

**SECTION 00 01 01
COVER PAGE**

**ASPEN VILLAS
APARTMENT REMODEL**

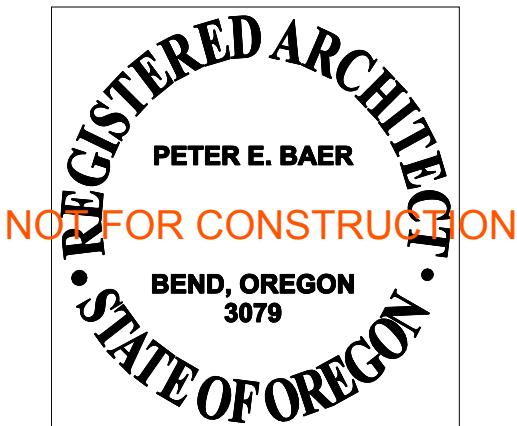
933 NW CANAL BLVD. REDMOND, OR 97756

ARCHITECT: PINNACLE ARCHITECTURE, INC.

OWNER: PAULINA PEAK PARTNERS LLC

CONTRACTOR: LMC CONSTRUCTION

DATE: 09/10/14



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SECTION 00 01 10
TABLE OF CONTENTS

PROCUREMENT AND CONTRACTING REQUIREMENTS

DIVISION 00 -- PROCUREMENT AND CONTRACTING REQUIREMENTS

- 00 01 01 - Project Title Page
- 00 01 10 - Table of Contents
- 00 52 00 - Agreement Form
- 00 72 00 - General Conditions

SPECIFICATIONS

DIVISION 01 -- GENERAL REQUIREMENTS

- 01 10 00 - Summary
- 01 21 00 - Allowances
- 01 30 00 - Administrative Requirements
- 01 31 14 - Project Management and Coordination
- 01 32 16 - Construction Progress Schedule
- 01 40 00 - Quality Requirements
- 01 50 00 - Temporary Facilities and Controls
- 01 51 00 - Temporary Utilities
- 01 52 13 - Field Offices and Sheds
- 01 60 00 - Product Requirements
- 01 70 00 - Execution and Closeout Requirements
- 01 74 19 - Construction Waste Management and Disposal
- 01 78 00 - Closeout Submittals

DIVISION 02 -- EXISTING CONDITIONS

- 02 41 00 - Demolition

DIVISION 03 -- CONCRETE

- 03 30 00 - Cast-in-Place Concrete

DIVISION 04 -- MASONRY (NOT USED)

DIVISION 05 -- METALS (NOT USED)

- 05 50 00 - Metal Fabrications
- 05 53 05 - Metal Gratings and Floor Plates

DIVISION 06 -- WOOD, PLASTICS, AND COMPOSITES

- 06 10 00 - Rough Carpentry
- 06 17 53 - Shop-Fabricated Wood Trusses
- 06 73 00 Composite Decking

DIVISION 07 -- THERMAL AND MOISTURE PROTECTION

- 07 21 00 - Thermal Insulation
- 07 25 00 - Weather Barriers
- 07 31 13 - Asphalt Shingles
- 07 46 46 - Fiber Cement Siding
- 07 90 05 - Joint Sealers

DIVISION 08 -- OPENINGS

- 08 16 13 - Fiberglass Doors
- 08 53 13 - Vinyl Windows
- 08 71 00 - Door Hardware

DIVISION 09 -- FINISHES

- 09 21 16 - Gypsum Board Assemblies
- 09 65 00 - Resilient Flooring
- 09 90 00 - Painting and Coating

DIVISION 10 -- SPECIALTIES

- 10 14 00 - Signage
- 10 28 00 - Toilet, Bath, and Laundry Accessories

DIVISION 11 -- EQUIPMENT (NOT USED)**DIVISION 12 -- FURNISHINGS (NOT USED)****DIVISION 13 -- SPECIAL CONSTRUCTION (NOT USED)****DIVISION 14 -- CONVEYING EQUIPMENT (NOT USED)****DIVISION 21 -- FIRE SUPPRESSION (NOT USED)****DIVISION 22 -- PLUMBING**

- 22 40 00 - Plumbing Fixtures

DIVISION 23 -- HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

- 23 81 13 - Packaged Terminal Heat Pumps

DIVISION 26 -- ELECTRICAL

- 26 51 00 - Interior Lighting

DIVISION 27 -- COMMUNICATIONS (NOT USED)**DIVISION 28 -- ELECTRONIC SAFETY AND SECURITY (NOT USED)****DIVISION 31 -- EARTHWORK (NOT USED)****DIVISION 32 -- EXTERIOR IMPROVEMENTS**

- 32 12 16 - Asphalt Paving
- 32 17 13 - Parking Bumpers
- 32 17 23.13 - Painted Pavement Markings
- 32 31 13 - Fences and Gates

DIVISION 33 -- UTILITIES (NOT USED)

END OF TABLE OF CONTENTS

**SECTION 00 52 00
AGREEMENT FORM**

PART 1 GENERAL

1.01 FORM OF AGREEMENT

- A. The Agreement to be executed is attached following this page.

1.02 RELATED REQUIREMENTS

- A. Section 00 72 00 - General Conditions.

END OF SECTION

**SECTION 00 72 00
GENERAL CONDITIONS**

1.01 FORM OF GENERAL CONDITIONS

A. The General Conditions applicable to this contract is attached following this page.

END OF SECTION

SECTION 01 10 00

SUMMARY

PART 1 GENERAL

1.01 PROJECT

- A. Project Name: Aspen Villas.
- B. Owner's Name: Paulina Peak Partners LLC.
- C. The Project consists of the alteration of existing apartment complex located in Redmond, OR.

1.02 DESCRIPTION OF ALTERATIONS WORK

- A. Aspen Villas Scope:
 - 1. As shown on drawings.

1.03 OWNER OCCUPANCY

- A. Owner intends to continue to occupy adjacent portions of the existing building during the entire construction period.
- B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- C. Schedule the Work to accommodate Owner occupancy.

END OF SECTION

SECTION 01 21 00
ALLOWANCES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Cash allowances.

1.02 ALLOWANCES SCHEDULE

- A. Building Signs: \$2,880
- B. Unit Signs: \$4,360
- C. Mechanical Permits: \$2,500
- D. Plumbing Permits: \$5,500
- E. Electrical Permits \$3,500
- F. Play structure: \$25,000
- G. Landscaping: \$25,000

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Progress photographs.
- B. Submittals for review, information, and project closeout.
- C. Number of copies of submittals.
- D. Submittal procedures.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROGRESS PHOTOGRAPHS

- A. Photograph work on a regular schedule. Photograph conflicts of work, progress, and finish. Make available upon request.
- B. Photography Type: Digital; electronic files.
- C. Digital Photographs: 24 bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.
 - 1. Delivery Medium: Via email or approved cloud sharing application.
 - 2. File Naming: Include project identification, date and time of view, and view identification.
 - 3. PDF File: Assemble all photos into printable pages in PDF format, with 2 to 3 photos per page, each photo labeled with file name; one PDF file per submittal.

3.02 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 - 1. Product data.
 - 2. Shop drawings.
 - 3. Samples for selection.
 - 4. Samples for verification.
- B. Submit to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
- C. Samples will be reviewed only for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - CLOSEOUT SUBMITTALS.

3.03 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 - 1. Design data.
 - 2. Certificates.
 - 3. Test reports.
 - 4. Inspection reports.
 - 5. Manufacturer's instructions.
 - 6. Manufacturer's field reports.
 - 7. Other types indicated.
- B. Submit for Architect's knowledge as contract administrator or for Owner. No action will be taken.

3.04 SUBMITTALS FOR PROJECT CLOSEOUT

- A. When the following are specified in individual sections, submit them at project closeout:
 - 1. Project record documents.
 - 2. Operation and maintenance data.

3. Warranties.
 4. Bonds.
 5. Other types as indicated.
- B. Submit for Owner's benefit during and after project completion.

3.05 NUMBER OF COPIES OF SUBMITTALS

- A. Documents for Review:
 1. Small Size Sheets, Not Larger Than 8-1/2 x 11 inches: submit electronic copy
 2. Larger Sheets, Not Larger Than 36 x 48 inches: submit electronic copy.
- B. Documents for Project Closeout: Make one reproduction of submittal originally reviewed. Submit one extra of submittals for information.
- C. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
 1. After review, produce duplicates.
 2. Retained samples will not be returned to Contractor unless specifically so stated.

