joint Sealant Location:

   a. Joints between plumbing fixtures and adjoining walls, floors, and counters.

   b. Tile control and expansion joints where indicated.

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

END OF SECTION

SECTION 081410

DOORS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Exterior, Interior Passage and closet doors

B. Storm Door.

1.2 SUBMITTALS

A. Product Data: Submit door manufacturer current product literature, including installation instruction.

B. Quality Assurance Submittals

1. Manufacturer Instructions: Provide manufacturer's written installation instructions.

1.3 DELIVERY, STORAGE AND HANDLING

A. Deliver doors, materials and components in manufacturer's original, unopened, undamaged containers with identification labels intact.

B. Store doors as recommended by manufacturer.

1.4 WARRANTY

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

1. Door System: 5 Years.

PART 2 - PRODUCTS

2.1 INTERIOR DOORS

A. Basis of Design: Belldinni. Oxford Uno 07 RN. Snow White, with beveled panel.

1. Approved equal. (Must match profile as specified)
   2 Panel wood design - Shaker design.

1. Material: Solid Wood.
2. Finish: Pre-finished paint.

B. Ceiling Mounted Attic Access Door. Provide and install attic ceiling door with ladder equal to: FAKRO. Model LWS-PL 66855 Insulated Attic Ladder. Folding ladder. 30-Inch x 54-Inch Rough Opening. Mount inside closet.

3. Provide wood blocking for mounting.
4. Paint to match ceiling. Semi-gloss finish

2.2 MATERIALS AND CONSTRUCTION

A. Wood Panel – Pine.

A. Door Style

1. Shape: Squared Top
2. Panel Pattern: two
3. Panel Type: Paneled
4. Thickness: 1-3/8 inch thick x (dimensions noted) interior residential solid core.
5. Pre-finished. - Color White.

2.3 PREHUNG SYSTEMS

A. Profile: Single Door

B. Jambs

1. Profile: Solid flat (standard)
2. Width: 4-9/16 inch
3. Stop Profile: Ranch

2.4 DOOR FINISHES

A. Painted: Semi gloss- (See also Painting)

B. Surface Texture: Smooth

2.5 EXTERIOR DOORS

1. Equal to: Pella.

a. 36-in x 80-in Fiberglass Craftsman (Hand as shown) Inswing Sage Painted Single Front Door with Brickmould Insulating Core.
Model #1000009362.

b. Include aluminum threshold (pre-hung door unit). Color: satin aluminum. Exterior trim shall be 1 x 4 trim equal to LP Smart Side exterior trim boards for new door. Paint: to match exterior trim.

2. Storm Door: Install Storm door on new exit doors. Door shall be equal to:
   a. Door shall be equal to: Andersen. 2000 Series 36 in. x 80 in. White Universal Full View. Retractable Aluminum Storm Door with Nickel Hardware , with spring loaded closer. Color: White, with self storing screen. 36" x 80".

2.6 DOOR FINISHES

A. Painted: Semi gloss- (See also Painting). Paint all exterior doors.

B. Surface Texture: Smooth

PART 3 - EXECUTION

3.1 GENERAL

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

3.2 EXAMINATION

A. Inspect door prior to installation.

B. Inspect rough opening for compliance with door manufacturer recommendations. Verify rough opening conditions are within recommended tolerances.

3.3 PREPARATION

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

3.4 INSTALLATION

A. Place door unit into opening and level hinge side of jamb. Use shims fastened through jamb and stop to level and temporarily secure in place.

B. Level latch side of jamb. Use shims fastened through jamb and stop to level and temporarily secure in place.

C. Verify spacing between jamb and door is uniform on all sides. Adjust as necessary.

D. Shim top of jamb in center of opening and fasten with nail.

E. Re-check for square, level and even spacing around door. Nail securely in place through stop, jamb, shims and into studs every 12 inches.

F. Set nails.
   a. Install trim on both sides using nails every 12 to 16 inches.

END OF SECTION

SECTION 085313

VINYL WINDOWS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Vinyl windows for renovation replacement construction.

B. Basement windows.

1.2 RELATED SECTIONS

A. Section 06 10 00 - Rough Carpentry.

B. Section 06 20 00 - Finish Carpentry.

C. Section 07 46 00 - Siding.

1.3 REFERENCES

A. American Architectural Manufacturers Association (AAMA):
   1. AAMA/WDMA/CSA 101/I.S.2/A440-05, A440-08, and A440-11 - NAFS - North American Fenestration Standard Specification for windows, doors, and skylights.
   2. AAMA 701/702 - Combined Voluntary Specifications for Pile Weather strip and Replaceable Fenestration Weather seals.
   3. AAMA 902 - Voluntary Specification for Sash Balances.

B. ASTM International (ASTM):
   1. ASTM E 283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen.
   2. ASTM E 547 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Cyclic Static Air Pressure Difference.
   3. ASTM E 1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
   4. ASTM E 1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.
   5. ASTM E 2190 - Standard Specification for the Classification of the Durability of Sealed Insulating Glass Units.
   6. ASTM F 588 - Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact.

C. NFRC 100/200/500 - Procedures for Determining Fenestration Product U-Factors, Solar Heat Gain Coefficient (SHGc), and Visible Transmittance at Normal Incidence

1.4 SUBMITTALS

A. Submit under provisions of Section 01 30 00.

B. Product Data: Submit the following documents for each type of window.
   1. Manufacturer's technical data, product descriptions and installation guides.
   2. Elevation for each style window specified indicating its size, glazing type, muntin type and design.
   3. Manufacturer's head, jamb and sill details for each window type specified.

C. Verification Samples: Provide operating units of each style window specified.
   1. Operating hardware such as balances, sash locks and weather-stripping.
   2. Verification samples will be returned to manufacturer's representative at project closeout.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum ten years producing vinyl (PVC) windows.

B. Installer Qualifications: Minimum 2 years experience on projects of similar size and acceptable to window manufacturer.

C. Source Limitations: Obtain window units from one manufacturer through a single source.

D. Testing: Provide window units independently tested and found to be in compliance with AAMA/WDMA/CSA 101/I.S.2/A440-05, A440-08, or A440-11 performance standards.

E. Code Compliance: Provide windows that are labeled in compliance with the jurisdiction having authority in the location of the project.

F. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
   1. Finish areas designated by Architect.
   2. Do not proceed with remaining work until workmanship and color are approved by Architect.
   3. Rebuild mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver windows to project site in undamaged condition; handle windows to prevent damage to components and to finishes.

B. Store products in manufacturer's unopened packaging, out of direct sunlight or high temperature locations, until ready for installation.

SECTION 085313

VINYL WINDOWS

1.7 PROJECT CONDITIONS

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

1.8 WARRANTY

A. Submit manufacturer's standard warranty against defects in workmanship and materials.
   1. Limited Lifetime Limited Transferable warranty on extruded solid vinyl member and component parts. Insulated glass is warranted against material obstruction of transparency resulting from film formation or dust collection on the interior glass surfaces for a period of twenty (20) years. Consult warranty for complete details.
   2. Limited 10 Year warranty period for commercial project work such as apartments, housing authorities and other buildings not used by individual homeowners, covering all vinyl, glass and component parts. Consult warranty for complete details.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers listed below for windows and hopper crawl space

B. Substitutions: approved with proper data sheets

C. Requests for substitutions will be considered in accordance with provisions of Section 016000. Substitutions must be submitted to Architect two weeks prior to bid opening.

2.2 DOUBLE HUNG WINDOWS

A. Construction: New windows equal to: Kasson and Keller Eco-Shield 2200 Series vinyl windows. White; sizes and shapes indicated.
   1. Approved equal: Simonton Window Co.
   a. Nominal 0.070 inch (1.8mm) frame thickness polyvinyl chloride (PVC) with miter cut and fusion welded corners. Operable sash shall be a nominal 0.065 inch (1.7mm) thickness and fusion welded corners.
   b. Siding Attachment: Integral 13/16 inch (21mm) "J" fin pocket.
   c. Color: White Vinyl.
   d. Glazing: Insulating glass units secured to sash frame using a sealant in the corners and dual durometer glazing bead. Complies with ASTM E 2190.
   e. Sash Balances: Factory calibrated block and tackle, complying with AAMA-902. Balance cords shall be anchored to locking terminal housings when the sash is tilted in. The locking terminal and pivot bar system shall provide accurate alignment of the sash and the frame during operation.
   f. Sash Locks: Cam type locks anchored with screws driven through the sash rail and into extruded aluminum. Double locks when openings are 30 1/2 inches wide and greater.
   g. Weather Stripping: In compliance with AAMA 701.2.

h. Screens: Extruded aluminum full screen with 18 x 16 charcoal finish fiberglass mesh.
i. Screens: Extruded aluminum locking half screen with 18 x 16 charcoal finish fiberglass mesh.

B. Performance:
1. Structural rating H-LC40 (DP40) - Test Size: 46 inches x 77 inches (1168mm x 1956mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-08.
2. Forced Entry: Type B, Grade 10 in accordance with ASTM F 588.
3. Sound Transmission Class (STC): 35.
4. Thermal Transmittance: The following values are in accordance with NFRC 100/200/500.
   a. Clear No Grids: U-Factor 0.46/ R-Value 2.17/ SHGc 0.59/ VT 0.62.
   b. ENERGY STAR 2X Low-E/Argon No Grids: U-Factor 0.25/ R-Value
5. Frame: Nominal 0.065 inch (1.7mm) thickness polyvinyl chloride (PVC) with frame corners miter cut and fusion welded. Sash thickness 0.065 inch (1.7mm) with mechanically fastened corners.
6. Siding Attachment: Snap-on applied 3/4 inch (20mm) “J” fin.
7. Siding Attachment: Snap-on applied "L" fin.
8. Color: White Vinyl.
9. Glazing: Insulating glass units shall be channel glazed and secured to sash frame using a sealant in corners. Complies with ASTM E 2190.
10. Hinges: Stainless Steel Maxim 13 series.
11. Sash Locks: Knife type. Double locks when openings are 30 3/4 inches (781mm) and wider.
12. Weather stripping: In compliance with AAMA 701.2.
13. Screens: Extruded aluminum frame with 18 x 16 charcoal finish fiberglass mesh.
14. Screens: Extruded aluminum frame with 18 x 16 charcoal finish aluminum mesh.

C. Performance:
1. Structural Rating: AP-R-15(DP15) - Test Size: 48 inches x 32 inches (1219mm x 813mm) in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-05.
2. Forced Entry: Type B, Grade 10 in accordance with ASTM F 588.
3. Sound Transmission Class (STC): 27.
4. Sound Transmission Class (STC): 33.
5. Thermal Transmittance: The following values are in accordance with NFRC 100/200/500.
   a. Clear No Grids: U-Factor 0.46/ R-Value 2.17/ SHGc 0.55/ VT 0.57.
   b. Low-E No Grids: U-Factor 0.34/ R-Value 2.94/ SHGc 0.29/ VT 0.51.
   c. ENERGY STAR Low-E/Argon No Grids: U-Factor 0.27/ R-Value 3.70/ SHGc 0.28/ VT 0.50.

SECTION 085313

VINYL WINDOWS

2.3 BASEMENT WINDOWS

A. Install basement windows as shown. Windows equal to: Tafco. 22” x 32” Hopper style insulated vinyl basement window. Caulk perimeter.

2.4 ADJUSTING

A. Adjust units for smooth operation without binding or racking. Adjust sash locks and screens for smooth operation.

2.5 CLEANING AND PROTECTION

A. Clean soiled surfaces and glass prior to substantial completion.
Protect window unit from damage until substantial completion. Repair or replace damaged units.

END OF SECTION

SECTION 0871 00

DOOR HARDWARE

PART 1 – GENERAL

1.01 SUMMARY

1.02 SUBMITTALS

A. Submit in accordance with Conditions of the Contract and Division 1 Administrative Requirements.

B. Shop Drawings:
   1. Coordinate final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of hardware.

C. Upon door hardware submittal approval, furnish for each electrified opening, three copies of point to point diagrams.

PART 2 – PRODUCTS

3.01 ADJUSTMENT, CLEANING AND DEMONSTRATING

A. Adjustment: Adjust and check each opening to ensure proper operation of each item of finish hardware. Replace items that cannot be adjusted to operate freely and smoothly or as intended for application at no cost to Owner.

B. Cleaning: Clean adjacent surfaces soiled by hardware installation. Clean finished hardware per manufacturer's instructions after final adjustments has been made. Replace items that cannot be cleaned to manufacturer's level of finish quality at no cost to Owner.

3.02 HARDWARE SET SCHEDULE

A. Guide: Door hardware items have been placed in sets which are intended to be a guide of design, grade, quality, function, operation, performance, exposure, and like characteristics of door hardware, and may not be complete. Provide door hardware required to make each set complete and operational.

B. Hardware schedule does not reflect handing, backset, method of fastening and like characteristics of door hardware and door operation.

C. Review door hardware sets with door types, frames, sizes and details on drawings. Verify suitability and adaptability of items specified in relation to details and surrounding conditions.

SECTION 0871 00

DOOR HARDWARE

3.03 HARDWARE SCHEDULE - for installation

Heading 1

Openings: 1,2 - Exterior Front/ Side Doors

2.	Kickplates	Ives Commercial 840028430. 4" x 30" Kick Plate Aluminum Finish. Item #: 840028430
1.	Lever handle door lock	Schlage Camelot Keypad Entry with Flex-Lock Door Knob Set with Georgian Interior Knob Model: FE595CAM716GEO
3	Hinges	Hager Stainless Steel Door Hinge BB1541 4 x 4 US32D Satin Stainless, Square Corners, Full Mortise, Residential
1	Door Jamb reinforcement	Prime Line U1126-INS

Heading 1a

Opening: 3 - Exterior Side Door

2.	Kickplates	Ives Commercial 840028430. 4" x 30" Kick Plate Aluminum Finish. Item #: 840028430
1.	Schlage	Accent Single Cylinder Keyed Entry Door Lever Set and Deadbolt Combo Moel: FB50ACC716. Aged Bronze
3	Hinges	Hager Stainless Steel Door Hinge BB1541 4 x 4 US32D Satin Stainless, Square Corners, Full Mortise, Residential
1	Door Jamb reinforcement	Prime Line U1126-INS

SECTION 0871 00

DOOR HARDWARE

Heading 1b

Opening: 3 - Exterior Rear Doors.

1. Doors equal to Peachtree.	Manufacturer's Standard Door lock hardware	

Heading 2

Opening: - Bathroom doors.
Each opening to receive door strike:

1.	Lever/ privacy lock	Kwikset Balboa Reversible Passage Privacy Leverset	Model: 300BL-11PV1
3ea.	Hinges	Stanley hardware square corner residential hinge	s821-132 rp741
1 ea.	Ives	Door bumper. oil rubbed bronze	

Heading 3

Opening – Bedroom Doors.
Each opening to receive a door strike

1.	Lever passage	Kwikset Balboa Reversible Passage Leverset Model:200BL-11PV1
3ea.	Hinges	Stanley hardware s821-132 rp741 square corner residential hinge oil rubbed bronze
1 ea.	Ives	Door bumper. Rubber Wall Door Stop with Adhesive Back 1 7/8" Base Diameter 1 1/16" Projection Model: 411RW.

SECTION 0871 00

DOOR HARDWARE

Heading 4

Opening: Closet doors
Each opening to receive: Door strike.

1ea.	Lever (dummy)	Kwikset Safe. Kwikset Layton Right Handed Non-Turning One-Sided Dummy Door Lever Model: SL7000LYRH-15	
3 ea.	Hinge	Stanley	
1 ea	Door Roller clasp	Baldwin 0430	264

Heading 5

Opening 1 - Storm Door

Qty.	Type	Description	Finish
2.	Storm Door	Pre-hung	White

END OF SECTION

SECTION 092900

GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Interior gypsum board.
   2. Cementious backer board.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.4 DELIVERY, STORAGE AND HANDLING

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

1.5 FIELD CONDITIONS

A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.

C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
   1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
   2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 GYPSUM BOARD, GENERAL

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

SECTION 092900

GYPSUM BOARD

2.2 INTERIOR GYPSUM BOARD

A. Gypsum Board.
1. Thickness: ½ ” inch for all drywall in all ceilings, walls for bedrooms and corridors.
2. Use ½” Type “MR” board in the Bathroom and Utility Closet.
3. Use ½” cement board at all wet locations. (Shower surround).
4. Long Edges: Tapered.

B. Approved Manufacturers. (only US manufacturers will be approved)
a. National Gypsum Corporation
b. USG Corporations
c. CertainTeed Corporation.
d. Gold Bond Corporation

2.3 INTERIOR CEMENTITIOUS BOARD.

A. Cementitious backer board for showers and underlayment at wet areas note.

B Approved manufacturers:
a. James Hardie Company
b. Approved equal.
1. Use ½ Cement board at shower surrounds.
2. Use ¼” Cement board at bathrooms and wet areas.

2.4 TRIM ACCESSORIES

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

2.5 JOINT TREATMENT MATERIALS

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

B. Joint Tape:
3. Interior Gypsum Board: Paper.
4. Cement Board: Fiberglass mesh, as recommended by panel manufacturer.

C. Joint Compound for Interior Gypsum Board: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
3. Fill Coat: For second coat, use drying-type, all-purpose compound.
4. Finish Coat: For third coat, use drying-type, all-purpose compound.

D. Joint Compound for Cement Board:
1. Cementitious Backer Units: As recommended by backer unit manufacturer.

2.6 AUXILIARY MATERIALS

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

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

G. Steel Drill Screws: ASTM C 1002, unless otherwise indicated for all applications.
   1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
   2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates including welded hollow-metal frames and framing, with Installer present, for compliance with requirements and other conditions affecting performance.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

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

3.2 APPLYING AND FINISHING PANELS, GENERAL

A. Comply with ASTM C 840.

B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

E. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members or provide control joints to counteract wood shrinkage.

3.3 APPLYING INTERIOR GYPSUM BOARD

A. Single-Layer Application:

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

3.4 INSTALLING TRIM ACCESSORIES

A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

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

3.5 FINISHING GYPSUM BOARD

A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

B. Prefill open joints and damaged surface areas.

C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
   1. Level 4: At all panel surfaces unless otherwise indicated.

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

3.6 PROTECTION

A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

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

C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
   1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
   2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

SECTION 092900

GYPSUM BOARD

END OF SECTION 092900

SECTION 096800

LVT FLOORING

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Rough framing. Section 061000

1.02 SUBMITTALS

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

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

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

1.03 QUALITY ASSURANCE

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

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

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

1.04 PROJECT CONDITIONS

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

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

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

1.05 MAINTENANCE

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

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

PART 2 PRODUCTS

2.01 MATERIALS

VINYL FLOORING:

TYPE A (Living Room, Bedrooms, 2nd Floor Stair Hall)
A. New flooring shall glue down vinyl flooring equal to:
a. Kardean. Designflooring VanGogh Melbourne Larch.
1. Model VGW40T
2. 7" x 48" dimension/ piece

TYPE B (Front Entry Hall)
A Kardean. Designflooring. glue down.
1. Karndean Da Vinci Fabric 12"x18" Luxury Vinyl Tile.
a. Style CER21 Sindon.
2. 12" x 18" dimension/ piece

TYPE C (Kitchen, Bathrooms, Laundry and Utility Room)
A. 1. COREtec. Ultimate Extra Large Waterproof Vinyl Plank Flooring. Color: Domino. Use reducer strip at doorways equal to Schluter.

2.02 PRODUCT SPECIFICATIONS

1. Product shall meet these basic features.
2. Wear Layer Thickness: 0.5 mm (20 mil) Overall Thickness: 5.0 mm.
3. Weight per Piece: 2.75 lb (1.25 kg)
4. Recycled Content: 100% Recyclable after use
5. Static Load Limit: 1,500 psi.
6. Resistance to Heat (ASTM F1514)
7. N.B.S. Smoke Chamber (ASTM E-662)
8. Class III, Type B. Dimensional Stability (ASTM F 2199 EN -434):
9. Slip Resistance (ASTM C 1028,EN 13893): Class DS/ ADA **c**ompliant > .60

2.03 TESTING

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

2.04. INSTALLATION

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

2.05. WARRANTIES

1. Limited 12 year Commercial Warranty.

2.02 REFERENCES:

A. Stain and Chemical Stability. F925 5

B Fire Resistance Rating E648

3.01 ACCESSORIES

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

PART 4 EXECUTION

4.01 EXAMINATION

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

4.02 SURFACE PREPARATION

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

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

C. Subfloor: ¼" underlayment equal to
   1. Ultraply Premium. Moreland Co. (800) 397-7769
      a. Vacuum clean the entire floor.
      b. Remove any imperfections in the floor.

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

4.03 INSTALLATION

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

B. Maintain pattern continuity with flooring installed.

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

4.04 CLEANING

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

4.05 PROTECTION

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

4.06 FINISHING

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

END OF SECTION

SECTION 099100

PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes surface preparation and the application of paint systems on the following interior and exterior substrates:
   1. Gypsum Board.
   2. Interior doors and trim. Including basement stair stringers.
   3. Galvanized metal doors.
   4. Exterior exposed concrete foundation walls.

B. Paint Preparation: Inspect all walls for holes, or unfinished drywall. Clean and patch all walls prior to painting.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

B. Samples: For each type of paint system and each color and gloss of topcoat.

C. Contractor note: Allow 7 paint colors in base bid.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. Benjamin Moore & Co.
   2. Coronado Paint.
   3. Sherwin-Williams Company (The).
   4. Kilz.
   5. Zissner.

B. Products: Subject to compliance with requirements, products listed shall be approved by the Allegany County Land Bank for the basis of design.

2.2 PAINT, GENERAL

A. Material Compatibility:

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

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

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

2.3 PRIMERS

A. Exterior Trim Primer:
1. Zissner; Perma-White Mold & Mildew-Proof White Semi-Gloss Exterior Paint
   a. Applied at a dry film thickness of not less than 3.0 mils.

B. Interior trim and doors.
1. For doors: Behr. Ultra Pure White base semi-gloss interior cabinet and trim paint. Color: White.
2. For all interior trim.

C. Gypsum Board Primer and finish coat:
1. Sherwin-Williams; PrepRite 200 Latex Wall Primer B28W200 Series:
2. Interior ceilings: Equal to Behr. Premium Plus. White Ceiling. Flat finish.

D. Galvanized Metal Primer: (Exterior metal doors)
1. Sherwin-Williams; DTM Acrylic Primer/Finish B66W1: Applied at a dry film thickness of not less than 2.5 mils.
2. Paint inside and out, including door frames.

E. Ceiling Primer Paint (in bathroom and Laundry): Primer Shall be equal KILZ 2 interior latex primer. Flat.

2.4 FINISH COATS

A. Low VOC paint materials. Paint walls equal to (Manufacturer listed) All interior painting shall be one coat primer, and two finish coats. Paint for trim frames shall be semi-gloss finish. Allow two colors for bidding purposes (not including white for ceilings).

A. Interior drywall:
1. Sherwin-Williams; ProMar 200 Interior Latex satin finish. (2 coats).
   a. Applied at a dry film thickness of not less than 1.6 mils.
   b. Interior bathroom walls. Equal to: Sherwin Williams Paint Shield Microbicidal Interior Latex Paint Eggshell.

B. Interior Semigloss Acrylic Enamel: for Doors, frames and Metal surfaces. Including basement stair stringers.
   1. Sherwin-Williams; ProMar 200 Interior Latex Semi-Gloss Enamel B31W2200 Series: Applied at a dry film thickness of not less than 1.3 mils.

C. Ceiling paint in Bathroom and Laundry Room. Equal to Zissner. "Perma-White" mold and mildew proof ceiling paint. Egg Shell finish. Color: White.

D. Zinc-Coated Metal: Provide the following finish systems over interior zinc-coated metal surfaces: (exterior door)
   1. Semigloss Acrylic-Enamel Finish: Two finish coats over a primer.
      a. Primer: Metal primer.
      b. Finish Coats: Semigloss acrylic enamel.

E. Masonry paint: Paint all exposed foundation walls. Paint equal to Behr. #SC-125 Stonehedge Satin Interior/Exterior Masonry, Stucco and Brick Paint. Color to match siding.

F. Basement Floor. Paint entire basement Floor. Equal to:
   1. Kilz. 1-Part Epoxy Acrylic Concrete Floor Paint. Interior Satin. Color: Slate Gray.

PART 3 - EXECUTION

3.1 EXAMINATION

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

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
   1. Cement and Gypsum Boards: 12 percent.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

D. Proceed with coating application only after unsatisfactory conditions have been corrected.
   1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

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

B. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

C. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
   1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."
   1. Use applicators and techniques suited for paint and substrate indicated.
   2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
   3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
   4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
   5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

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

B. See Painting Schedule on Page 5.

SECTION 099100

PAINTING

Paint Schedule – All interior paints are referenced to Sherwin Williams.

Number	Name	Walls	Base	Doors
1	Front Entry Hall and Stairway to second floor hall	SW 6197	SW 7102	SW 7102
2	Kitchen	SW 6908	SW 7102	SW 7102
3	Laundry/ 1st Floor Bathroom	SW 6079	SW 7102	SW 7102
4	Powder Room	SW 6079	SW 7102	SW 7102
5	Living Room	SW 6393	SW 7102	SW 7102
6	Bedroom 1	SW 6183	SW 7102	SW 7102
7	Bedroom 2	SW 9144	SW 7102	SW 7102
8	Bedroom 3	SW 6008	SW 7102	SW 7102
9	2nd Floor Bath	SW 6500	SW 7102	SW 7102
10	Closets (all)	SW 7006	SW 7102	SW 7102

11. Exterior Exposed Foundation walls - all masonry to be painted. Behr exterior masonry paint.

END OF SECTION 099100

SECTION 101420

HOUSE NUMBERS

PART 1 GENERAL

1.01 SECTION INCLUDES
A. House numbers

1.3 REFERENCES
A. NY Residential Planning and Zoning requirements for house numbers.

1.4 SUBMITTALS
A. Submit under provisions of Section 013000
B. Product Data: Manufacturer's data sheets

1.5 DELIVERY, STORAGE, AND HANDLING
A. Store products in manufacturer's unopened packaging until ready for installation.

PART 2 PRODUCTS

2.1 MANUFACTURERS
. A. Equal to: Baldwin:
1. Estate Door Accessories Collection. Model: 90671102
2. 4” numbers.
3. Color: Oil rubbed bronze.

PART 3 EXECUTION

3.1 EXAMINATION
A Examine for damage.

3.2 PREPARATION
A. Examine, clean, and repair as necessary any substrate conditions which would be detrimental to proper installation.

3.3 INSTALLATION
A. Install products in accordance with the latest printed instructions of the manufacturer.

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

END OF SECTION

SECTION 0102813

BATHROOM ACCESSORIES

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Plumbing

1.02 SUBMITTALS

A. Product Data: Specifications or data sheets and installation instructions for each product required.

1.03 QUALITY ASSURANCE

A. Provide products from more than one manufacturer if necessary to meet the requirements of this Section.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store products in manufacturer's original protective packaging.
   1. Furnish items with protective wrappings or covers as required to protect finishes. Do not remove protective coverings until completion of other Work liable to damage accessory finish.