3.06 SUBMITTAL PROCEDURES

- A. Transmit each submittal with a copy of approved submittal form.
- B. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
- C. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
- D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- E. Deliver submittals to Architect at business address.
- F. Schedule submittals to expedite the Project, and coordinate submission of related items.
- G. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
- H. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
- I. Provide space for Contractor and Architect review stamps.
- J. When revised for resubmission, identify all changes made since previous submission.
- K. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- L. Submittals not requested will not be recognized or processed.

END OF SECTION

SECTION 01 31 14
PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.01 COORDINATION

This work is being done at a fully occupied apartment complex. Contractor shall prosecute the work in a manner which minimizes disruption of the tenants who are occupying apartments in the complex and in a manner which minimizes interference with walkways, parking areas and common areas. Contractor shall endeavor to minimize noise and shall promptly remove construction debris and refuse from the job site. All walkways and other areas provided for tenants shall be kept in a condition safe for tenant use, and if the work does not permit such safe use, the walkway or other area shall be closed until such time as the same can be used safely.

Contractor shall carefully coordinate his work with the onsite manager, the project Architect, and the Owner to assure that disruption of the daily operation of the complex is minimized. The Contractor shall furnish a proposed schedule of operations to all parties, including tenants, and regularly update them of any changes.

The Owner will also be performing project upgrades on the project site with their own personnel at the same time the Contractor is working. The Contractor shall cooperate with the Owners personnel and coordinate his work schedule with theirs.

1.02 ADMINISTRATION PROCEDURES

- A. Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 1. Preparation of Contractor's Construction Schedule.
 2. Installation and removal of temporary facilities and controls.
 3. Delivery and processing of submittals.
 4. Progress meetings.
 5. Project closeout activities.

1.03 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. Assign a full-time Project Superintendent and other administrative and / or supervisory personnel as may be required for proper performance of the Work. The Superintendent shall be:
 1. Present at all times work is in progress on the site
 2. Experienced in administration and supervision of building construction, including mechanical and electrical work
 3. The Contractor's designated officer whose responsibilities shall include construction means, methods, techniques, scheduling, sequences or procedures of the work, safety precautions and programs in connection with the work.
- B. The Superintendent shall act as general coordinator of interfaces between units of work.
- C. For the purposes of this provision, "interface" is defined to include coordinating:
 1. Subcontractor access to work spaces and storage spaces
 2. Order and procedures of subcontractors work to avoid conflict
 3. Subcontractor cutting and patching
 4. Timely notification and arranging for inspections and tests including Special Inspections and Testing by third party agencies as well as those of the Authorities Having Jurisdiction
 5. Construction activity with Owner activity and occupancy

6. Daily and final clean up.

1.04 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within 3 days of the meeting.
- B. Preconstruction Conference: A preconstruction conference will be scheduled by contractor at a time convenient to Owner and Architect no later than 15 days after execution of the Agreement. The conference will be held at the Project site or another convenient location. During the meeting time will be allocated to the Contractor to review Contractor and Subcontractor responsibilities and personnel assignments.
 1. Attendees: Authorized representatives of Owner, and their consultants; Contractor and Contractor's superintendent. All participants at the conference shall be familiar with Project and be authorized to conclude matters relating to the Work on behalf of the entities they represent.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing.
 - d. Designation of responsible personnel.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for processing Applications for Payment.
 - g. Distribution of the Contract Documents.
 - h. Submittal procedures.
 - i. Preparation of Record Documents.
 - j. Use of the premises.
 - k. Safety
 - l. First aid.
 - m. Security.
 - n. Responsibility for temporary facilities and controls.
 - o. Parking availability.
 - p. Office, work, and storage areas.
 - q. Equipment deliveries and priorities.
 - r. Progress cleaning.
 - s. Working hours.
- C. Progress Meetings: Conduct progress meetings at monthly intervals. Coordinate dates of meetings with preparation of payment applications.
 1. Attendees: in addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized in conclude matters relating to the Work.
 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for

- discussion as appropriate to status of Project.
- a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Change Orders.
 - 14) Documentation of information for payment applications.
 3. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.
 - a. Schedule Updating: Where revisions to the schedule have been made or recognized, revise Contractor's Construction Schedule after each progress meeting. Issue revised schedule concurrently with the report of each meeting.

END OF SECTION

SECTION 01 32 16
CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preliminary schedule.
- B. Construction progress schedule, bar chart type.

1.02 RELATED SECTIONS

- A. Section 01 10 00 - Summary: Work sequence.

1.03 SUBMITTALS

- A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.
- B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- C. Within 10 days after joint review, submit complete schedule.
- D. Submit updated schedule with each Application for Payment.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRELIMINARY SCHEDULE

- A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.02 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by specification section number.
- C. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
- D. Provide legend for symbols and abbreviations used.
- E. Provide minimum 30 day notice to tenants that will be temporarily dislodged.

3.03 BAR CHARTS

- A. Include a separate bar for each major portion of Work or operation.
- B. Identify the first work day of each week.

3.04 UPDATING SCHEDULE

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- C. Annotate diagrams to graphically depict current status of Work.
- D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- E. Indicate changes required to maintain Date of Substantial Completion.
- F. Submit reports required to support recommended changes.

3.05 DISTRIBUTION OF SCHEDULE

- A. Distribute copies of updated schedules to Contractor's project site file, to Subcontractors, suppliers, Architect, Owner, and other concerned parties.

- B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

END OF SECTION

SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. References and standards.
- B. Mock-ups.
- C. Control of installation.

1.02 SUBMITTALS

- A. Testing Agency Qualifications:
 - 1. Prior to start of Work, submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.
- B. Test Reports: After each test/inspection, promptly submit electronic copies of report to Architect and to Contractor.
 - 1. Include:
 - a. Date issued.
 - b. Project title and number.
 - c. Name of inspector.
 - d. Date and time of sampling or inspection.
 - e. Identification of product and specifications section.
 - f. Location in the Project.
 - g. Type of test/inspection.
 - h. Date of test/inspection.
 - i. Results of test/inspection.
 - j. Conformance with Contract Documents.
 - k. When requested by Architect, provide interpretation of results.
 - 2. Test report submittals are for Architect's knowledge as contract administrator for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents, or for Owner's information.

1.03 REFERENCES AND STANDARDS

- A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
- C. Obtain copies of standards where required by product specification sections.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.
- F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Have Work performed by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 MOCK-UPS

- A. Tests will be performed under provisions identified in this section and identified in the respective product specification sections.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- C. Accepted mock-ups shall be a comparison standard for the remaining Work.
- D. Where mock-up has been accepted by Architect and is specified in product specification sections to be removed, remove mock-up and clear area when directed to do so.

3.03 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not conforming to specified requirements.
- B. If, in the opinion of Architect, it is not practical to remove and replace the Work, Architect will direct an appropriate remedy or adjust payment.

3.04 TESTING

- A. Testing in this section to be paid for by Owner.
- B. Schedule
 - 1. All Testing and Special Inspection required for the Work of this Project including that required by the Authorities Having Jurisdiction.
 - 2. Welding as required by AWS and O.S.S.C.
 - 3. Concrete as specified in Section 03 30 00 Cast in Place Concrete.
 - 4. Compaction at new earthwork fills and subgrades as shown on Civil Drawings.

END OF SECTION

SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary telecommunications services.
- B. Temporary sanitary facilities.
- C. Project identification sign.

1.02 TEMPORARY UTILITIES - SEE SECTION 01 51 00

- A. General Contractor to provide and pay for all electrical power, lighting, water, heating and cooling, and ventilation required for construction purposes.

1.03 TELECOMMUNICATIONS SERVICES

- A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.
- B. Telecommunications services shall include:
 - 1. Windows-based personal computer dedicated to project telecommunications, with necessary software and laser printer.
 - 2. Internet Connections: Minimum of one; DSL modem or faster.
 - 3. Facsimile Service: Minimum of one dedicated fax machine/printer, with dedicated phone line.
 - 4. Wireless system is acceptable.

1.04 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Maintain daily in clean and sanitary condition.

1.05 PROJECT IDENTIFICATION

- A. Provide project identification sign of design and construction indicated on USDA RD requirements.
- B. Contractor responsible for installing signs of owner, architect and contractor on pressure treated posts with plywood backing.
- C. Contractor to reimburse owner of sign if damaged during construction period.

1.06 FIELD OFFICES - SEE SECTION 01 52 13

- A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack and drawing display table. Locate office onsite and in construction prep area. Area to be determined onsite and at pre-construction meeting.

1.07 PARKING

- A. Vehicles not directly involved in day to day operations to be parked on street.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 51 00
TEMPORARY UTILITIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary Utilities: Electricity and water.