B. Pack products with required trim, mounting devices, fasteners, service tools or keys, and complete installation instructions.

PART 2 PRODUCTS

2.01 BATHROOM ACCESSORIES

A. Medicine Cabinet: Equal to: Ketcham. Model 190 SM. 24" w x 30"h. Semi-recessed mounted. Mount at height shown.

B. First Floor Bathroom Vanity:

   1. Vanity equal to: Miseno Palos 18" Free Standing Single Basin Vanity Set with Cabinet and Ceramic Vanity Top Model: MV-NM-PALO18-WHT-FN.

   2. Second Floor Vanity equal to: Fresca Cambridge 30" Free Standing Single Basin Vanity Set with Wood Cabinet, Ceramic Vanity Top, Mirror, and Single Hole Faucet. Model: FVN2130WH.

   3. Provide Medicine Cabinets equal to: Wellfor. 24 in. W x 32 in. H Rectangular Recessed Solid Wood Bathroom Medicine Cabinet with Mirror, Bi-View Glass Magnetic Door. SKU: C2434MCL-WT.

      a. Color White.

C. Shower curtain rod: Equal to: Signature hardware. 1" dia. x 60" long.. Satin Finish with escutcheon cover plates. Three screws per side into the wall. Sigmaturehardware.com.

D. Toilet tissue holder: Equal to. Moen. Model #YB5108BN. Brushed nickel. Mount on side of vanity.

E. Towel/ Grab Bar. Equal to: Lifeline. Model LL2040SS. Brushed Satin.

F. Shower slide bar: Equal to: Moen. (see also plumbing fixtures).

G. Soap/ shampoo shelf. Equal to; Transolid. Transolid.com. Transolid Decor 6-In X 14-1/2-In Double Corner Shelf. 6-in x 14-1/2-in double corner shelf in Matrix White
   1. Install using manufacturer's standard adhesive for attachment.

PART 3 EXECUTION

3.01 INSTALLATION

A. Unless otherwise indicated, install Work of this Section in strict accordance with the manufacturer's instructions.
   1. Install all attachments, anchorage devices, and fasteners as required to securely mount accessory units to types of wall or partition construction indicated.
   2. Handrails: Install to withstand a downward load of at least 250 lbf, when tested according to ASTM F 446.

3.02 CLEANING AND POLISHING

A. Remove protective wrappings from installed accessories after completion of other Work liable to damage accessory finish. Remove residue, if any, and polish exposed surfaces.

END OF SECTION

SECTION 107461

RESIDENTIAL MAILBOX

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Residential mailbox.

1.2 RELATED SECTIONS

A. Section 061000 - Rough Carpentry

B Section 074640 – Vinyl Siding

1.3 REFERENCES

A. US Postal Code

1.4 SUBMITTALS

A. Submit under provisions of Section 013000
B. Product Data: Manufacturer's data sheets

1.5 DELIVERY, STORAGE, AND HANDLING

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

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Gibraltar Mailboxes. Designer Venetian Bronze with Brushed Brass, Medium, Steel, Locking, Wall Mount Mailbox. Model# DMVKGV04

PART 3 EXECUTION

3.1 EXAMINATION

A. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

SECTION 107461

RESIDENTIAL MAILBOX

3.2 PREPARATION

A. Examine, clean, and repair as necessary any substrate conditions which would be detrimental to proper installation.

B. Do not begin installation until unacceptable conditions have been corrected.

3.3 INSTALLATION

A. Install products in accordance with the latest printed instructions of the manufacturer.

3.4 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

3.5 CLEANING

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

END OF SECTION

SECTION 112491

WINDOW BLIND SHADES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Horizontal cordless louver blinds with aluminum slats.

2. Install in all room windows. (not basement).

B. Related Sections include the following:

1. Division 6 Section "Miscellaneous Carpentry" for wood blocking and grounds for mounting horizontal louver blinds and accessories.
2. Division 16 Sections for electrical service and connections for motor operators, controls, limit switches, and other powered devices and for system disconnect switches for motorized blind operation.

1.3 SUBMITTALS

A. Window Treatment Schedule: For horizontal louver blinds. Use same designations indicated on Drawings.

1. Submit product spec sheet indicating sizes, colors, and mounting configuration.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain horizontal louver blinds through one source from a single manufacturer.

B. Fire-Test-Response Characteristics: Provide horizontal louver blinds with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.

1. Flame-Resistance Ratings: Passes NFPA 701.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver horizontal louver blinds in factory packages, marked with manufacturer and product name, fire-test-response characteristics and location of installation using same designations indicated on Drawings and in a window treatment schedule.

1.6 PROJECT CONDITIONS

A. Environmental Limitations: Do not install horizontal louver blinds until construction and wet and dirty finish work in spaces, including painting, is complete and dry and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

B. Field Measurements: Where horizontal louver blinds are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Allow clearances for operable glazed units' operation hardware throughout the entire operating range. Notify Architect of discrepancies. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1.7 EXTRA MATERIALS

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

1. Horizontal Louver Blinds: Before installation begins, for each size, color, texture, pattern, and gloss indicated, full-size units equal to 5 percent of amount installed.

PART 2 - PRODUCTS

2.1 HORIZONTAL LOUVER BLINDS, ALUMINUM SLATS

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

B. Products: Subject to compliance with requirements, provide one of the following:
1. Levolor, a Newell Rubbermaid Company;
   a. LEVOLOR Custom Cordless Room Darkening Cellular Window Blind Shade, Essence Collection (Sand).

2. Approved equal

3. Basis-of-Design Product: Subject to compliance with requirements, provide or a comparable product by one of the following:

C. Headrail: Formed steel or extruded aluminum; long edges returned or rolled; fully enclosing operating mechanisms on three sides and end plugs and the following:

1. Capacity: One blind per headrail
2. Integrated Headrail/Valance: Curved face
3. Light-blocking lower back lip.
4. Tilt limiter with preselected degree settings.

D. Bottom Rail: Formed-steel or extruded-aluminum tube, with plastic or metal capped ends [top contoured to match crowned shape of slat, bottom contoured for minimizing light gaps with enclosed ladders and tapes to prevent contact with sill.

E. Maximum Light-Blocking Blinds: Designed for eliminating all visible light gaps if slats are tilted closed; with tight tape spacing indicated and slats with minimal-sized rout holes for ladders hidden and placed near back edge for maximum slat overlap; with headrail and bottom rail extended and formed for light-tight joints between rail and adjacent slats or construction.

F. Lift Cords: Manufacturer's standard.

G. Valance: Manufacturer's standard.

1. Finish Color Characteristics: [Match color, texture, pattern, and gloss of slats

H. Mounting: Window head, permitting easy removal and replacement without damaging blind or adjacent surfaces and finishes; with spacers and shims required for blind placement and alignment indicated.

1. Provide intermediate support brackets if end support spacing exceeds spacing recommended by manufacturer for weight and size of blind.

I. Hold-Down Brackets and Hooks or Pins: Manufacturer's standard.

J. Side Channels and Perimeter Light Gap Seals: Manufacturer's standard.

K. Colors, Textures, Patterns, and Gloss: Match Architect's samples

2.2 BLIND FABRICATION

A. Concealed Components: Non-corrodible or corrosion-resistant-coated materials.

1. Lift-and-Tilt Mechanisms: With permanently lubricated moving parts.

B. Unit Sizes: Obtain units fabricated in sizes to fill window and other openings as follows, measured at 74 deg F (23 deg C):

1. Blind Units Installed between (inside) Jambs: Width equal to 1/4 inch per side or 1/2 inch total, plus or minus 1/8 inch less than jamb-to-jamb dimension of opening in which

each blind is installed. Length equal to 1/4 inch plus or minus 1/8 inch less than head-to-sill dimension of opening in which each blind is installed.

C. Installation Brackets: Designed for easy removal and reinstallation of blind, for supporting headrail, valance, and operating hardware, and for hardware position and blind mounting method indicated.

D. Installation Fasteners: No fewer than two fasteners per bracket, fabricated from metal noncorrosive to blind hardware and adjoining construction; type designed for securing to supporting substrate; and supporting blinds and accessories under conditions of normal use.

E. Color-Coated Finish:
1. Metal: For components exposed to view, apply manufacturer's standard baked finish complying with manufacturer's written instructions for surface preparation including pretreatment, application, baking, and minimum dry film thickness.
2. Component Color: Provide rails, cords, ladders, and exposed-to-view metal[, wood,] and plastic matching or coordinating with slat color, unless otherwise indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, operational clearances, [accurate locations of connections to building electrical system,]and other conditions affecting performance.

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

3.2 INSTALLATION

A. Install horizontal louver blinds level and plumb and aligned with adjacent units according to manufacturer's written instructions, and located so exterior slat edges in any position are not closer than 1 inch to interior face of glass. Install intermediate support as required to prevent deflection in headrail. Allow clearances between adjacent blinds and for operating glazed opening's operation hardware if any.

B. Head Mounted: Install headrail on face of opening head.

C. Connections: Connect motorized operators to building electrical system.

3.3 ADJUSTING

A. Adjust horizontal louver blinds to operate smoothly, easily, safely, and free of binding or malfunction throughout entire operational range.

3.4 CLEANING AND PROTECTION

A. Clean horizontal louver blind surfaces after installation, according to manufacturer's written instructions.

B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that horizontal louver blinds are without damage or deterioration at time of Substantial Completion.

C. Replace damaged horizontal louver blinds that cannot be repaired, in a manner approved by Architect, before time of Substantial Completion.

END OF SECTION

SECTION 11 3100

APPLIANCES

PART 1 GENERAL

1.1 SUMMARY – Provide and install Appliances listed herein.

A. Section Includes:
1. Ranges and cords.
2. Safety Controls.
3. Range hoods.
4. Connection to utilities.

B. Related Sections:
1. Division 01: Administrative, procedural, and temporary work requirements.
2. Division 26: Electrical for utility connections.

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1.2 SUBMITTALS

A. Submittals for Review:
1. Shop Drawings: Show locations of appliances, dimensions, required clearances, rough-in requirements, power requirements, and wiring diagrams.
2. Product Data: Provide product data on appliances showing materials, finishes, characteristics, limitations, and electrical characteristics.
3. Warranty: Sample warranty form.

B. Closeout Submittals:
1. Operation and Maintenance Data including identification / serial number and their location.

1.3 QUALITY ASSURANCE

A. Appliances: **Energy Star Rated.**

1.4 DELIVERY, STORAGE AND HANDLING

A. Deliver appliances with manufacturer's protective coverings in place; do not remove until just prior to installation.

1.5 WARRANTIES

A. Furnish manufacturer's standard warranty providing coverage against all defects.

SECTION 11 3100

APPLIANCES

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
   1. Frigidaire. (www.frigidaire.com)
   2. GE Appliances. (www.geappliances.com)
   3. Approved equal.

2.2 MANUFACTURED UNITS

A. Appliances: Scheduled at end of Section.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install appliances in accordance with manufacturer's instructions and approved shop Drawings.
B. Set plumb, level, and aligned.
C. Connect to power supply.

3.2 ADJUSTING

A. Adjust appliances for proper operation.

3.3 SCHEDULE

Appliance / Description Manufacturer Model Finish

SECTION 11 3100

APPLIANCES

List of kitchen appliances

Item	No. req.	Description
1	1	Gas Stove: Equal to: Frigidaire 30-in Frigidaire 30" Gas Range Model. FCRG3051BS.
2	1	Microwave: Frigidaire FFMV154CLS Stainless Steel 1.5 Cubic Foot Over-The-Range Microwave Oven.
3	1	Dishwasher: Equal to: GE 45-Decibel Built-In Dishwasher with Bottle Wash Feature and Hard Food Disposer (Stainless Steel) (Common: 24-in; Actual: 23.75-in) Model # GDT695SSJSS.
4	1	Refrigerator : Equal to: GE 17.5-cu ft Top-Freezer Refrigerator (Stainless Steel) ENERGY STAR.. Model #GTE18GSNRSS.
5	1	Washer/ Dryer Package GE33WE - GE Appliance Laundry Package - Top Load Washer with Gas Dryer – White. Code: 60500-12710-12713. Manufacturer: General Electric Model #: GE33WE.

END OF SECTION

SECTION 221100

PLUMBING PIPING

PART 1 GENERAL

1,00 THE WORK

A. Install all plumbing in the residence. Use this section for references.

B. Make plumbing connections to all existing drain lines from fire damaged portions of the house. Concrete removal around drain lines may be necessary. Drain connections shall be threaded at Cast Iron connections.

B. General: All new hot and cold water distribution shall be PEX. Drainage piping shall be Schedule 40 PVC Piping.

C. Make special provisions for connections to existing copper/ cast iron connections and cast iron drain lines. Trap and vent all fixtures per NYSPC. Contractor's Plumber to include all accessories, mixing valves, and plumbing access doors.

D. Pressure test all new and existing plumbing lines and inspect for leaks when complete.

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Plumbing Fixtures: Section 224200

1.02 REFERENCES

A. Residential Code New York State – 2020 Edition.
B. The Mechanical Code of New York State.
B. Local Utility Company for gas pipe connections

1.03 SUBMITTALS

A. Product Data:
   1. Catalog sheets and specifications indicating manufacturer name, type, applicable reference standard, schedule, or class for specified pipe and fittings.
   2. Material Schedule: Itemize pipe and fitting materials for each specified application in Pipe and Fittings Schedule in Part 3 of this Section. Where optional materials are specified indicate option selected.

1.04 QUALITY ASSURANCE

A. Qualification of Plumbers: Comply with the following:
   1. The persons performing the work shall be licensed plumbers.
   2. Persons installing the hot water boiler shall be qualified installers.

PART 2 PRODUCTS

2.01 STEEL PIPE AND FITTINGS

A. Steel Pipe for Threading: Standard weight, Schedule 40, black or galvanized; ASTM A 53 or ASTM A 135.

B. Steel Pipe for Roll Grooving: Standard weight, Schedule 40, black or galvanized; ASTM A 53, Grade B, Type F for sizes 3/4 inch to 1-1/2 inch, and Type E or S for sizes 2 inch to 24 inch, or ASTM A 135.

C. Malleable Iron, Steam Pattern Threaded Fittings:
1. 150 lb Class: ASME B16.3.
2. 300 lb Class: ASME B16.3.

D. Cast Iron Fittings:
1. Drainage Pattern, Threaded: ASME B16.12.
2. Steam Pattern, Threaded: ASME B16.4.
   a. Standard Weight: Class 125.
   b. Extra Heavy Weight: Class 250.
3. Flanged Fittings and Threaded Flanges: ASME B16.1.
   a. Standard Weight: Class 125.
   b. Extra Heavy: Class 250.

E. Unions: Malleable iron, 250 lb class, brass to iron or brass to brass seats.

F. Couplings: Same material and pressure rating as adjoining pipe, conforming to standards for fittings in such pipe. Use taper tapped threaded type in screwed pipe systems operating in excess of 15 psig.

G. Nipples: Same material and strength as adjoining pipe, except nipples having a length of less than one inch between threads shall be extra heavy.

2.02 COPPER AND BRASS PIPE, TUBING AND FITTINGS

A. Copper Tube, Types K, L, and M: ASTM B 88.

B. Wrot Copper Tube Fittings, Solder Joint: ASME B16.22.

C. Drainage Tube, Type DWV: ASTM B 306.

I. Chrome Plated Cast Brass Threaded Pipe Fittings, 125 lb Class: ASME B16.15.
1. Plating: 0.02 mil chromium over 0.2 mil nickel plating, high polish finish.

J. Unions: Cast bronze, 150 lb Class, bronze to bronze seats, threaded or solder joint.

L. Flared Tube Fittings:
   1. Water Tube Type: ASME B16.26.
   2. Refrigerant Tube Type: SAE J513.

M. Flanges: Conform to the Standards for fittings used in systems.
   1. Brazing Flanges: ASME B16.24, hubs modified for brazing ends.

2.03 CAST IRON PIPE AND FITTINGS

A. Bell and Spigot Soil Pipe: Service Weight, Bitumin coated; ASTM A 74.

B. Bell and Spigot Soil Pipe Fittings: Service Weight, Bitumin coated; ASTM A 74.

C. Hubless Pipe: Bitumin coated; Cast Iron Soil Pipe Institute Standard No. 301.

D. Hubless Pipe Fittings: Drainage Pattern, Bitumin coated; Cast Iron Soil Pipe Institute Standard No. 301.

E. Hubless Joint Couplings: Stainless steel shield and clamp assembly, and elastomer sealing sleeve; CISPI-310.

F. Water Pipe Fittings: Bitumin coated, cement-mortar lined; AWWA C110.

2.04 DUCTILE IRON PIPE AND FITTINGS

A. Water Pipe: Bitumin coated and cement-mortar lined; AWWA C151.
   1. 3 and 4 Inch Sizes: Class 51.
   2. 6 inch Size and Over: Class 50.

B. Fittings: Bitumin coated and cement-mortar lined; AWWA C110.

2.05 COUPLINGS AND FITTINGS FOR GROOVED END PIPE

A. Couplings: Grinnell Corp.'s Rigidlok Fig. 7401, or Victaulic Co.'s Style 107, having minimum pressure rating of:
   1. 750 psi from 1-1/2 inch to 4 inch.

B. Couplings: Gustin-Bacon Inc.'s No. 100 Gruvagrips, or Victaulic Co.'s Style 77, having pressure rating of:
   1. 1000 psi for 3/4 inch to 6 inch.

C. Fittings: By same manufacturer as couplings, having pressure ratings equal to or greater than couplings. Comply with the following standards:
   1. Steel: ASTM A 53 or A 106, Grade B.
   2. Malleable Iron: ASTM A 47.
   3. Ductile Iron: ASTM A 536.

2.06 PEX DISTRIBUTION PIPING

A. PEX plumbing, or Cross linked Polyethylene shall be employed for all water distribution. Manufacturer: Equal to CMI Inc.
   1. Plumbing shall meet Chapter 26 of NYS Residential Code requirements for Plumbing.
   2. PEX shall be adequately supported in instances where it is not a floor level.

B. All hot and cold water distribution and baseboard hot water plumbing shall be PEX.
   1. Maintain continuous PEX line. Do not splice lines between couplers.

B. Standards, Approvals & Certifications (Everhot PEX-AL-PEX)
   1. ASTM F1281: Standard Specification for Crosslinked
   2. Polyethylene/ Aluminum/ Crosslinked Polyethylene (PEX-AL-PEX) Pressure Pipe. CSA B137.10: Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene (PEX-AL-PEX) Tubing Systems for Pressure Applications.
   3. NSF/ANSI 14, nsf-rfh: Evaluated for use in Radiant Floor Heating (NSF-rfh) Applications
   4. NSF/ANSI 61-G, NSF/ANSI 372, nsf-pw-g: Complies with NSF/ANSI standard 61-G for
   5. Lead-Free Drinking Water System Components
   6. Certified to UPC (Uniform Plumbing Code).

D. PEX plumbing shall be:

   1 Hot water distribution shall be equal to PEX Tubing B Pipe 1/2" Blue Water Polyethylene Flexible Pipes Non Oxygen Barrier Potable Tubes

   2. Hot / cold water distribution domestic water PEX shall be as follows:

      a. Hot water distribution for baseboard heating. ¾" plumbing.

2.06a PEX ACCESSORIES

A. The following connectors shall be used for all PEX distribution.

1. Compression Elbow PEX-AL-PEX Compression Elbow
   a. Brand: Everhot
   b. Part#: PAP7003

2. Compression Coupling PEX-AL-PEX
   a. Brand: Everhot
   b. Part#: PAP6805

3. Ball Valve, Full Port - 1/2" PEX Brass
   a. Brand: Wright Valves
   b. Part#: VPP012

2.07 PVC PIPING

A. Drain/ waste lines (domestic) and plumbing venting.
Schedule 40 PVC.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install piping at approximate locations indicated, and at maximum height.

B. Make allowances for expansion and contraction.

C. Allow for a minimum of one inch free air space around pipe or pipe covering, unless otherwise specified.

E. Install horizontal piping with a constant pitch, and without sags or humps.
1. Water Piping: Pitch 1/4 inch per 10 feet upward in direction of flow, unless otherwise noted. If it is not possible to maintain constant pitch, establish a new low point and continue. At the low point, provide a 1/2 inch drip leg and gate valve with a hose bibb end. Provide an air vent at the high point.
2. Drainage Piping: Pitch 1/4 inch per foot downward, in direction of flow, unless otherwise noted.
3. Vent Piping: Pitch 1/4 inch per foot upward, unless otherwise noted.

F. Install vertical piping plumb.

G. Cut pipe and tubing ends square; ream before joining.

I. Threading: Use American Standard Taper Pipe Thread Dies.
1. Thread brass pipe with special brass threading dies.

3.02 DRAINAGE SYSTEMS

A. Fittings:
1. Use long turn drainage pattern fittings, unless space conditions prohibit their use; in such cases, short turn pattern fittings may be used.
2. Vertical Offsets: Make vertical offsets with 45 degree elbows, or 1/8 bends.
3. Tucker Fittings: Tucker fittings may only be installed in vertical piping.

B. Cleanouts:
1. Install cleanouts with sufficient side and end clearance to allow for the removal of the cleanout plug, and the use of cleaning tools.
2. Lubricate cleanout plugs with anti-seize lubricant.

3.03 DOMESTIC WATER PIPING SYSTEM

A. Connect runouts to the upper quadrant of the main, and run upward at not less than 45 degrees before extending laterally.

B. Make final connections to plumbing fixtures and equipment with unions, or flanges:
   1. Do not use unions in ferrous piping larger than 3 inches.
   2. Do not use unions in brass or copper piping larger than 2 inches.

3.04 NATURAL GAS PIPING SYSTEM

A. Install gas piping system in conformance with the National Fuel Gas Code, NFPA 54, or as required by the serving gas supplier.

B. Use non-hardening pipe dope on threads. Do not use thread seal tape.

3.09 PIPE JOINT MAKE-UP (Hot water tank)

A. Threaded Joint: Make up joint with a pipe thread compound applied in accordance with manufacturer's printed application instructions for the intended service.
   1. Chrome Plated Brass Pipe: Tighten joint with a strap or Parmalee wrench; do not mar pipe finish. Install piping so that no threads are visible.

B. Soldered Joint: Thoroughly clean tube end and inside of fitting with emery cloth, sand cloth, or wire brush. Apply flux to the pre-cleaned surfaces. Install fitting, heat to soldering temperature, and join the metals with type solder specified. Remove residue.

C. Flanged Pipe Joint:
   1. Install threaded companion flanges on steel pipe; flanges on galvanized pipe are not required to be galvanized.
   2. Provide a gasket for each joint.
      a. Hot Water Pipe Gasket: Coat with a thin film of oil before making up joint.
      b. Air Pipe Gasket: Coat with a thin film of oil before making up joint.
   3. Coat bolt threads and nuts with anti-seize lubricant before making up joint.

D. Calked Joint: Pack hub with joint packing specified, and calk. Run 12 ounces molten lead for each inch of pipe diameter. Calk cooled lead ring and face off smoothly.

E. Rubber Ring Push-on Joint: Clean hub, bevel spigot, and make up joint with lubricated gasket in conformance with the manufacturer's printed installation instructions.

F. Grooved Pipe Joint: Roll groove pipe ends, make up joint with grooved end fittings and couplings, in conformance with the manufacturer's printed installation instructions.
   1. Cut grooved end piping is not acceptable.

G. Hubless CI Pipe Joint: Make up joint with hubless fitting and couplings, in conformance with the manufacturer's printed installation instructions.

3.10 PIPING PENETRATIONS

A. Sleeve Schedule: Unless otherwise shown, comply with the following schedule for the type of sleeve to be used where piping penetrates wall or floor construction:

	CONSTRUCTION	SLEEVE TYPE
1.	Frame construction.	None Required
2.	Floors finished or to be finished with latex composition or terrazzo, and on metal decks.	D*
3.	Earth supported concrete floors.	None Required
4.	Fixtures with floor outlet waste piping.	None Required

*Core drilling is permissible in lieu of sleeves where marked with asterisks.

B. Diameter of Sleeves and Core Drilled Holes:
   1. Unless otherwise specified, size holes thru floors and walls in accordance with the through penetration fire stopping system being used.

3.11 FLOOR, WALL AND CEILING PLATES

A. Install plates for exposed uninsulated piping passing thru floors, walls, ceilings, and exterior concrete slabs as follows:
   1. In Finished Spaces:
      a. Piping 4 Inch Size and Smaller: Solid or split, chrome plated cast brass.
      b. Piping Over 4 Inch Size: Split, chrome plated cast brass.
   2. Unfinished Spaces (Including Exterior Concrete Slabs): Solid, unplated cast iron.
   3. Fasten plates with set screws.
   4. Plates are not required in pipe shafts or furred spaces.

3.12 PIPE AND FITTING SCHEDULE

A. Where options are given, choose only one option for each piping service. No deviations from the selected option will be allowed.

END OF SECTION

SECTION 224200

PLUMBING FIXTURES

PART 1 GENERAL

A. Remove all existing house plumbing and re-plumb entire residence.

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Plumbing piping: Section 221100

1.02 SUBMITTALS

A. Product Data: Catalog sheets, specifications, roughing dimensions, and installation instructions for each item specified except fasteners.
   1. Deliver cut out data for countertop fixtures to the Architect and Construction Manager.

1.03 QUALITY ASSURANCE

A. Regulatory Requirements:
   1. Comply with applicable requirements of FS WW-P-541, and the following standards:
      a. ANSI/ASME A112.18.1M - Plumbing Fixture Fittings.
      c. ANSI/ASME A112.19.2M - Vitreous China Plumbing Fixtures.
      e. ANSI/ASME A112.19.6 - Hydraulic Requirements for Water Closets and Urinals.
   2. Each fixture carrier support shall be listed by model number in the fixture support manufacturer's Fixture Support Selection Guide as being recommended for support of the appropriate fixture.

B. Plainly and permanently mark each fixture and fitting with the manufacturer's name or trade mark.

C. Acid resistant surfaces shall be plainly and permanently marked with the manufacturer's label or symbol indicating acid resistance.

1.04 MAINTENANCE

A. Deliver maintenance instructions to Construction Manager.

PART 2 PRODUCTS

2.01 MATERIALS – MANUFACTURERS

SECTION 224200

PLUMBING FIXTURES

A. Kitchen sink. Equal to. Elkay. Dayton 31-3/4" Undermount Double Basin Stainless Steel Kitchen Sink Model:DXUH3118.

1. Provide strainer and stop.
2. Kitchen Faucet.
   a. Equal to: Moen Banbury High-Arc Kitchen Faucet with Side Spray Model: CA87000SRS.
3. Brushed satin finish.
4. Disposal equal to:
   a. InSinkErator Evolution 3/4 HP Continuous Garbage Disposal with Soundseal Technology. Model: COMPACT.