1.02 RELATED REQUIREMENTS

- A. Section 01 50 00 - Temporary Facilities and Controls:

1.03 TEMPORARY ELECTRICITY

- A. Cost: By Contractor.
- B. Connect to Owner's existing power service.
 - 1. Do not disrupt Owner's need for continuous service.
 - 2. Exercise measures to conserve energy.
- C. Provide temporary electric feeder from existing building electrical service at location as needed.
- D. Complement existing power service capacity and characteristics as required.
- E. Provide power outlets for construction operations, with branch wiring and distribution boxes located at each floor. Provide flexible power cords as required.
- F. Provide main service disconnect and over-current protection at convenient location and meter.
- G. Permanent convenience receptacles may be utilized during construction.
- H. Provide adequate distribution equipment, wiring, and outlets to provide single phase branch circuits for power and lighting.

1.04 TEMPORARY WATER SERVICE

- A. Cost of Water Used: By Contractor.
- B. Connect to existing water source.
 - 1. Exercise measures to conserve water.
 - 2. Provide separate metering and reimburse Owner for cost of water used.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 52 13
FIELD OFFICES AND SHEDS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary field offices for use of Contractor.

PART 2 PRODUCTS

2.01 MATERIALS, EQUIPMENT, FURNISHINGS

- A. Materials, Equipment, Furnishings: Serviceable, new or used, adequate for required purpose.

2.02 CONSTRUCTION

- A. Portable or mobile buildings, or buildings constructed with floors raised above ground, securely fixed to foundations, with steps and landings at entrance doors.
- B. Lighting for Offices: 50 fc at desk top height, exterior lighting at entrance doors.
- C. Fire Extinguishers: Appropriate type fire extinguisher at each office.

2.03 CONTRACTOR OFFICE AND FACILITIES

- A. Size: For Contractor's needs and to provide space for project meetings.
- B. Telephone: As specified in Section 01 50 00.
- C. Furnishings in Meeting Area: Conference table and chairs to seat at least eight persons; racks and files for Contract Documents, submittals, and project record documents.
- D. Other Furnishings: Contractor's option.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install office spaces ready for occupancy 15 days after date fixed in Notice to Proceed.

3.02 MAINTENANCE AND CLEANING

- A. Maintain approach walks free of mud, water, and snow.

3.03 REMOVAL

- A. At completion of Work remove buildings, foundations, utility services, and debris. Restore areas.

END OF SECTION

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General product requirements.
- B. Re-use of existing products.
- C. Transportation, handling, storage and protection.
- D. Product option requirements.
- E. Substitution limitations and procedures.
- F. Procedures for Owner-supplied products.
- G. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

- A. Section 01 40 00 - Quality Requirements: Product quality monitoring.

1.03 SUBMITTALS

- A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

- A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.
- B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.
- C. Reused Products: Reused products include materials and equipment previously used in this or other construction, salvaged and refurbished as specified.

2.02 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by the Contract Documents.
- B. DO NOT USE products having any of the following characteristics:
 - 1. Made using or containing CFC's or HCFC's.
- C. Where all other criteria are met, Contractor shall give preference to products that:
 - 1. Have longer documented life span under normal use.
 - 2. Result in less construction waste.
- D. Urea-Formaldehyde Prohibition:
 - 1. Overall Project Requirement: Provide composite wood and agrifiber products having no added urea-formaldehyde resins.
 - a. Require each installer to certify compliance and submit product data showing product content.
 - 2. Specific Product Categories: Comply with limitations specified elsewhere.
- E. Adhesives and Joint Sealants:

1. Provide only products having lower volatile organic compound (VOC) content than required by South Coast Air Quality Management District Rule No.1168.
 - a. Require each installer to certify compliance and submit product data showing product content.
2. Specific Product Categories: Comply with limitations specified elsewhere.

F. Aerosol Adhesives:

1. Provide only products having lower volatile organic compound (VOC) content than required by GreenSeal GS-36.

2.03 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification section.
- B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

- A. Instructions to Bidders specify time restrictions for submitting requests for substitutions during the bidding period. Comply with requirements specified in this section.
- B. Architect will consider requests for substitutions only within 15 days after date of Agreement. Substitutions will not be accepted after this time unless product has been discontinued.
- C. A request for substitution constitutes a representation that the submitter:
 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
 2. Will provide the same warranty for the substitution as for the specified product.
 3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
 - a. If work requires Architect redesign, compensation for such work will be afforded to Architect by General Contractor.
 4. Waives claims for additional costs or time extension that may subsequently become apparent.
 5. Will reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.
- D. Substitution Submittal Procedure:
 1. Submit one copy of request for substitution for consideration. Limit each request to one proposed substitution. Use CSI standard form.
 2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
 3. The Architect will notify Contractor in writing of decision to accept or reject request.

3.02 OWNER-SUPPLIED PRODUCTS

- A. Owner's Responsibilities:
 1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
 2. Arrange and pay for product delivery to site.
 3. On delivery, inspect products jointly with Contractor.

4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
 5. Arrange for manufacturers' warranties, inspections, and service.
- B. Contractor's Responsibilities:
1. Review Owner reviewed shop drawings, product data, and samples.
 2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
 3. Handle, store, install and finish products.
 4. Repair or replace items damaged after receipt.

3.03 TRANSPORTATION AND HANDLING

- A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- B. Transport and handle products in accordance with manufacturer's instructions.
- C. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- E. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.
- F. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.04 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Prevent contact with material that may cause corrosion, discoloration, or staining.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Examination, preparation, moving/storage, and general installation procedures.
- B. Cutting and patching.
- C. Cleaning and protection.
- D. Starting of systems and equipment.
- E. Closeout procedures, except payment procedures.

1.02 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

1.03 PROJECT CONDITIONS

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
- C. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- D. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
- E. Erosion and Sediment Control: Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation; comply with State and local regulations.
 - 1. Minimize amount of bare soil exposed at one time.
 - 2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
 - 3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
 - 4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.
- F. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.
- G. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.
- H. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.04 COORDINATION

- A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Notify affected utility companies and comply with their requirements.
- C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and

- conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
 - F. Coordinate completion and clean-up of work of separate sections.
 - G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.05 MOVING AND STORAGE OF TENANT ITEMS

- A. Provide moving and storage of tenants belongings.
 - 1. Storage:
 - a. Provide adequate secure storage for each dislodged tenant.
 - b. Provide storage and system to ensure separation of individual tenant items, and prevent loss of such items.
 - c. Storage must be readily accessible to Tenant upon request.
 - 2. Moving:
 - a. Provide labor, boxes, and moving equipment adequate to prevent damage to tenant items.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.04 CUTTING AND PATCHING

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. Perform whatever cutting and patching is necessary to:
 1. Complete the work.
 2. Fit products together to integrate with other work.
 3. Provide openings for penetration of mechanical, electrical, and other services.
 4. Match work that has been cut to adjacent work.
 5. Repair areas adjacent to cuts to required condition.
 6. Repair new work damaged by subsequent work.
 7. Remove samples of installed work for testing when requested.
 8. Remove and replace defective and non-conforming work.
- C. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- D. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- E. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- F. Restore work with new products in accordance with requirements of Contract Documents.
- G. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material , to full thickness of the penetrated element.
- I. Patching:
 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 2. Match color, texture, and appearance.
 3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.05 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.06 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.07 SYSTEM STARTUP

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.
- C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- D. Verify that wiring and support components for equipment are complete and tested.
- E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.
- F. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.08 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.09 FINAL CLEANING

- A. Use cleaning materials that are nonhazardous.
- B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- E. Clean filters of operating equipment.
- F. Clean debris from roofs, gutters, downspouts, and drainage systems.
- G. Clean site; sweep paved areas, rake clean landscaped surfaces.
- H. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.10 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
- B. Notify Architect when work is considered ready for Substantial Completion.
- C. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's review.

- D. Correct items of work listed in executed Certificates of Substantial Completion and comply with requirements for access to Owner-occupied areas.
- E. Notify Architect when work is considered finally complete.
- F. Complete items of work determined by Architect's final inspection.