B. 1st floor Bathroom faucet Equal to Delta "Larkin" Collection single handle Centerset bathroom faucet.

1. Model # 15890LF-SP
2. Single hole.
3. Finish: Spotshield brushed Nickel.
5. Provide and install stopper.

Ba. Second floor bathroom faucet: equal to

1. Pfister. Colfax 1.2 GPM widespread faucet. Model: LG49-COL0D.

C. Toilets. Equal to: American Standard "Cadet" Right Height Elongated 12" rough toilet. Model #2467.016.020.

1. Provide and install Bemus toilet seats. Soft close lid.

2. Provide and install brass 3/8 in. Compression x 7/8 in. Ballcock Nut x 12 in. Braided Polymer Toilet Connector. Model #B1-12DL F.

   a. Vitreous china Low consumption (6.0 Lpf/1.6 gpf)
   b. 2" flush valve. 2" trapway 16-1/2" rim height for accessible applications.

D. Bathroom tub – 2nd floor: Equal to: American Standard "Princeton" 60" Americast Soaking Bathtub with Left Hand Drain Model: 2390.202ICH.020.

1. Color: White.
2. Drain and stopper to be included.

E. Shower faucet shower and slide bar assembly – 2nd floor Bathroom (including 30" mounting arm, shower head, escutcheon plate and metal hose):

a. Equal to: Delta. Model R 10000 UNBX,
b. T17T478 Thermostatic Temperature Control valve.
c. Delta R 11000 shower head and diverting valve.
d. Trim for diverter T11800.
e. Standard diverting tub spout Delta RP19820.

SECTION 224200

PLUMBING FIXTURES

ACCESSORIES

A. At toilet, vanity and kitchen and laundry sink provide shutoff valves. Valves equal to:
   1. BrassCraft OCR19X C Angle Stop 5/8" Comp X 3/8 Od Lead Free-221006LF, 1, Silver finish.

PART 3 EXECUTION

3.01 FIXTURE SUPPORT AND SUPPORTING DEVICE INSTALLATION

A. Wall Mounted Supports: Install the following fixtures on wall mounted carrier supports: Bathroom shower slide bars and shower heads.

3.02 FIXTURE INSTALLATION

A. Install the Work of this section in accordance with the manufacturer's printed installation instructions.

B. Install fixtures level and at proper height, tighten connections, and install hold-down bolts, cap nuts and cover plates, where required.

3.03 CLEANING, FLUSHING AND ADJUSTMENT

A. Clean fixture and trim. Remove grease and dirt; polish surfaces but leave stickers and warning labels intact.
B. Flush supply piping and traps; clean strainers.
C. Adjust stops for proper delivery.
D. Adjust metering faucets for proper timing.

END OF SECTION

LAUNDRY EQUIPMENT HOOKUPS

SECTION 234500

PART 1 GENERAL

1,00 THE WORK

A. Install new washers and dryers in New Laundry Room. NOTE: Washers and Dryers shall be provided and installed by General Contractor.
   1. Install all Laundry Room equipment (and Kitchen equipment) noted in Section 113100.
   2. Make plumbing AND electrical connections to existing drain lines.
   3. All hot and cold water distribution shall be PEX.
   4. Drain lines shall be Schedule 40 PVC piping.

B. Make special provisions for connections to existing copper/ cast iron connections and cast iron drain lines. Trap and vent all fixtures per NYSPC. Contractor's Plumber to include all accessories, mixing valves, and plumbing access doors.

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Plumbing Fixtures: Section 224200
B. Sealants: Section 079200.
C. Ductwork. Section 233300

1.02 REFERENCES

A. Residential Building Code New York State – 2020 Edition.

1.03 SUBMITTALS

A. Product Data:
   1. Catalog sheets and specifications indicating manufacturer name, type, applicable reference standard, schedule, or class for specified pipe and fittings.
   2. Material Schedule: Itemize pipe and fitting materials for each specified application in Pipe and Fittings Schedule in Part 3 of this Section. Where optional materials are specified indicate option selected.

1.04 QUALITY ASSURANCE

A. Qualification of Plumbers: Comply with the following:
   1. The persons performing the work shall be licensed plumbers in the Local Municipality.

LAUNDRY ROOM EQUIPMENT

SECTION 13450

PART 2 PRODUCTS

A. LAUNDRY EQUIPMENT

1) Gray Box: LSP Co. 3689 Arrowhead Dr., Carson City, Calif. Ph. (800) 854-3215. ASME 112.18.1, or approved equal. Provide and install new wall mounted plastic one piece laundry box laundry outlet in new laundry room. Provide hot and cold hookups with water hammer arrestor. Provide and install shut off valves.

2) Water Supply Valve and Test Cap Installation. Valve equal to Oatey "Quadtro". Single lever valve. www.oatey.com. ASME A112.18.1/ Water Hammer Arrestors shall meet ASSE1010.

3). Washer floor tray: Provide and install washer floor tray equal to E L Mustee "Durapan" Model # 99 Washer pan (30" x 32") with 2" center drain. Connect to house plumbing drain lines.

4). Install Trap Guard Model TG22P (2" drain line) connecting washer floor tray pan to plumbing sanitary line. www.trapguard.com, 800-262-5355. (SBCCI PST & ESI Listing # 2218) Install floor firestopping by ProSet systems Co. Firestop Systems all around the floor/ pipe joint.

e). Water supply: Schedule 40 PVC or Pex. Drainage system: schedule 40 PVC. Make special provisions for connections to existing copper connections and cast iron drain lines. Trap and vent all fixtures per NYS Residential Code. Contractor's Plumber to include all accessories, mixing valves, and plumbing access doors.

f.). Electric outlet (for electric dryer). Hubbell Wiring Device - Kellems – Model L14-30, Manuf. Model No. HBL2710SR or approved equal. Surface Mounted Twist Lock Appliance Receptacle Outlet 3-Pole, 4-Wire, 50A-125-250V NEMA 14-50R Grounding Type for 4 prong/ 4wire GFCI outlet. Mount 42" a.f.f.

g). Electric outlet for washer. GFCI 30 amp convenience outlet. Mount 42" a.f.f.

h.) Dryer Vent: Semi rigid vent 4" metal duct tubing.

i.) Dryer Wall cap: Equal to Inovate by DryerJack. Model DJK477BR with exhaust opening plate, and c-clamps for connections. Caulk all around.

SECTION END

SECTION 235239

FACTORY PACKAGED COMBINATION BOILER

PART 1 GENERAL

A. Provide and install wall mounted combination boiler unit for hydronic heating and domestic water.

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Plumbing: Section 221100
B. Plumbing Fixtures: Section 224200
C. Baseboard Finned Tube Radiator: Section 238237
D. Electric Work: Section 260509

1.02 PERFORMANCE REQUIREMENTS

A. Design boiler and boiler supports to withstand all seismic loads. Refer to seismic loading criteria on the Contract Drawings.

B. Seismic Performance: Design and install boilers to assure continued performance of their intended function when subjected to the specified seismic forces.

1.04 SUBMITTALS

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

B. Shop Drawings: Manufacturer's certified detail drawings of the boiler fabrication and combustion chamber; fuel burning and handling equipment; wiring diagrams for fuel burning and handling, operating and safety controls.

C. Product Data: Catalog sheets, standard diagrams, standard schematic drawings, specifications and installation instructions as a package.

D. Quality Control Submittals:
   1. Certificates: Affidavit required under Quality Assurance Article.
   2. Company Field Advisor Data:
      a. Name, business address and telephone number of Company Field Advisor secured for the required services.
      b. Certified statement from the Company listing the qualifications of the Company Field Advisor.
   3. List of Completed Installations: Boilers shall be factory packaged, rated and cataloged units of a nationally recognized manufacturer, approved by the Director, and shall have been in operation for a period of not less than 5 years, in the State of New York.

a. The Director may require the manufacturer to submit evidence, that not less than 3 different installations of comparable size have been in satisfactory operation for this period of time.
b. The 3 indicated installations shall be accessible for inspection by the Director's Representative.

E. Contract Closeout Submittals:
1. Department of Labor Certification of Inspection: Deliver 2 copies to the Construction Manager
2. Operation and Maintenance Data: Deliver 2 copies covering the installed boiler to the Construction Manager..
3. Service Organization Data: Written notification from boiler manufacturer specifying the name, address, telephone number and available service programs of the manufacturers' fully equipped and authorized service organization.

1.05 QUALITY ASSURANCE

A. Regulatory Requirements:
1. Packaged boiler shall be constructed, tested and stamped in accordance with the ASME Code for Low Pressure Heating Boilers.
2. Installation of boiler shall comply with the requirements of Part 4 of Title 12 Rules and Regulations of the State of New York Industrial Code Rule No. 4 (12NYCRR4).
3. Boiler shall comply with NYS Department of Environmental Conservation Law 6NYCRR, Parts 200, 201, 225, 227 and 231.
4. Packaged boiler shall be approved by and shall bear an Underwriters' Laboratories Label "B" for operation with the fuel required, or shall be certified by the manufacturer in writing to have been tested in accordance with the procedure prescribed by the Underwriters for Label "B".

B. Certification: Affidavit by the Company Field Advisor, certifying that the boiler meets the contract requirements and is operating properly.

C. Seismic Qualification Certificate: Certificate from boiler manufacturer covering boilers, accessories, supports, and components; and consisting of the following:
1. Basis for Certification: Indicate whether Withstand Certification is based on actual test of assembled components or on calculation.
2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions, and loads transmitted to structure at each attachment point.
3. Detailed description of equipment anchorage devices on which the certification is based including installation requirements.
4. Comprehensive seismic engineering analysis of boiler and boiler supports.

1.06 MAINTENANCE

A. Maintenance Service: A fully equipped service organization authorized by boiler manufacturer and capable of guaranteeing response within 8 hours to service calls shall be available 24 hours a day, 7 days a week to service the completed Work.

B. Special Tools: Deliver the following tools for each boiler to the Director's Representative.
1. Tools for opening manholes, handholes, and front and rear covers.
2. Tools for adjusting, changing and cleaning burner nozzles.
3. Brushes for cleaning boiler tubes.

PART 2 PRODUCTS

2.01 A. Basis of design: AO Smith, Division of Lockinvar Corp. 45900 Port St.., Plymouth, MI 48170. (734) 454-1971

B. Model:
1. AO Smith - ProLine XE Combi Gas Fired Boiler.. Model 150.
2. Lockinvar NKC 150.
3. Approved equal.

2.02 FACTORY PACKAGED COMBINATION BOILER UNIT.

A. The Combination Boiler unit shall be of a fire tube design and shall be vertically down fired. The COMBINATION BOILER shall bear the ASME "H" stamp for 50 psi working pressure and shall be National Board listed. The heat exchanger assembly shall be fully welded through an automated process to ensure weld integrity. The stainless steel combustion chamber and tubes shall be
1. Self-cleaning
2. Designed to drain condensation to the bottom of the heat exchanger assembly.
3. A built-in flue collector shall allow condensation to drain from the heat exchanger assembly and into the external condensate trap.
4. The complete heat exchanger assembly shall carry a ten (10) year warranty.

B. The Combination Boiler shall be certified and listed by
1. C.S.A. International under the latest edition of the harmonized ANSI Z21.13 /CSA4.9 test standard for the U.S. and Canada.
2. The Combination Boiler Unit shall comply with the energy efficiency requirements of the latest edition of the ASHRAE 90.1 Standard and the minimum efficiency requirements of the latest edition of the ASHRAE 103 Standard.

3.. The Combination Boiler Unit shall meet U.S. Environmental Protection Agency and Department of Energy guidelines for "Energy Star" efficiency.

3. The Combination Boiler Unit shall operate at a minimum of 95% Annual Fuel Utilization Efficiency.

5. The Combination Boiler Unit shall be certified for indoor installation.

6. The Combination Boiler Unit's efficiency ratings shall be verified through third party testing by the Hydronics Institute Division of AHRI and listed in the AHRI Certification Directory.

C. The Combination Boiler Unit shall be constructed with

1. a heavy gauge steel jacket assembly, primed and pre-painted on both sides.
2. The combustion chamber shall be sealed and completely enclosed, independent of the outer jacket assembly, so that integrity of the outer jacket does not affect a proper seal.
3. A burner/flame observation port shall be provided.
4. The burner shall be a premix design and constructed of high temperature stainless steel with a woven metal fiber outer covering to provide modulating firing rates.
5. The Combination Boiler Unit shall be supplied with a gas valve designed with negative pressure regulation and be equipped with a variable speed blower system, to precisely control the fuel/air mixture to provide modulating boiler firing rates for maximum efficiency.
6. The Combination Boiler Unit shall operate in a safe condition at a derated output with gas supply pressures as low as 4 inches of water column.

E. The Combination Boiler Unit shall be constructed with:

1. An internal brazed plat heat exchanger, diverter valve and pump for domestic hot water production.
2. Combination Boiler Unit shall have minimum performance of 2.6 GPM@77˚F rise during domestic hot water production (NKC110N) and maximum performance of 4.8 GPM@77˚F rise during domestic hot water production (NKC199N).
3. The Combination Boiler Unit shall utilize a 24 VAC control circuit and components. The control system shall have an electronic display using words not codes for boiler set-up, boiler status, and boiler diagnostics. All components shall be easily accessed and serviceable from the front and top of the jacket.
4. The Combination Boiler Unit shall be equipped with; a temperature/pressure gauge, high limit temperature control certified to UL353, ASME certified pressure relief valve, outlet water temperature sensor, return water temperature sensor, a UL 353 certified flue temperature sensor, outdoor air sensor, low water flow protection and built-in freeze protection.

F. The Combination Boiler Unit shall feature the "Smart Control" control with a Graphic Electronic LCD display with password security, setpoint with outdoor air reset curve, pump delay with freeze protection, pump exercise, domestic hot water prioritization, combi preheat and domestic hot water response mode.

G. The Combination Boiler Unit shall have the capability to limit the heating Btu's produced by the boiler, space heat limiting. The Boiler shall have a built-in "Cascade" for space heat operation. Supply voltage shall be 120 volt / 60 hertz / single phase.