END OF SECTION

SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

- A. Owner requires that this project generate the least amount of trash and waste possible.
- B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.
- C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.
- D. Methods of trash/waste disposal that are not acceptable are:
 - 1. Burning on the project site.
 - 2. Burying on the project site.
 - 3. Dumping or burying on other property, public or private.
 - 4. Other illegal dumping or burying.
- E. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 DEFINITIONS

- A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.
- B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.
- C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitability, corrosivity, toxicity or reactivity.
- D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitability, corrosivity, toxicity, or reactivity.
- E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.
- F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
- G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.
- H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- I. Return: To give back reusable items or unused products to vendors for credit.
- J. Reuse: To reuse a construction waste material in some manner on the project site.
- K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.
- L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.
- M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.
- N. Toxic: Poisonous to humans either immediately or after a long period of exposure.
- O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.
- P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, incineration, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports.

PART 3 EXECUTION

2.01 WASTE MANAGEMENT PLAN IMPLEMENTATION

- A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.
- B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Architect.
- C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.
- D. Meetings: Discuss trash/waste management goals and issues at project meetings.
 1. Pre-construction meeting.
 2. Regular job-site meetings.
- E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
 1. Provide containers as required.
 2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
 3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.
- F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.
- G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.
- H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.
- I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

SECTION 01 78 00
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.

1.02 SUBMITTALS

- A. Subcontractors to provide invoice with materials and labor as separate line items for all Energy Trust Incentive items including:
 - 1. Light Fixtures in Common Use areas
 - 2. Refrigerator
 - 3. Water Heaters
 - 4. PTAC
 - 5. Windows
 - 6. Attic Insulation
 - 7. Crawl Space Insulation
- B. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
- C. Operation and Maintenance Data:
 - 1. Submit electronic copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
 - 2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
 - 3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
 - 4. Submit two sets of revised final documents in final form within 10 days after final inspection.
- D. Warranties and Bonds:
 - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
 - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Addenda.
 - 3. Change Orders and other modifications to the Contract.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Record Drawings : Legibly mark each item to record actual construction including:
 - 1. Field changes of dimension and detail.

2. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA

- A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For Each Product, Applied Material, and Finish:
 1. Product data, with catalog number, size, composition, and color and texture designations.
 2. Information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- C. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

- A. For Each Item of Equipment and Each System:
 1. Description of unit or system, and component parts.
 2. Identify function, normal operating characteristics, and limiting conditions.
 3. Include performance curves, with engineering data and tests.
 4. Complete nomenclature and model number of replaceable parts.
- B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
- C. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- D. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- E. Provide servicing and lubrication schedule, and list of lubricants required.
- F. Include manufacturer's printed operation and maintenance instructions.
- G. Include sequence of operation by controls manufacturer.
- H. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- I. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

- A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.
- B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

- C. Prepare instructions and data by personnel experienced in maintenance and operation of described products.
- D. Prepare data in the form of an instructional manual.
- E. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- F. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
- G. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.
- H. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.
- I. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.
- J. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.
- K. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

3.06 WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.

END OF SECTION

SECTION 02 41 00
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Selective demolition of building elements for alteration purposes.

PART 3 EXECUTION

2.01 SCOPE

- A. Remove other items indicated, for salvage, relocation, and recycling.
- B. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as required so that required rough grade elevations do not subside within one year after completion.

2.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 1. Obtain required permits.
 2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 3. Provide, erect, and maintain temporary barriers and security devices.
 4. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 5. Do not close or obstruct roadways or sidewalks without permit.
 6. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
 7. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
- B. Do not begin removal until receipt of notification to proceed from Owner.
- C. Protect existing structures and other elements that are not to be removed.
 1. Provide bracing and shoring.
 2. Prevent movement or settlement of adjacent structures.
 3. Stop work immediately if adjacent structures appear to be in danger.

2.03 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 1. Verify that construction and utility arrangements are as shown.
 2. Report discrepancies to Architect before disturbing existing installation.
 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Remove existing work as indicated and as required to accomplish new work.
 1. Remove items indicated on drawings.
- C. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
 2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 3. Verify that abandoned services serve only abandoned facilities before removal.

4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.
- D. Protect existing work to remain.
 1. Prevent movement of structure; provide shoring and bracing if necessary.
 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 3. Repair adjacent construction and finishes damaged during removal work.
 4. Patch as specified for patching new work.

2.04 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 03 30 00
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Floors and slabs on grade.
- B. Concrete reinforcement.
- C. Joint devices associated with concrete work.
- D. Concrete curing.

1.02 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Mix Design: Submit proposed concrete mix design.

PART 2 PRODUCTS

2.01 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615/A615M Grade 60 (420).

2.02 CONCRETE MATERIALS

- A. Cement: ASTM C150, Type I - Normal Portland type.
 - 1. Acquire all cement for entire project from same source.
- B. Fine and Coarse Aggregates: ASTM C 33.
 - 1. Acquire all aggregates for entire project from same source.
- C. Fly Ash: ASTM C618, Class C or F.

2.03 ACCESSORY MATERIALS

- A. Vapor Control: Water based additive to reduce vapor emission levels in concrete floors.
 - 1. Products:
 - a. Synthetics International; Synthetic10-TR or approved equal.
 - 2. Application: Provide at new interior concrete slabs.
- B. Underslab Vapor Retarder: Multi-layer, fabric-, cord-, grid-, or aluminum-reinforced polyethylene or equivalent, complying with ASTM E1745, Class A; stated by manufacturer as suitable for installation in contact with soil or granular fill under concrete slabs. The use of single ply polyethylene is prohibited.
 - 1. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated boots, etc., for sealing seams and penetrations in vapor retarder.
 - 2. Products:
 - a. Stego Industries, LLC; Stego Wrap Vapor Barrier 15-mil (Class A):
www.stegoindustries.com.

2.04 BONDING AND JOINTING PRODUCTS

- A. Slab Isolation Joint Filler: 1/2 inch thick, height equal to slab thickness, with removable top section that will form 1/2 inch deep sealant pocket after removal.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

- A. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.
- B. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.

- C. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Lap joints minimum 6 inches. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.

3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

- A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

3.04 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Place concrete for floor slabs in accordance with ACI 302.1R.
- C. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.05 SLAB JOINTING

- A. Locate joints as indicated on the drawings.
- B. Anchor joint fillers and devices to prevent movement during concrete placement.
- C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.
- D. Saw Cut Contraction Joints: Saw cut joints before concrete begins to cool, within 4 to 12 hours after placing; use 3/16 inch thick blade and cut at least 1 inch deep but not less than one quarter (1/4) the depth of the slab.

3.06 FLOOR FLATNESS AND LEVELNESS TOLERANCES

- A. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.07 CURING AND PROTECTION

- A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
- C. Surfaces Not in Contact with Forms:
 1. Slabs and Floors To Receive Adhesive-Applied Flooring: Curing compounds and other surface coatings are usually considered unacceptable by flooring and adhesive manufacturers. If such materials must be used, either obtain the approval of the flooring and adhesive manufacturers prior to use or remove the surface coating after curing to flooring manufacturer's satisfaction.
 2. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
 3. Final Curing: Begin after initial curing but before surface is dry.

3.08 SCHEDULE - CONCRETE TYPES AND FINISHES

- A. Slab Concrete: 3,000 pounds per square inch 28 day concrete.
- B. Exterior Concrete: 4,000 pounds per square inch 28 day concrete, air entrained, broom finish.

END OF SECTION

SECTION 05 50 00
METAL FABRICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Shop fabricated steel items.

1.02 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.

PART 2 PRODUCTS

2.01 MATERIALS - STEEL

- A. Steel Sections: ASTM A36/A36M.
- B. Steel Tubing: ASTM A500/A500M, Grade B cold-formed structural tubing.
- C. Plates: ASTM A283.

2.02 FABRICATION

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- D. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.03 FINISHES - STEEL

- A. Powdercoat:
 1. Preparation: Sandblast and clean surfaces
 2. Provide two coat system. First coat to be dark primer, top coat to be matte black, 6 mil min. total thickness of powder coating.
 3. Locations: All new fabricated steel on project.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Obtain approval prior to site cutting or making adjustments not scheduled.

END OF SECTION

SECTION 05 53 05
METAL GRATINGS AND FLOOR PLATES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Flat surface stair tread plating.

1.02 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide product data.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. McNichols; Traction Tread, custom width to fit new stringers..

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated on drawings.

3.02 INSTALLATION

- A. Install components in accordance with manufacturer's instructions.

END OF SECTION

SECTION 06 10 00
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Structural dimension lumber framing.
- B. Exposed timber structural framing.
- C. Non-structural dimension lumber framing.
- D. Sheathing.
- E. Preservative treated wood materials.
- F. Miscellaneous framing and sheathing.
- G. Communications and electrical room mounting boards.
- H. Concealed wood blocking, nailers, and supports.
- I. Miscellaneous wood nailers, furring, and grounds.