H. The Combination Boiler Unit shall be equipped with a low voltage connection board with data points for safety and operating controls, i.e.,

1. Auxiliary Limit,
2. Manual Reset
3. Low Water Cutoff,
4. Flow Switch,
5. Outdoor Sensor,
6. System Sensor,
7. Heat Demand,
8. Air Handler Contacts and Cascade Control Circuit.

H. The Combination Boiler Unit shall be installed and vented with:

1. Direct Vent Vertical system with a vertical roof top termination of both the vent and combustion air.
2. The flue shall be PVC, CPVC or Stainless Steel sealed vent material terminating at the roof top with the manufacturers specified vent termination.
3. A separate pipe shall supply combustion air directly to the Combination Boiler Unit from the outside.
4. The air inlet pipe may be PVC, CPVC, ABS, Galvanized, Dryer Vent, or Stainless Steel sealed pipe.
5. The air inlet must terminate on the roof top with the manufacturer's specified air inlet cap.
6. The Combination Boiler Unit's total combined air intake length shall not exceed 100 equivalent feet. The Combination Boiler Unit's total combined exhaust venting length shall not exceed 100 equivalent feet.

I The Combination Boiler Unit shall have an independent laboratory rating for Oxides of Nitrogen (NO_x) of 20 ppm or less corrected to 3% O_2. The manufacturer shall verify proper operation of the burner, all controls and the heat exchanger by connection to water and venting for a factory fire test prior to shipping.

J. The Combination Boiler Unit shall operate at altitudes up to 5,000 feet above sea level with 0% de-rate.

K. The Combination Boiler Unit shall be suitable for use with polypropylene glycol, up to 50% concentration without contingencies.

2.03 ACCESSORIES AND TRIM (Reference AO Smith manual for all other accessories for complete installation)

A. Low water cut-off with drain valve.

B. Operating and high limit temperature control.

C. Modulating temperature control.

D. Temperature gauge and pressure gauge.

E. Water safety relief valve.

F. Stack thermometer, 150 degrees F to 750 degrees F.

G. House thermostat. Equal to Honeywell 5/2 programmable.

H. Air Eliminator: Equal to: Honeywell PV 100S 1".

I. Backflow/ Fill Valve: Equal to: Caleffi 573002A 1/2" 573 Backflow Preventer and AutoFill Combination (Threaded)

J Expansion Tank. (Heating) Equal to Watts. ETX-30

K. Expansion Tank (Plumbing) Equal to Watts PLT-5.

L. Pressure relief valve.. Equal to Watts 150# @ 200 BTU.

M Circulating pumps. Equal to: Bell & Gossett Circulating Pump Series 100 Model 100 NFI 1/12 hp 115 Volts

N. Check Valve. Equal to: Zurn Wilkins 1-70XLDU Lead Free Water Pressure Reducing Valve, 1" Double Union FNPT, Bronze

O. Exhaust: 3" Solid core Schedule 40 PVC, CPVC or Polypropylene piping. Install as noted on plans. Roof boot equal to: Oatey.

P. High limit control: Adjustable electric temperature controller (aquastat), set to shut down the burner when the temperature in the boiler reaches the pre-determined setting. Limit controller shall be of the manual reset type, with a range of from 120 degrees F to 220 degrees F.

Q. Low water cut-off with manual reset and alarm switch with remote alarm bell at location as directed. Bell shall be an Edwards Co. No. 340, 4-inch alarm gong, arranged for conduit connection, for use on 120 volt, 60 cycle, single phase service.

2.04 ROOF INTAKE/ EXHAUST KIT

A. Install Roof air intake and exhaust assembly equal to:
   1. Proline Combi Vertical Termination Concentric Vent Kit, by Proline XE Install will PVC pipe sizes per installation manual.
   2. Use existing opening for vents. Install with Oatey rubber roof cap Support venting at roof intersection with metal straps.
   3. Termination vent shall be 12" min. clear from roof line to the underside of the termination vent cap.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install boiler at location noted on the drawings, of such a physical size, that can be satisfactorily arranged in the space available, and provide sufficient room for replacing boiler tubes, cleaning and servicing of all components.

B. Conduct an initial startup according to manufacturer's instructions.

3.02 FUEL FOR START-UP AND TESTING

A. Natural Gas:
   1. Connect to existing gas piping.
   2. Connect to new gas service piping by others.

3.03 FIELD QUALITY CONTROL

A. Preliminary Requirements:
   1. Employ the services of Company Field Advisor to complete duties specified in Quality Assurance Article.

B. Boiler Pre-Start Up and Start-Up:
   1. Arrange with Contractor for inspection of boiler upon completion of installation.

   2. Preliminary System Tests:
      a. Preparation: Operate the system long enough to assure that it is performing properly.
      b. Run preliminary test for the purpose of:
         1) Determining whether the boiler and appurtenances are in suitable condition to conduct the acceptance test.
         2) Checking the adjusting equipment.
         3) Training Facility personnel.
   3. System Acceptance Test:
      a. Preparation: Notify the Allegany County Land Bank Corp. Representative at least 3 working days prior to the test so

arrangements can be made to have a Facility Representative witness the test.

b. Make the following tests:
   1) Operate boiler, appurtenances, and fine tune adjustable devices.
   2) Test alarm indicating devices.
   3) Operate for a sufficient period of time to demonstrate satisfactory overall performance of the heating system.

c. Supply equipment necessary for system adjustment and testing.

d. Submit a typewritten report of the test results, signed by the Company Field Advisor and the Construction Manager. Enclose a copy of the report in a metal frame covered with plastic sheet glazing and mount it adjacent to the control panel.

END OF SECTION

SECTION 238237

BASEBOARD FINNED TUBE RADIATORS

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

A. Plumbing: Section 224200
B Electric Work: Section 260509

1.02 SUBMITTALS

A. Product Data: Manufacturer's catalog sheets, brochures, performance charts, specifications and installation instructions for the baseboard radiators.

1.03 QUALITY ASSURANCE

A. Regulatory Requirements: Ratings of radiation shall be IBR approved, and listed in the current IBR Directory.

PART 2 PRODUCTS

2.01 MATERIALS

A. Sheet metal (For fabricating radiation enclosures and accessories):
   1. Galvanized sheet steel: ASTM A 653, coating designation G90.
   2. Cold rolled steel: Carbon steel, commercial quality - ASTM A 366. Sheet steel shall be degreased, cleaned and phosphatized in the factory of the radiation manufacturer or mill phosphatized.

B. Manufacturer: Baseboard equal to Slant-Fin. Color: White.
   1. SlantFin Fine/Line 30
   2. Approved equal.

2.02 BASEBOARD RADIATORS

A. General Design: Furnish wall hung type, each consisting of a finned type heating element properly supported, an enclosure with a continuous backplate and a full length damper assembly.

B. Heating Elements: Fabricate heating elements from seamless copper tubing, 3/4" or 1" nominal size as indicated, with aluminum fins securely bonded to the tubing by mechanical expansion of the tubing, or equivalent method as approved by the Director. Furnish copper tube with a minimum wall thickness of .032" for 3/4" tube and .035" for 1" tube. Provide fins a minimum of .010" thick, of size and in number per lineal foot of element, as indicated. Furnish fins with an integral finned collar and a stamped pattern for strength and rigidity. Furnish

tube ends suitable for use with solder fittings. Do not utilize welding, brazing or soldering in the fabrication of heating elements.

C. Enclosures: Fabricate front panels from a minimum of No. 20 USS gage sheet steel, firmly supported at the top and bottom on enclosure brackets. Furnish enclosures complete with continuous back panels, top panels, end caps, corner pieces and wall-to-wall trim strips fabricated from a minimum of No. 20 USS gage steel. Furnish all exposed enclosure panels, accessories and trim strips free of sharp corners or edges. Front panels shall snap-on to support brackets and shall be easily removable for cleaning. Enclosure height and width shall not exceed the dimensions indicated.

D. Support Brackets: Fabricate brackets from a minimum of No. 18 USS gage sheet steel; installed on maximum 3'-0" centers, of design to allow free and noiseless movement of element. Secure brackets to back panel for use in supporting heating elements and front panels. Consideration will be given to element hangers, not incorporated with support brackets, providing the spacing and free movement of the heating element is complied with.

E. Dampers: Fabricate dampers from a minimum of No. 20 USS gage sheet steel, located directly above heating elements, providing full control of air through the length of the enclosure. Operate dampers by means of a knob or lever arrangement, located at the center of each damper section, of such design that can be permanently set in any position from fully open to fully closed.

F. Accessories: Provide inside and outside corner pieces, wall-to-wall trim strips, joiner strips, access doors at all valve and vent locations, and other miscellaneous trim pieces of the same manufacture, gage and finish as the enclosures. Furnish gasketing between wall and enclosure back.

G. Factory Finish:
1. Furnish all surfaces of enclosures and accessories with a factory applied minimum two coat baked enamel finish. Colors shall be as selected by the Director, from the manufacturer's standard color chart.
2. Furnish all surfaces of enclosures and accessories with a factory applied baked prime coat finish.

PART 3 EXECUTION

3.01 INSTALLATION

A. Secure baseboard radiators to wall construction with fastening devices, as required by the particular type of construction and as approved by the Director's Representative. Install fasteners on maximum 2'-0" centers.

END OF SECTION

SECTION 26 0000

ELECTRICAL GENERAL REQUIREMENTS

PART 1 – GENERAL

1.01. SCOPE

1.02 Remove all wiring, outlets, and boxes. Rewire entire house per specifications.
- a. Existing House Panel Box is to remain.
- b. Service line to the house to remain.

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

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

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

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

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

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

G. Refer to Section 061000 for permitted size and location of holes and notches in joists and studs. Holes larger than 1" diameter need written permission from Architect.

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

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

J. Delivery / Storage / Handling:

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

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

PART 2 – PRODUCTS / MATERIALS

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

PART 3 – EXECUTION

A. Demolition: Refer to Division 01 Section "Cutting and Patching" and Division 02 Section "Selective Demolition" for general demolition requirements, procedures and allocation of responsibilities among the subcontractors.
1. Disconnect, demolish, and remove electrical systems, cable, rough-in boxes, devices, equipment, fixtures and components indicated to be removed, including underground utilities.
a. Existing to Remain: House main panel to remain. Do not disturb active services to Repair services to remain that are damaged by the Work around the main panel.
b. Inactive: When encountered, remove, then cap or plug.

2. Remove, relocate and extend existing services to accommodate new construction.
3. Repair adjacent construction and finishes damaged during demolition.
4. Provide temporary electrical services during construction for all contractors; Contractor shall coordinate with Utility Company to obtain temporary service. .

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

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

D. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway and cable penetrations. Install sleeves and seal raceway and cable

penetration sleeves with firestop materials complying with Section 07 84 13– Firestopping.

1. Install sleeves for penetrations of fire-rated wall assemblies unless openings that are compatible with firestop system are installed during construction of floor or wall.
2. Apply firestopping to electrical penetrations of fire-rated wall assemblies, to maintain the intended fire-resistance rating of assembly.

END OF SECTION

SECTION 260509

COMMON ELECTRIC WORK

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PART 1 GENERAL

1.01 QUALITY ASSURANCE

A. Qualifications: The persons performing the Work of this Section and their supervisor shall be personally experienced in electrical work and shall have been regularly performing such work for a minimum of 3 years.

B. UL Listing: Equipment and materials for which Underwriters' Laboratories, Inc. (UL) provides product listing service shall be listed and bear the listing mark.

C. Underwriter's Certificate: A New York Board of Fire Underwriters inspection or certificate is not required.

PART 2 PRODUCTS

2.01 MATERIALS

A. Raceways For Concealed Work: Rigid ferrous metal conduit, intermediate ferrous metal conduit, or electrical metallic tubing.
B. Raceways For Exposed Work: Mono-System Inc.'s, Wiremold Co.'s, or , Thomas & Betts Corp.'s surface metal raceway systems.
C. Underfloor conduit: 1" PVC.
C. Conductors: Copper, insulated with Type FEP, THHN, THW, THW-2, THWN, THWN-2, XHH, XHHW, XHHW-2 insulation rated 600 volts.
D. Wiring: For all power branch circuits: Install conductors of size shown on drawings. Where size is not indicated, the minimum size allowed is No. 12 AWG.

2.03 CONVENIENCE OUTLETS AND SWITCHES.

A. Convenience outlets and switches:
   1. Standard wall outlets: Duplex or fouplex outlets. Equal to Eaton Ivory 20 amp duplex tamper resistant outlet. Outlet shall comply with 2014 NEC article 406.12.
      a. Equal: Pass & Seymour Tamper resistant outlets.
      b. Plastic boxes with ivory plastic wall plates. Equal to: Kyle. Duplex Receptacle and convenience switches. . Color: Almond

2.06 SMOKE / CARBON MONOXIDE DETECTORS

A. See also Section 0283100

2.05 ELECTRICAL RUNS - GENERAL

A. Provide and install new electric runs for new convenience outlets as shown.
   1. Install per Residential Building Code of NY. 2020 Edition.
   2. Provide new convenience outlets shown on drawings.
      a) Provide convenience outlets shown on drawings.
      b) GFCI outlets at Kitchen Countertop, and in Bathroom.
      c) Electric turn of convenience switch at new gas furnace.

2.05 ARC FAULT PROTECTION.

1. For each circuit, provide a GFCI circuit breaker at the electrical panel for each circuit.
2. The first receptacle of each kitchen circuit must be an arc-fault circuit interrupter outlet, and it should be marked to indicate that it is the first outlet on the circuit. The rest of the receptacles in that circuit can be standard receptacles.

PART 3 EXECUTION

3.01 PREPARATION

A. Remove all existing exposed raceways, cables, outlet boxes, etc., superseded by the Work of this contract whether shown on the drawings or not. Provide blank covers on abandoned recessed boxes.