1.02 REFERENCE STANDARDS

- A. ANSI A208.1 - American National Standard for Particleboard.
- B. AFPA (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings; American Forest and Paper Association.
- C. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide technical data on wood preservative materials.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
 - 2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
- B. Lumber fabricated from old growth timber is not permitted.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

- A. Sizes: Nominal sizes as indicated on drawings, S4S.
- B. Moisture Content: S-dry or MC19.
- C. Stud Framing (2 by 2 through 2 by 6):
 - 1. Species: Douglas Fir.
 - 2. Grade: No. 2.
- D. Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16):

1. Species: Douglas Fir-Larch.
 2. Grade: No. 1 & Btr.
- E. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
1. Lumber: S4S, No. 2 or Standard Grade.
 2. Boards: Standard or No. 3.

2.03 EXPOSED DIMENSION LUMBER

- A. Sizes: Nominal sizes as indicated on drawings.
- B. Surfacing: S4S.
- C. Sizes: Nominal sizes as indicated on drawings, S4S.
- D. Moisture Content: S-dry or MC19.

2.04 EXPOSED TIMBERS (4X4 AND 6X8)

- A. Submit manufacturer's certificate that products meet or exceed specified requirements, in lieu of grade stamping.
- B. Moisture Content: Kiln-dry (20 percent maximum).
- C. Surfacing: S4S.
- D. Species: Western Cedar.
- E. Grade: Select Structural.

2.05 STRUCTURAL COMPOSITE LUMBER

- A. Structural Composite Lumber: Factory fabricated beams, headers, and columns, of sizes and types indicated on drawings; structural capacity as published by manufacturer.
 1. Columns: Use laminated veneer lumber, laminated strand lumber, or parallel strand lumber with manufacturer's published E (modulus of elasticity): 1,800,000 psi, minimum.
 2. Beams: Use laminated veneer lumber, laminated strand lumber, or parallel strand lumber with manufacturer's published E (modulus of elasticity): 1,800,000 psi, minimum.
 3. Headers Not Longer Than 48 inches: Use laminated veneer lumber, laminated strand lumber, or parallel strand lumber.
 4. Manufacturers:
 - a. Weyerhaeuser: www.weyerhaeuser.com.
 - b. Boise Cascade: www.bc.com.
 - c. Georgia-Pacific Corp.: www.buildgp.com.
 - d. Substitutions: See Section 01 60 00 - Product Requirements.

2.06 CONSTRUCTION PANELS

- A. Roof Sheathing: OSB or Plywood, ANSI A208.1, Grade M-3 EXTERIOR GLUE; square edges, with panel clips.
- B. Wall Sheathing: OSB or Plywood, ANSI A208.1, Grade M-3 EXTERIOR GLUE.
- C. Other Applications:
 1. Plywood Concealed From View but Located Within Exterior Enclosure: PS 1, C-C Plugged or better, Exterior grade.
 2. Plywood Exposed to View But Not Exposed to Weather: PS 1, A-D, or better.
 3. Other Locations: PS 1, C-D Plugged or better.

2.07 ACCESSORIES

- A. Fasteners and Anchors:
 1. Metal and Finish: Hot-dipped galvanized steel per ASTM A 153/A 153M for high humidity and preservative-treated wood locations.
 2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.
- B. Die-Stamped Connectors: Hot dipped galvanized steel, sized to suit framing conditions. Provide as shown on drawings manufactured by Simpson Strong-Tie~, or approved.

- 1. For contact with preservative treated wood in exposed locations, provide minimum G185 galvanizing per ASTM A653/A653M.
- C. Joist Hangers: Hot dipped galvanized steel, sized to suit framing conditions. Provide as shown on drawings manufactured by Simpson Strong-Tie, or approved.
 - 1. For contact with preservative treated wood in exposed locations, provide minimum G185 galvanizing per ASTM A 653/A 653M.

2.08 FACTORY WOOD TREATMENT

- A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
 - 1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.
- B. Preservative Treatment:
 - 1. Manufacturers:
 - a. Contractor's choice.
- C. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative to 0.25 lb/cu ft retention.
 - 1. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
 - 2. Treat lumber in contact with roofing, flashing, or waterproofing.
 - 3. Treat lumber in contact with masonry or concrete.
 - 4. Treat lumber less than 18 inches above grade.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.02 FRAMING INSTALLATION

- A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.
- B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.
- C. Install structural members full length without splices unless otherwise specifically detailed.
- D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AFPA Wood Frame Construction Manual.
- E. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.
- F. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.03 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

3.04 INSTALLATION OF CONSTRUCTION PANELS

- A. Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.

1. Nail panels to framing; staples are not permitted.
- B. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails, screws, or staples.

3.05 SITE APPLIED WOOD TREATMENT

- A. Apply preservative treatment compatible with factory applied treatment at site-sawn cuts, complying with manufacturer's instructions.
- B. Allow preservative to dry prior to erecting members.

3.06 TOLERANCES

- A. Framing Members: 1/4 inch from true position, maximum.
- B. Surface Flatness of Floor: 1/8 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.
- C. Variation from Plane (Other than Floors): 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

END OF SECTION

SECTION 06 17 53
SHOP-FABRICATED WOOD TRUSSES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Shop fabricated wood trusses for roof framing.
- B. Bridging, bracing, and anchorage.

1.02 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on plate connectors, bearing plates, and metal bracing components.
- C. Shop Drawings: Show truss configurations, sizes, spacing, size and type of plate connectors, cambers, framed openings, bearing and anchor details, and bridging and bracing.
 - 1. Include identification of engineering software used for design.

1.03 QUALITY ASSURANCE

PART 2 PRODUCTS

2.01 TRUSSES

- A. Wood Trusses: Designed and fabricated in accordance with TPI 1 and TPI DSB-89 to achieve structural requirements.
 - 1. Connectors: Steel plate.

2.02 MATERIALS

- A. Lumber:
 - 1. Moisture Content: Between 7 and 9 percent.
 - 2. Lumber fabricated from old growth timber is not permitted.
- B. Steel Connectors: Hot-dipped galvanized steel sheet, ASTM A653/A653M Structural Steel (SS) Grade 33/230, with G90/Z275 coating; die stamped with integral teeth; thickness as indicated.
- C. Truss Bridging: Type, size and spacing recommended by truss manufacturer.

PART 3 EXECUTION

3.01 ERECTION

- A. Install trusses in accordance with manufacturer's instructions and TPI DSB-89 and TPI BCSI 1; maintain a copy of each TPI document on site until installation is complete.
- B. Set members level and plumb, in correct position.
- C. Install permanent bridging and bracing.

END OF SECTION

SECTION 06 73 00
COMPOSITE DECKING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Composite decking.

1.02 RELATED SECTIONS

- A. Section 06 10 00 - Rough Carpentry.

1.03 REFERENCES

- A. ASTM D-1413-99: Test Method for Wood Preservatives by Laboratory Soil-block Cultures, ASTM International.
- B. ASTM D-2565-99: Practice for Operating Xenon Arc-type Light-exposure Apparatus With or Without Water for Exposure of Plastics, ASTM International.
- C. ASTM D-2915-98: Practice for Evaluating Allowable Properties for Grades of Structural Lumber, ASTM International.
- D. ASTM D-2990-95: Test Method for Tensile, Compressive, and Flexural Creep and Creep-rupture of Plastics, ASTM International.
- E. ASTM D-3345-74 (1999): Test Method for Laboratory Evaluation of Wood and Other Cellulose Materials for Resistance to Termites, ASTM International.
- F. ASTM D-5456-99a: Specification for Evaluation of Structural Composite Lumber Products, ASTM International.
- G. ASTM D-6109-97: Standard Test Method for Flexural Properties of Un-reinforced and Reinforced Plastic Lumber, ASTM International.
- H. ASTM D-7031-04: Standard Guide for Evaluating Mechanical and Physical Properties of Wood-Plastic Composite Products, ASTM International.
- I. ASTM D-7032-04: Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite Deck Boards and Guardrail systems (Guards or Handrails), ASTM International.
- J. ASTM E-4-99: Practices for Force Verification of Testing Machines, ASTM International.
- K. ASTM E-84-01: Test Method for Surface Burning Characteristics of Building Materials, ASTM International.

1.04 DESIGN / PERFORMANCE REQUIREMENTS

- A. Structural Performance:
 - 1. Deck: Uniform Load: 100 lbf/sq. ft.
 - 2. Landings at Exterior Stairs: Concentrated Load: 750 lbf/sq. ft., and 1/8" max. deflection with a concentrated load of 300 lbf on area of 4 sq. in
- B. Fire-Test-Response Characteristics per ASTM E-84:

1.05 SUBMITTALS

- A. Product Data: Indicate sizes, profiles, surface style, and performance characteristics.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Never dump materials when unloading.
- B. Store on a flat surface and cover with non-translucent material.
- C. When carrying planks, carry on edge for better support.
- D. Refer to installation instructions for additional guidelines on each product.

1.07 WARRANTY

- A. Warranty: Limited Residential Warranty against rot, decay, splitting, checking, splintering, or termite damage for a period of 25 years beginning from date of purchase under normal conditions of use and exposure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Contractors choice.

2.02 WOOD/PLASTIC COMPOSITE LUMBER:

- A. Material Description: Composite plank consisting of high density polyethylene (HDPE) and wood flour, extruded into sizes and shapes indicated with the following physical properties:
 - 1. Decking Boards: 1.375 inch x 5.5 inches wide.
 - 2. Color: From standard color choices.
 - 3. Flexural Properties when tested in accordance with ASTM D-6109:
 - a. Solid Profiles
 - b. Modulus of Elasticity (MOE): 542,200 psi.- Ultimate
 - c. Modulus of Rupture (MOR): 3157 psi. - Ultimate
 - d. Flexural Stiffness 426,508 lb.in²
 - e. Moment Capacity 3157 in.lb
 - 4. Hardness when tested in accordance with ASTM D-143: 225 lb (101.25 kg).
 - 5. Water Absorption when tested in accordance with ASTM D-1037, %vol. <1.35%, %mass <1.29%.
 - 6. Flame Spread Index when tested in accordance with ASTM E-84: 75
 - 7. Direct Screw Withdrawal Force when tested in accordance with ASTM D-1761: 787 lbs/in.
 - 8. Slip resistance when tested in accordance with ASTM F-1679:
 - a. Woodgrain Dry: 0.54 Wet: 0.43
 - 9. Smoke Development when tested in accordance with ASTM E-84, 200.
 - 10. Flash Ignition Temperature when tested in accordance with ASTM D-1929, 651 degrees F.
 - 11. Spontaneous Ignition Temperature when tested in accordance with ASTM D-1929, 788 degrees F.
 - 12. Coefficient of Linear Thermal Expansion when tested in accordance with ASTM D-696: length 2.0x10-5in/in/°F, width 3.4x10-5 in/in/°F.
 - 13. Fungus Resistance (Brown/White Rot Fungus) when tested in accordance with ASTM D-1413: No decay.

2.03 ACCESSORIES

- A. Fasteners: Concealed fasteners
- B. Stair Riser:
 - 1. Size: 1X6

PART 3 EXECUTION

3.01 EXAMINATION

- A. Install according to manufacturer's instructions.
- B. Cut, drill, and rout using carbide tipped blades.
- C. Pre-drill holes located closer than 1-1/2 inches from ends of plank.
- D. Cut ends square.
- E. Do not use composite wood material for structural applications.

3.02 CLEANING

- A. Clean surfaces regularly with a composite wood/plastic cleaner such as Corte Clean or approved equal.

- B. Power wash with a fan tipped nozzle in the direction of the grain of the planks with a maximum of 1500 psi.

END OF SECTION

SECTION 07 21 00
THERMAL INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Board insulation at perimeter foundation wall and underside of floor slabs.
- B. Batt insulation in exterior wall, ceiling, and floor construction.
- C. Batt insulation for filling perimeter window and door shim spaces and crevices in exterior wall and roof.

1.02 RELATED REQUIREMENTS

- A. Section 01 35 18 - Earth Advantage Requirements
- B. Section 06 10 00 - Rough Carpentry: Supporting construction for batt insulation.
- C. Section 07 25 00 - Weather Barriers: Separate air barrier and vapor retarder materials.
- D. Section 09 21 16 - Gypsum Board Assemblies:

1.03 REFERENCE STANDARDS

- A. ASTM C240 - Standard Test Methods of Testing Cellular Glass Insulation Block.
- B. ASTM C552 - Standard Specification for Cellular Glass Thermal Insulation.
- C. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
- D. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
- E. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
- F. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- G. ASTM E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace At 750 Degrees C.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on product characteristics, performance criteria, and product limitations.
- C. Manufacturer's Installation Instructions: Include information on special environmental conditions required for installation and installation techniques.
- D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Insulation:
 1. Certainteed
 2. Owen Corning
 3. Johns Manville
 4. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 APPLICATIONS

- A. Insulation Under Concrete Slabs: Extruded polystyrene (XPS) board.
- B. Insulation at Perimeter of Foundation: Expanded polystyrene (EPS) board.
- C. Insulation in Wood Framed Walls: Batt insulation with separate vapor retarder.
- D. Insulation in Wood Framed Ceiling Structure: Batt insulation with separate vapor retarder.

2.03 FOAM BOARD INSULATION MATERIALS

- A. Extruded Polystyrene Board Insulation (XPS): ASTM C 578, Type X; Extruded polystyrene board with either natural skin or cut cell surfaces; with the following characteristics:
 - 1. Flame Spread Index: 25 or less, when tested in accordance with ASTM E84.
 - 2. Flame Spread Index: 75 or less, when tested in accordance with ASTM E84.
 - 3. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E84.
 - 4. Formaldehyde free.
 - 5. Use at underslab conditions R-15 minimum or 3 inches.
 - 6. Thermal Conductivity (k factor) at 25 degrees F: 0.18.
 - 7. Compressive Resistance: 15 psi.
 - 8. Board Density: 1.3 lb/cu ft.
 - 9. Water Absorption, maximum: 0.3 percent, volume.

2.04 BATT INSULATION MATERIALS

- A. Where batt insulation is indicated, either glass fiber or mineral fiber batt insulation may be used, at Contractor's option.
- B. Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit.
 - 1. Flame Spread Index: 25 or less, when tested in accordance with ASTM E84.
 - 2. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E84.
 - 3. Combustibility: Non-combustible, when tested in accordance with ASTM E136, except for facing, if any.
 - 4. Formaldehyde Content: Zero.
 - 5. Facing: Unfaced.
 - 6. Schedule for batt insulation.
 - a. Flat ceilings minimum R-49
 - b. Vault ceilings minimum R-49
 - c. Exterior walls minimum R-21
 - d. Crawl space minimum R-38. Provide high density insulation for achieving R-38 in joist space.
- C. Mineral Fiber Batt Insulation: Flexible or semi-rigid preformed batt or blanket, complying with ASTM C665; friction fit; unfaced flame spread index of 0 (zero) when tested in accordance with ASTM E84.
 - 1. Smoke Developed Index: 0 (zero), when tested in accordance with ASTM E84.

2.05 ACCESSORIES

- A. Provide insulation baffles for ventilation at all eaves vents.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation and adhesive.
- B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

3.02 BOARD INSTALLATION AT FOUNDATION PERIMETER

- A. Adhere a 6 inch wide strip of polyethylene sheet over construction, control, and expansion joints with double beads of adhesive each side of joint.
 - 1. Tape seal joints.
 - 2. Extend sheet full height of joint.
- B. Apply adhesive to back of boards:
 - 1. Three continuous beads per board length.
 - 2. Full bed 1/8 inch thick.

- C. Install boards horizontally on foundation perimeter.
 - 1. Place boards to maximize adhesive contact.
 - 2. Install in running bond pattern.
 - 3. Butt edges and ends tightly to adjacent boards and to protrusions.
- D. Extend boards over expansion joints, unbonded to foundation on one side of joint.
- E. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.
- F. Immediately following application of board insulation, place protective boards over exposed insulation surfaces.

3.03 BOARD INSTALLATION AT EXTERIOR WALLS

- A. Adhere a 6 inch wide strip of polyethylene sheet over expansion joints with double beads of adhesive each side of joint.
 - 1. Tape seal joints between sheets.
 - 2. Extend sheet full height of joint.
- B. Apply adhesive to back of boards:
 - 1. Three continuous beads per board length.
 - 2. Full bed 1/8 inch thick.
- C. Install boards horizontally on walls.
 - 1. Place boards to maximize adhesive contact.
 - 2. Install in running bond pattern.
 - 3. Butt edges and ends tightly to adjacent boards and to protrusions.
- D. Extend boards over expansion joints, unbonded to wall on one side of joint.
- E. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.
- F. Place 6 inch wide polyethylene sheet at perimeter of wall openings, from adhesive vapor retarder bed to window and door frames. Tape seal in place to ensure continuity of vapor retarder and air seal.
- G. Tape insulation board joints.