3.02 INSTALLATION

A. Install the Work in accordance with the requirements of NFPA 70 - National Electrical Code.

END OF SECTION

SECTION 26 05 19

LOW-VOLTAGE ELECTRICAL

PART 1 – GENERAL

A. POWER CONDUCTORS & CABLES
1. Building wires, cables, connectors, outlets, splices and terminations rated 600 V and less.

B. Reference Standards (Latest editions, herein made a part of these specifications)
1. ANSI/NECA/AA 104-2006 Standard for Installing Aluminum Building Wire and Cable
2. ANSI/NECA 120-2006 Standard for Installing Armored Cable (Type AC) and Metal-Clad
3. Cable (Type MC) ANSI/NECA 121-2007 Standard for Installing Nonmetallic-Sheathed
4. Cable (Type NM) and Underground Feeder and Branch-Circuit Cable (Type UF)
5. ANSI/NETA ATS-2013 Standard for Acceptance Testing Specifications for Electrical Power Equipment and Systems

C. Related Work Specified Elsewhere: Section 26 00 00 – Electrical Common Requirements

D. Submittals: Submit product data in accordance with Section 01 33 00.
1. Product Data: For each type of product indicated.

E. Delivery / Storage / Handling: Store materials in a secure, protected location immediately upon delivery to project.

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

PART 2 – PRODUCTS / MATERIALS

A. Conductors and Cables:
1. Aluminum and Copper Conductors: Comply with NEMA WC 70. Conductor sizes #8 and larger shall be stranded. Comply with ASTM B-3, B-8 and B-174, and UL-62.
2. Conductor Insulation: Comply with NEMA WC 70 for Types THW, THHN-THWN UF and USE
3. Multi-conductor Cable: Comply with NEMA WC 70 for armored cable, Type AC, metal-clad cable, Type MC, Type NM nonmetallic-sheathed cable, and Type E with ground wire.
   a. Non-metallic sheathed cable: Type NM (romex) conforming to UL Std 719. Use where allowed by code.
   b. Electrical Metallic Tubing (EMT): Mild steel, electro-galvanized, conforming to UL Std 797.
   c.. Flexible conduit: spirally wound, interlocking zinc coated strip steel conforming to UL Std.
4. Conductor Material Applications:
   a. Feeder cables: Copper for feeders smaller than #4 AWG; copper or aluminum for feeders #4 AWG and larger. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.
   b. Branch Circuits: Copper. Solid for #10 AWG and smaller; stranded for #8 AWG and larger.
5. Low-Voltage Control Cable: Paired Cable: NFPA 70 Type CMG, one pair twisted, #16 stranded (19x29) or #18 AWG stranded (19x30) tinned-copper conductors, as scheduled. Unshielded PVC insulation with PVC jacket. Flame Resistance complying with UL 1581.

6. Single Line Telephone System Cable: 24 AWG, 4 conductor telephone wire, thermoplastic insulated general-purpose communication / single line telephone station wire. Soft annealed solid copper per ASTM B3-90. Fire resistant PVC jacket. UL444; NEC Article 725 Type CM. UL444; NEC Article 725 Type CM.
7. Coaxial Cable for CATV: RG6 Quad Shield Cable - 3 GHz ; meeting UL and specifications for CM / CL2 (flammability test) installations # UL1581, UL1655, UL13, UL444, UL1424; Belden #7916A or equivalent product. Center Conductor: 18 AWG solid copper Dielectric: Foam Polyethylene 0.180" nominal diameter Inner Shield: 0.003" aluminum foil tape with 34 AWG aluminum wire braid, 60% coverage, 0.212" nominal diameter Outer Shield: 0.002" aluminum foil tape with 34 AWG aluminum wire braid, 40% coverage, 0.232" nominal diameter Jacket: FR-PVC; 0.033" thick Electrical properties: Spark Test: 4000 VAC Dielectric Strength: to shield 2500 VDC Capacitance: 16.0 pF/ft, nominal Impedance: 75.0 ± 3.0 ohms

B. Interior circuit wiring: NM non-metallic sheathed cable, insulated solid copper conductors with a ground wire. Romex brand or equal. Size wire per circuit load as required by NEC.
1. Power circuits (20A): non-metallic outer sheathing, 2-conductor #12 plus ground.
2. Lighting circuits (15A): non-metallic outer sheathing, 2-conductor #14 plus ground.
3. Dedicated and Kitchen circuits (20A): non-metallic outer sheathing, 2-conductor #12 minimum, plus ground.
4. Electric Range circuit (50A): non-metallic outer sheathing, 3-conductor #6 plus ground.
5. Electric Dryer circuit (30A): non-metallic outer sheathing, 3-conductor #10 plus ground.
6. Doorbell: 2-conductor #18 insulated solid copper wire in non-metallic sheath.
7. Thermostat: 5-conductor #18 insulated solid copper wire in non-metallic sheath.
8. Telephone: 4-conductor #24 insulated solid copper wire in non-metallic sheath.
9. Television cable: single conductor, double shielded RG6, 75-ohm, 2200 MHZ cable.

C. Connectors and Splices: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.
1. Coaxial Fittings and Accessories:
   a. Compression Connectors: Thomas and Betts #SNS1P6U 'Ultimate Snap-NSeal' RG6 compression connector or equivalent product.
   b. Ground Blocks: single and dual as required; Gold anodized; Thomas & Betts LRC Coax Ground Blocks or equivalent product.
   c. RF Splitters: 3GHz Rated; SCTE compliant; DC Power Pass on 1 Port; RFI Shielding > - 120dB; 5MHz to 3000MHz; Suttle H3S2, H3S3, H3S4 as required, or equivalent product.

D. Cable Support:
1. Steel metal staples: 3-conductor 9/16" wide × 1⅛" long for 14/3, 12/3 NS 10/3; 1/2" wide × 1⅛" long for 14/2, 12/2 and 10/2 Romex and NM cables for fastening Romex and non-metallic cable to wood
2. Metal Insulated Cable Staples: Plastic insulator protected type to prevent arc faults, if required by code.
3. Cable Strap Anchors: Galvanized steel or PVC insulator type, as allowed by code.

E. Cable TV Service

1. Install exterior Cable TV Box equal to: TayMac. Model MX7200 Mfr. Part #**:** MX7200. Locate on house near service drop provider cable TV company.

2. Provide 1" empty PVC conduit to the Living Room and Three bedrooms to a cable TV outlet. Conduit shall have a maximum radius of 12", or provide Flex Conduit.

3. Install cable TV/ box equal to: IBL-15A Power Outlet, 2 Port HDMI, 1 Cat6 Ethernet, 1 Coax Cable TV Wall Plate. Power to convenience oulet.

4. Do not run coaxial cable. Provide a pull string for each line to run cable at a later date.

PART 3 – EXECUTION

A. Installation: Include all cabling, supports, connectors, splitters termination boards for a complete and functional installation.
1. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.
2. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
3. Conduits:
a. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
b. Use pulling means; including fish tape, cable, rope, and basket weave wire/cable grips that will not damage cables or raceway.
4. Support cables and conduit according to code requirements.
5. Tighten electrical connectors and terminals according to manufacturer's published torque tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
6. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than non-spliced conductors.
a.. Use oxide inhibitor in each splice and tap conductor for aluminum conductors.
7. Wiring to panels, equipment, and rough-in boxes: Install conductor at each outlet, with at least 6" of slack. Install conductors at panel boards with at least 18" of slack.

B. Install sleeves and firestopping where required under Section 26 00 00 – Electrical Common Requirements.

C. Tests and Inspections:
1. After installing conductors and cables and before electrical circuitry has been energized, test service entrance and feeder conductors, and services for compliance with requirements.
2. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
3. Remove and replace malfunctioning units and retest as specified above.

SECTION 260519

LOW-VOLTAGE ELECTRICAL

END OF SECTION

SECTION 26 0526

GROUNDING AND BONDING

PART 1 – GENERAL

A. This Section Includes:
1. Grounding systems and equipment.

B. Reference Standards (Latest editions, herein made a part of these specifications)
UL 467 Grounding and Bonding Equipment. NEC Article 250 Grounding and Bonding NECA 331-2004 Standard for Building and Service Entrance Grounding and Bonding

C. Related Work Specified Elsewhere:
1. Section 2600 00 – Electrical Common Requirements
2. Section 260519 - Wiring General

D. Submittals: Submit product data in accordance with Section 01 33 00.
1. Product Data: For each type of product indicated.

E. Warranty: Refer to Section 017836 – Warranties.

PART 2 – PRODUCTS / MATERIALS

A. Conductors:
1. Insulated Conductors: Copper or tinned-copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.
2. Bare Copper Conductors:
   a. Solid Conductors: ASTM B 3.
   b. Stranded Conductors: ASTM B 8.
   c. Tinned Conductors: ASTM B 33.
   d. Bonding Cable: 28 kcmil, 14 strands of #17 AWG conductor, 1/4" in diameter.
   e. Bonding Conductor: #4 or #6 AWG, stranded conductor.
   f. Bonding Jumper: Copper tape, braided conductors terminated with copper ferrules; 1⅝" wide and 1/16" thick.
   g. Tinned Bonding Jumper: Tinned-copper tape, braided conductors terminated with copper ferrules; 1⅝" wide and 1/16" thick.
3. Use: Solid conductor for #10 AWG and smaller; stranded conductors for #8 AWG and larger, unless otherwise indicated. Underground Grounding Conductors: bare tinned-copper conductor, #1/0 AWG minimum.
4. Isolated Grounding Conductors: Green-colored insulation with continuous yellow stripe. Isolated Grounding on Feeders: Alternating bands of green and yellow tape, with at least three bands of green and two bands of yellow.

B. Connectors:
1. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.
2. Bolted Connectors for Conductors and Pipes: Copper or copper alloy, pressure type with at least two bolts; clamp type, sized for pipe. Use for:
   a. Pipe and equipment grounding conductor terminations.
   b. Connections to ground rods .

C. Ground Rods: Zinc-coated steel; 5/8" diameter, 8 feet long or as required by local governing code.

PART 3 – EXECUTION

A. General: Comply with UL 467 for grounding and bonding materials and equipment.

B. Equipment Grounding:
1. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
   a. Feeders and branch circuits.
   b. Lighting circuits.
   c. Receptacle circuits.
   d. Single-phase motor and appliance branch circuits.
   e. Armored and metal-clad cable runs.
   f. Telephone circuits.
   g. CATV circuits.

C. Installation:
1. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
2. Ground Rods: Drive rods until tops are 2 inches below finished floor or final grade unless otherwise indicated.
   a. Ground rods with grounding electrode conductor below grade and as otherwise indicated. Make connections without exposing steel or damaging coating if any.
   b. For grounding electrode system, install at least 2 rods spaced at least one-rod length from each other and located at least the same distance from other grounding electrodes, and connect to the service grounding electrode conductor.
3. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.
   a. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
   b. Use exothermic-welded connectors for outdoor locations; if a disconnect-type connection is required, use a bolted clamp.
4. Grounding and Bonding for Piping:
   a. Metal Water Service Pipe: Install insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes; use a bolted clamp connector or bolt a lug-type connector to a pipe flange using one of the lug bolts of the flange.
   b. Where a dielectric main water fitting is installed, connect grounding conductor on street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
   c. Water meter piping: Use insulated copper conductor bonding jumpers to electrically bypass water meters. Connect to pipe with a bolted connector.
5. Bonding Interior Metal Ducts: Bond metal air ducts to equipment grounding conductors of associated fans, blowers, electric heaters, and air cleaners. Install bonding jumper to bond across flexible duct connections to achieve continuity.

SECTION 260526

GROUNDING AND BONDING

D. Field Quality Control

1. Perform the following tests and inspections and prepare test reports:
   a. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
   b. Inspect physical and mechanical condition. Verify tightness of accessible, bolted, electrical connections with a calibrated torque wrench according to manufacturer's written instructions.
   c. Test completed grounding system at each location where a maximum groundresistance level is specified, at service disconnect enclosure grounding terminal. Make tests at ground rods before any conductors are connected.
2. Report measured ground resistances that exceed the following values:
   a. Power and Lighting Equipment or System with Capacity of 500 kVA and less: 10 ohms.
3. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Architect promptly and include recommendations to reduce ground resistance

END OF SECTION

SECTION 26 27 13

ELECTRICITY METERING

PART 1 – GENERAL

A. This section includes:
1. New Electricity-metering equipment.
2. Electricity meter.
3. Riser and weather head.
4. Payment of all utility charges.

B. Reference Standards (Latest editions, herein made a part of these specifications)
NFPA 70 (NEC) National Electrical Code Utility Company Requirements for Installation of Electric Services & Meters.

C. Related Work Specified Elsewhere:
1. Section 26 05 19 – Low-Voltage Electrical Power Conductors and
2. Cables Section 26 24 26 – Panel boards (Disconnects)

D. Submittals: Submit product data in accordance with Section 01 33 00.
1. Product Data for electricity-metering equipment.

E. Delivery / Storage / Handling: Receive, store, and handle metering equipment according to NECA 400.

F. Coordination: Coordinate with utility company to arrange for service changes. Comply with utility company's regulations and requirements.

G. Quality Assurance: Electrical components, devices, and accessories shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

H. Warranty: Contractor's Warranty: Refer to Section 01 78 36 – Warranties.

PART 2 – PRODUCTS / MATERIALS

A. Electric Meter Service Panel: New 200 Amp / 2-position, 4-terminal ringless single phase, 3-wire overhead/underground, center wireway with closing plate, NEMA 3R enclosure; hub on top and watertight connections; extruded aluminum tin plated connectors; 5/16"×1" aluminum bussing. Size: 26½"W×14"H×5-1/8"D.
1. Manufacturer/Product: Milbank Mfg #U1252-R-KK, or equivalent product conforming to Utility Company requirements.