3.04 BOARD INSTALLATION UNDER CONCRETE SLABS

- A. Place insulation under slabs on grade after base for slab has been compacted.
- B. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.
- C. Prevent insulation from being displaced or damaged while placing vapor retarder and placing slab.

3.05 BATT INSTALLATION

- A. Install insulation and vapor retarder in accordance with manufacturer's instructions.
- B. Install in exterior wall and roof spaces without gaps or voids. Do not compress insulation.
- C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
- D. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.
- E. Install with factory applied vapor retarder membrane facing warm side of building spaces. Lap ends and side flanges of membrane over framing members.
- F. Tape seal butt ends, lapped flanges, and tears or cuts in membrane.
- G. At wood framing, place vapor retarder on warm side of insulation by stapling at 6 inches on center. Lap and seal sheet retarder joints over member face.
- H. Tape seal tears or cuts in vapor retarder.
- I. Extend vapor retarder tightly to full perimeter of adjacent window and door frames and other items interrupting the plane of the membrane. Tape seal in place.

- J. Coordinate work of this section with requirements for vapor retarder specified in Section 07 25 00.
- K. Coordinate work of this section with construction of air barrier seal specified in Section 07 25 00.

3.06 PROTECTION

- A. Do not permit installed insulation to be damaged prior to its concealment.

END OF SECTION

SECTION 07 25 00
WEATHER BARRIERS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Water-Resistive Barrier: Under exterior wall cladding, over sheathing or other substrate; not air tight or vapor retardant.

PART 2 PRODUCTS

2.01 WEATHER BARRIER ASSEMBLIES

- A. Water-Resistive Barrier: Provide on exterior walls under exterior cladding.

2.02 WATER-RESISTIVE BARRIER MATERIALS (NEITHER AIR BARRIER NOR VAPOR RETARDER)

- A. Fortifiber Weather Tex

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install materials in accordance with manufacturer's instructions.
- B. Water-Resistive Barriers: Install continuous barrier over surfaces indicated, with sheets lapped to shed water but with seams not sealed.

END OF SECTION

SECTION 07 31 13
ASPHALT SHINGLES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Asphalt shingle roofing
- B. Flexible sheet membranes for eave protection, underlayment, and valley protection.
- C. Associated metal flashings and accessories.

1.02 QUALITY ASSURANCE

- A. Perform Work in accordance with the recommendations of NRCA Steep Roofing Manual.
- B. Products Required to Comply with Fire Resistance Criteria: UL listed and labeled.

1.03 FIELD CONDITIONS

- A. Do not install shingles when surface temperatures are below 45 degrees F.

PART 2 PRODUCTS

2.01 SHINGLES

- A. Manufacturers:
 - 1. Certainteed; Product Landmark Pro.
- B. Asphalt Shingles: Asphalt-coated glass felt, mineral granule surfaced, complying with ASTM D 3462; Class A fire resistance.
 - 1. Self-sealing type.
 - 2. Style: Square.
 - 3. Color: Weathered Wood.

2.02 SHEET MATERIALS

- A. Eave Protection Membrane: Self-adhering polymer-modified asphalt sheet complying with ASTM D1970; 40 mil total thickness; with strippable treated release paper and polyethylene sheet top surface. Provide at all eaves 24" above line of exterior wall and valleys.
- B. Underlayment: Asphalt-saturated organic felt underlayment, complying with ASTM D4869, minimum 13 lb/100 sq ft (Type II).
- C. Flexible Flashing: Self-adhering polymer-modified asphalt sheet complying with ASTM D1970; 40 mil total thickness; with strippable treated release paper and polyethylene sheet top surface.

2.03 ACCESSORIES

- A. Nails: Standard round wire shingle type, of hot-dipped zinc coated steel, 12 gage, 0.105 inch shank diameter, 3/8 inch head diameter, of sufficient length to penetrate through roof sheathing or 3/4 inch into roof sheathing or decking.
- B. Plastic Cement: ASTM D4586, asphalt roof cement.
- C. Ridge Vent: 12 inch wide pre-formed Ridge Vent suitable for installation with Asphalt Shingles matching the adjacent roof to be installed over the top of the vent. Color as selected by Architect. Air Vent Inc. 1-800-247-8368, ShingleVent II, or approved.

2.04 METAL FLASHINGS

- A. Metal Flashings: Provide sheet metal eave edge, gable edge, ridge, ridge vents, open valley flashing, chimney flashing, dormer flashing, and other flashing indicated.
 - 1. Form flashings to protect roofing materials from physical damage and shed water.
 - 2. Form sections square and accurate to profile, in maximum possible lengths, free from distortion or defects detrimental to appearance or performance.
 - 3. Hem exposed edges of flashings minimum 1/4 inch on underside.
 - 4. Coat concealed surfaces of flashings with bituminous paint.

- B. Steel Sheet Metal: Prefinished and galvanized steel sheet, 26 gage, 0.0179 inch minimum thickness, G90/Z275 hot-dipped galvanized; PVC coated, dark bronze color.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions prior to beginning work.
- B. Verify that deck is of sufficient thickness to accept fasteners.
- C. Verify that roof penetrations and plumbing stacks are in place and flashed to deck surface.
- D. Verify roof openings are correctly framed.
- E. Verify deck surfaces are dry, free of ridges, warps, or voids.

3.02 PREPARATION

- A. Roofing contractor to demolish and dispose of all existing materials. Provide proper protection for tenants during demolition. Clean debris and nails daily.
- B. Seal roof deck joints wider than 1/16 inch with deck tape.
- C. Broom clean deck surfaces before installing underlayment or eave protection.
- D. Install eave edge and gable edge flashings tight with fascia boards. Weather lap joints 2 inches and seal with plastic cement. Secure flange with nails spaced 8 inches on center.
- E. Remove existing roof jacks and patch holes. Where roof jacks are used for fan vent, replace with new. Field Verify.

3.03 INSTALLATION - EAVE PROTECTION MEMBRANE

- A. Install eave protection membrane from eave edge to minimum 2 ft up-slope beyond interior face of exterior wall.

3.04 INSTALLATION - UNDERLAYMENT

- A. At Roof Slopes Greater Than 4:12 : Install underlayment perpendicular to slope of roof, with ends and edges weather lapped minimum 4 inches. Stagger end laps of each consecutive layer. Nail in place. Weather lap minimum 4 inches over eave protection.
- B. Items projecting through or mounted on roof: Weather lap and seal watertight with plastic cement.

3.05 INSTALLATION - VALLEY PROTECTION

- A. Install flexible flashing in accordance with manufacturer's instructions.

3.06 INSTALLATION - METAL FLASHING AND ACCESSORIES

- A. Install flashings in accordance with NRCA requirements and manufacturer's instructions.
- B. Weather lap joints minimum 4 inches and seal weather tight with plastic cement.
- C. Secure in place with nails at 8 inches on center. Conceal fastenings.
- D. Items Projecting Through or Mounted on Roofing: Flash and seal weather tight with plastic cement. Provide new plumbing vents and exhaust vents at all locations receiving new roofing.
- E. Install ridge vent per manufacturer's instructions.

3.07 INSTALLATION - SHINGLES

- A. Install shingles in accordance with manufacturer's instructions.
 1. Fasten individual shingles using 2 nails per shingle, or as required by code, whichever is greater.
 2. Fasten strip shingles using 4 nails per strip, or as required by code, whichever is greater.
- B. Place shingles in straight coursing pattern with 5 inch weather exposure to produce double thickness over full roof area. Provide double course of shingles at eaves.
- C. Project first course of shingles 3/4 inch beyond fascia boards.
- D. Extend shingles 1/2 inch beyond face of gable edge fascia boards.

- E. Cap ridges with individual shingles, maintaining 5 inch weather exposure. Place to avoid exposed nails.
- F. Complete installation to provide weather tight service.

END OF SECTION

SECTION 07 46 46
FIBER CEMENT SIDING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Wood-fiber cement siding and trim.
- B. Exterior joint sealant and caulking for new siding and trim.