B. Riser and Weather head: 2-inch minimum, galvanized or gray electrical PVC schedule 80, meeting utility company's requirements.

SECTION 262713

ELECTRICITY METERING

PART 3 – EXECUTION

A. Comply with utility company requirements for equipment installation.

B. Mount panels securely to backer board.

C. Riser shall extend from weather head to meter base.
1. Provide 3-inch galvanized conduit required if mast extends more than 42 inches above roof. Guying required if over 72 inches.
2. When pipe riser is 10 feet in length or less, no coupling is permitted.
3. When pipe riser is longer than 10 feet, coupling shall be installed at joint closest to meter socket.
4. Pipe straps (3 minimum) shall be installed at uniform intervals to secure conduit to structure. Pipe strap lag bolts shall go into wall studs and/or sound structural members.

D. Ground according to NYS Residential Code.

E. Test installation according to utility company's requirements. Electricity metering will be considered defective if it does not pass tests and inspections.

END OF SECTION

SECTION 262726

WIRING DEVICES

PART 1 – GENERAL

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

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

C. Related Work Specified Elsewhere:
1. Section 26 00 00 – Electrical Common Requirements
2. Section 26 05 26 – Conductors and Cables
3. Section 26 05 33 – Raceways & Boxes for Electrical Systems

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

PART 2 – PRODUCTS / MATERIALS

A. Basis of design: Leviton Residential ProGrade. Equivalent products from the following manufacturers are acceptable as substitutions under Section 01 33 00.
1. Cooper Wiring Devices; Division of Cooper Industries, Inc. (Cooper).
2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
3. Pass & Seymour/Legrand (Pass & Seymour).

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

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

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

E. **GFCI Receptacles**: Tamper-resistant duplex, straight blade, feed-through type, 125 V, 20 A complying with NEMA WD 1, NEMA WD 6, UL 498, UL 943 Class A, and FS W-C-596. Selftesting type with indicator light that shows when the GFCI has malfunctioned and no longer provides proper GFCI protection, and trip indicator light.

1. Acceptable products:
   a. Leviton #GTR1-I
   b. Or equivalent product considered as substitutions under Section 01.33.00 by one of the following:
   - Pass & Seymour
   - Hubbell
   - Cooper

F. WP exterior outlets. Exterior outlets WP equal to:

1. Electrical Outlets: 15 Amp 125-Volt Duplex Self-Test Tamper Resistant/Weather Resistant GFCI Outlet, White. Duplex outlet cover – WP equal to Hubbell Killark: Model FCLA 2.

G. Electric Dryer Receptacle (recessed flush-mount) See also Section 13450 Laundry Equipment of this specification: 125/250V 30A, NEMA 14-30R; 3-pole 4-wire flush mount receptacle, straight blade, industrial grade, grounding, side wired; matching cover plate; 10 Year warranty.

1. Acceptable products:
   a. Leviton #278
   b. Cooper #1257
   c. Hubbell #HBL9430A
   d. Pass & Seymour #3864-CC6

H. **Telephone Outlet**: Flush mount phone wall plate with single RJ-45 jack for terminating 100-ohm, balanced, four-pair UTP; TIA/EIA-568-B.1; complying with Category 5e. Comply with UL 1863. Acceptable products: Leviton #C0249 or approved equal. 3 required.

I. **Cable Television (CATV) Outlet**: Flush mount wall plate with single F-connector twiston wall jack, for terminating 75-ohm shielded coaxial cable.

a. Acceptable products: Leviton # C5256 or approved equal.
b. Place 4 outlets in locations shown on plans

J. **Toggle Switches**: 120/277 V, 20 A complying with NEMA WD 1, UL 20, and FS W-S-896.

1. Acceptable products:
   a. Leviton #CSB1 #CSB3 #CSB4
   b. Or equivalent product considered as substitutions under Section 01.33.00 by one of the following:
   - Pass & Seymour

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

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

PART 3 – EXECUTION

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

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

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

D. Device Installation: Wire in accordance with NFPA 70.
1. Replace devices that have been in temporary use during construction and that were installed before building finishing operations were complete.
2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
4. Pigtails shall be same AWG as conductors.
5. Use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, two- thirds to three-fourths of the way around terminal screw. Tighten all terminal screws on the device.
6. When mounting into metal boxes, remove the fiber or plastic washers used to hold device- mounting screws in yokes, allowing metal-to-metal contact.

E. GFCI Receptacles: Install feed-through-type GFCI receptacles where protection of downstream receptacles is required.

F. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top and on horizontally mounted receptacles to the right. Group adjacent switches under single, multi-gang wall plates.

G. Quality Control Field Testing: Perform diagnostic tests, to locate damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new ones, and retest as specified below.
   1. Test Instruments: Use instruments that comply with UL 1436.
   2. Test Instrument for Convenience Receptacles: Digital wiring analyzer with digital readout or illuminated digital-display indicators of measurement.
   3. Tests for Convenience Receptacles:
      a. Line Voltage: Acceptable range is 105 to 132 V.
      b. Percent Voltage Drop under 15-A Load: less than 6% is acceptable.
      c. Ground Impedance: Values of up to 2 ohms are acceptable.
      d. GFCI Trip: Test for tripping values specified in UL 1436 and UL 943.
      e. Using the test plug, verify that the device and its outlet box are securely mounted.
   4. Wiring device will be considered defective if it does not pass tests and inspections.
   5. Record test and inspection results and submit to Architect for review.

END OF SECTION

SECTION 26 27 73

DOOR CHIMES

PART 1 – GENERAL

A. This section includes:
1. Door chimes, push button activators and wiring for new rear door.

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

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

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

PART 2 – PRODUCTS / MATERIALS

A. Basis of design: Heath Zenith # SL-27102 Wired Doorbell Kit, or equivalent product. Equivalent products will be considered as substitutions under Section 01 33 00.

B. Components:
1. Chimes: 2-zone, 2-note mechanical chime, 24VAC; Sound Options: Ding-Dong, Ding Sound Decibel: 95 Decibel Max
2. Cover: molded white plastic, 7¼"W×2"D×4"H.
3. Momentary switches: surface mounted, molded white plastic, ⅞"W×¾"D×2⅞"H. (1) Lighted Push Button #SL-715-1; (1) Unlighted Push Button #S-715-1
4. Power transformer: #SL-122; lock nut type; Input 120VAC; Output 16VAC-10VA; UL listed, FCC and IC Certified.
5. Conductors specified under Section 26 05 19.

PART 3 – EXECUTION

A. Install according to manufacturer's printed recommendations.

B. Run wiring concealed in walls and floor.

END OF SECTION

SECTION 265190

LIGHT FIXTURES

PART 1 GENERAL

PART 1 – GENERAL

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

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

C. Related Work Specified Elsewhere:
1. Section 26 27 26 – Wiring Devices

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

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

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

PART 2 – PRODUCTS / MATERIALS

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

b. Lens Thickness: At least 0.125 inch minimum unless otherwise indicated.

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

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

PART 3 SUBMITTALS

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

PART 4 PRODUCTS

2.01 GENERAL

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

SECTION 265190

LIGHT FIXTURES

LIST of FIXTURES

Type A	Recessed can interior lighting – Equal to Equal to Lithonia Lighting Wafer Series 6 in.3000K/4000K/5000K Switchable White Integrated 1190 LM LED Canless Recessed Fixture.
Type B.	Undercounter task lighting: Under wall cabinet Strip Lighting. Equal to: Aspect LED trimmable strip lighting. Model Select 90 LED Strip Light - Static White. SKU: AL-SL-N90-24-6000-IP20-60. Color: Standard White. Provide all mounting hardware, power supply, convenience dimmer switch, and wiring.
Type C.	Light above kitchen sink. Equal to: Abrogast 1, by Greyleigh. Color: bronze.
Type D	Exterior: Front, Side and Back door: Progress Lighting. Progress Lighting Williamston 12" Tall Outdoor Wall Sconce. Model: P560264-020
Type E	Bedrooms : Equal to Dreo. Ceiling Fan CLF513. Color White. With remote controls.
Type F	Kitchen Ceiling (Kitchen Table), and Living Room. Equal to: Quoizel. Belotte 3 Light 15" Wide Semi-Flush Drum Ceiling Fixture Model: QFL6180BN.
Type G	Fluorescent basement light fixture: Equal to: Hubbell - Colombia LED Surface Mount Fixture, Lighting Technology LED, Nominal Length 24 in, Mfr. Model # LAW2-35LW-EDU. 4 required.
Type H	Bedroom closet lighting. Equal to: Progress lighting. Model # P7201-30WB. 2 required for bedroom closets.
Type I	Bathroom ceiling exhaust fans. Equal to: Broan. Model:AER80LWH. 80 CFM 0.8 Sone Ceiling Mounted Exhaust Fan with Round Flat Panel LED Light. See Section 233300 for fixture caps.
Type J	Attic light fixture. Equal to: TOPAZ VFI100W75CG 3/4" Ceiling Mount Vaporproof Fixture. Mount at peak of attic.

END OF SECTION

SECTION 28 31 00

FIRE DETECTION & ALARM

PART 1 – GENERAL

A. This section includes:
1. Interconnected smoke and carbon monoxide detectors.
2. Place Smoke/ CO detectors in locations as shown on drawings.

B. System Description: Provide interconnected single station smoke and carbon monoxide detecting alarms that will initiate a signal to all alarms when any one detector is initiated. Interconnection shall be provided by hardwired connection. Install system on unswitched power supply. Units shall have self-contained battery backup power.
1. Install smoke detector/alarms in every sleeping area in the residence.
2.. Install combination smoke and carbon monoxide detector/alarms outside of each sleeping area in the immediate vicinity of the bedrooms and at least one on every occupiable level of a dwelling unit including basement, but excluding attic as prescribed by Code.

C. Reference Standards (Latest editions, herein made a part of these specifications)
1. NFPA 72 National Fire Alarm.
2. NFPA 720 Standard For The Installation of Carbon Monoxide (Co) Detection & Warning Equipment.

D. Related Work Specified Elsewhere:
1. Section 26 05 19 – Low Voltage Electrical Power Conductors &

E. Submittals: Submit product data in accordance with Section 01 33 00.
1. Product Data on activation and warning features, sensors and alarms.

F. Delivery / Storage / Handling:
1. Store materials in secure, protected location immediately upon delivery to project.

G. Warranty: Manufacturer's ten (10) year limited warranty. Contractor's Warranty:
1. Refer to Section 01 78 36 – Warranties.

PART 2 – PRODUCTS / MATERIALS

A. Basis of design: Kidde "Worry Free" detectors/alarms or equivalent product. Equivalent products will be considered as substitutions under Section 013300.

B. Combination Smoke and CO detector and alarm: Kidde #i12010SCO Smoke alarm: Kidde #i12010S
1. Physical Characteristics:
a. Size: 5.5"diameter×1¾"D
b. Wiring: Quick connect plug with 6"pigtails Interconnects: Maximum 24 devices
c. Power Source: 120VAC, 60Hz 45mA/alarm with sealed lithium 10 year battery backup.

2. Performance Characteristics:
a. Smoke Sensor: Ionization type with nominal sensitivity of 0.50-1.22%/ft. CO Sensor: Electrochemical fuel cell design complying with UL2034sensitivity requirements.

Audio Alarm: 85dB at 10ft, 3 consecutive beeps, repeated at intervals Audible messages: "Fire!", "Warning Carbon Monoxide!"
warnings;

b. "Hush Mode Activated", "Hush Mode Cancelled" notifications.
c. Temperature Range: 40°F to 100°F
d. Humidity Range: 10%-95% relative humidity, non-condensing

PART 3 – EXECUTION

A. Install system components in compliance with manufacturer's printed recommendations and in accordance with NFPA 72.
1. Wiring installation: All conductors shall be solid copper, type THHN/THWN/TFN, of same gauge as the lighting circuit it is connected to. All wiring shall be run continuously from device to device.
2. Do not install detectors until after the construction clean-up of all trades is complete and final. Detectors that have been installed prior to final cleanup by all trades shall be cleaned to the satisfaction of the Owner, or replaced.

B. Detector Location Restrictions – Where Not to Install:
1. Do not install Smoke detectors in bathrooms with showers, or immediately adjacent intake/exhaust vents, or other areas where false or nuisance alarms may occur.
2. Locate Smoke detectors a minimum of 3 feet from all supply and return air diffusers and ceiling paddle fans.
3. Do not install in kitchen furnace rooms or bathrooms.
4. Do not install within 3 ft of supply and return air diffusers, the door to a kitchen or a bathroom that contains a tub or shower; forced air supply ducts used for heating or cooling; ceiling or whole house ventilating fans; or other high air movement areas.
5. Do not install within 5 ft of fuel burning appliances.
6. Do not install in excessively dusty, dirty or greasy areas.
7. Place the alarm where drapes or other objects will not block the sensor. Smoke must be able to reach the sensor to accurately detect these conditions. Do not install in peaks of vaulted ceilings, “A” frame ceilings or gabled roofs. Keep out of damp and humid areas.
8. Install at least one (1) foot away from fluorescent lights, electronic noise may cause nuisance alarms. **No part of the detector can be any closer than 4 inches from, and no further than 12 inches from, any adjacent wall or ceiling.**

C. System Testing: All communications shall be tested completely per NFPA 72.
1. Either the installing contractor or the fire alarm equipment supplier shall provide qualified personnel to perform the pre-test and the final acceptance test.
2. The Contractor will schedule the final fire alarm inspection with the local code official, only after the pre-test has been successfully completed.
3. The fire detection/alarm system shall be fully (100%) operational prior to acceptance and/or issuance of a certificate of occupancy.

END OF SECTION