PART 2 PRODUCTS

2.01 SIDING

- A. Lap Siding: Individual horizontal boards made of cement and cellulose fiber formed under high pressure with integral surface texture, complying with ASTM C1186 Type A Grade II; with machined edges, for nail attachment.
 - 1. Style: Standard lap style.
 - 2. Texture: Smooth.
 - 3. Length: 12 ft, nominal.
 - 4. Thickness: 5/16 inch, nominal.
 - 5. Finish: Factory applied topcoat.
 - 6. Warranty: 30 year limited; .
 - 7. Lap Siding Manufacturers:
 - a. James Hardie Building Products, Inc : www.jameshardie.com.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Panel Siding: Vertically oriented panels made of cement and cellulose fiber formed under high pressure with integral surface texture, complying with ASTM C1186 Type A Grade II; with machined edges, for nail attachment.
 - 1. Texture: Smooth.
 - 2. Length (Height): 96 inches, nominal.
 - 3. Width: 48 inches.
 - 4. Thickness: 5/16 inch, nominal.
 - 5. Finish: Factory applied topcoat.
 - 6. Board and Batt: Provide fiber cement battens at 24" o.c.
 - 7. Warranty: 30 year limited; .
 - 8. Panel Siding Manufacturers:
 - a. James Hardie Building Products, Inc : www.jameshardie.com.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 ACCESSORIES

- A. Trim: Fiber Cement.
 - 1. Doors, Windows and Corners: James Hardie 5/4 Boards Rustic 3-1/2" width
 - 2. Fascia: James Hardie 5/16" smooth panels
 - 3. Horizontal Trim: James Hardie 5/4 Boards smooth 7-1/4" width
 - 4. Batts: James Hardie Batten Boards smooth 2-1/2" width
- B. Fasteners: Galvanized or corrosion resistant; length as required to penetrate minimum 1-1/4 inch.
- C. Joint Sealer: Titebond with color match to siding.

PART 3 EXECUTION

3.01 PREPARATION

- A. Siding contractor to demolish and dispose of all existing trim and siding material. Provide proper protection for tenants. Clean debris and nails daily.
- B. Examine substrate and clean and repair as required to eliminate conditions that would be detrimental to proper installation.
- C. Do not begin until unacceptable conditions have been corrected.

- D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

- A. Install sheet metal flashing:
 - 1. Above door and window trim and casings.
 - 2. Above horizontal trim in field of siding.
 - 3. At deck to building connection
 - 4. At appurtenance blocks.

3.03 INSTALLATION

- A. Install in accordance with manufacturer's instructions and recommendations.
 - 1. Read warranty and comply with all terms necessary to maintain warranty coverage.
 - 2. Use trim details indicated on drawings.
 - 3. Touch up all field cut edges before installing.
 - 4. Pre-drill nail holes if necessary to prevent breakage.
- B. Joints in Horizontal Siding: Avoid joints in lap siding except at corners; where joints are inevitable stagger joints between successive courses. Provide metal flashing behind each horizontal joint.
- C. Joints in Vertical Siding: Install Z-flashing in horizontal joints between successive courses of vertical siding.
- D. Do not install siding less than 6 inches from surface of ground nor closer than 1 inch to roofs, patios, porches, and other surfaces where water may collect.
- E. After installation, seal all joints except lap joints of lap siding. Seal around all penetrations. Paint all exposed cut edges.
- F. Siding Contractor is responsible for all exterior caulking for new siding and trim.
- G. Finish Painting: Specified in Section 09 90 00.

3.04 PROTECTION

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

END OF SECTION

SECTION 07 90 05
JOINT SEALERS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Sealants and joint backing.
- B. Precompressed foam sealers.
- C. Hollow gaskets.

1.02 RELATED REQUIREMENTS

- A. Section 01 35 18 - Earth Advantage Requirements
- B. Section 07 25 00 - Weather Barriers: Sealants required in conjunction with air barriers and vapor retarders:
- C. Section 09 21 16 - Gypsum Board Assemblies:

1.03 REFERENCE STANDARDS

- A. ASTM C834 - Standard Specification for Latex Sealants.
- B. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications.
- C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
- D. ASTM C1193 - Standard Guide for Use of Joint Sealants.
- E. ASTM D1056 - Standard Specification for Flexible Cellular Materials--Sponge or Expanded Rubber.
- F. ASTM D1667 - Standard Specification for Flexible Cellular Materials--Poly(Vinyl Chloride) Foam (Closed-Cell).
- G. ASTM D2628 - Standard Specification for Preformed Polychloroprene Elastomeric Joint Seals for concrete Pavements.
- H. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; www.aqmd.gov.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the work with other sections referencing this section.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data indicating sealant chemical characteristics.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

1.07 MOCK-UP

- A. Provide mock-up of sealant joints in conjunction with window .
- B. Construct mock-up with specified sealant types and with other components noted.
- C. Locate where directed.
- D. Mock-up may remain as part of the Work.

1.08 FIELD CONDITIONS

- A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Silicone Sealants:

1. Bostik Inc: www.bostik-us.com.
 2. Pecora Corporation: www.pecora.com.
 3. BASF Construction Chemicals-Building Systems: www.chemrex.com.
 4. Red Devil; 100% Silicone Industrial Grade RTV Sealant: www.reddevil.com.
 5. Sherwin-Williams Company; Silicone Rubber All Purpose Sealant: www.sherwin-williams.com.
- B. Polyurethane Sealants:
1. Bostik Inc: www.bostik-us.com.
 2. Pecora Corporation: www.pecora.com.
 3. BASF Construction Chemicals-Building Systems: www.chemrex.com.
 4. Sherwin-Williams Company; Stampede-1/-TX Polyurethane Sealant: www.sherwin-williams.com.
- C. Polysulfide Sealants:
1. Pecora Corporation: www.pecora.com.
 2. BASF Construction Chemicals-Building Systems: www.chemrex.com.
- D. Acrylic Sealants (ASTM C920):
1. Tremco Global Sealants: www.tremcosealants.com.
 2. Red Devil; Siliconized Acrylic Construction Grade (35 Year) Sealant: www.reddevil.com.
 3. Sherwin-Williams Company; Shermax Urethanized Elastomeric Sealant: www.sherwin-williams.com.
- E. Preformed Compressible Foam Sealers:
1. EMSEAL Joint Systems, Ltd: www.emseal.com.
 2. Sandell Manufacturing Company, Inc: www.sandellmfg.com.
 3. Tremco Global Sealants: www.tremcosealants.com.

2.02 SEALANTS

- A. Sealants and Primers - General: Provide products having volatile organic compound (VOC) content as specified in Section 01 35 18.
- B. General Purpose Exterior Sealant: Acrylic, solvent release curing; ASTM C920, Grade NS, Class 12-1/2, Uses M, G, and A; single or multi- component.
 1. Color: Match adjacent finished surfaces.
- C. Exterior Expansion Joint Sealer: ASTM D2628, hollow neoprene (polychloroprene) compression gasket.
- D. Exterior Metal Lap Joint Sealant: Butyl or polyisobutylene, nondrying, nonskinning, noncuring.
 1. Applications: Use for:
 - a. Concealed sealant bead in sheet metal work.
 - b. Concealed sealant bead in siding overlaps.
- E. General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C834, Type OP, Grade NF single component, paintable.
- F. Bathtub/Tile Sealant: White silicone; ASTM C920, Uses I, M and A; single component, mildew resistant.
- G. Acoustical Sealant for Concealed Locations:
 1. Applications: Use for concealed locations only:
 - a. Sealant bead between top stud runner and structure and between bottom stud track and floor.
- H. Acrylic Sealant: ASTM C920, Grade NS, Class 12-1/2, Uses NT, M, A, O; single component, solvent curing, non-staining, non-bleeding, non-sagging.
 1. Color: Match adjacent finished surfaces.
- I. Silicone Sealant: ASTM C920, Grade NS, Class 25, Uses NT, A, G, M, O; single component, solvent curing, non-sagging, non-staining, fungus resistant, non-bleeding.
 1. Color: Match adjacent finished surfaces.

2.03 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width.
- C. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.
- B. Verify that joint backing and release tapes are compatible with sealant.

3.02 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean and prime joints in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Protect elements surrounding the work of this section from damage or disfigurement.

3.03 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.
- C. Perform acoustical sealant application work in accordance with ASTM C919.
- D. Install bond breaker where joint backing is not used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- G. Tool joints concave.
- H. Compression Gaskets: Avoid joints except at ends, corners, and intersections; seal all joints with adhesive; install with face 1/8 to 1/4 inch below adjoining surface.

3.04 PROTECTION

- A. Protect sealants until cured.

END OF SECTION

SECTION 08 16 13
FIBERGLASS DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fiberglass reinforced plastic (FRP) doors.
- B. Frames for fiberglass reinforced plastic doors.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Fiberglass Doors:
 - 1. Therma-Tru.

2.02 DOOR AND FRAME ASSEMBLIES

- A. Door and Frame Assemblies: Factory-fabricated, prepared and machined for hardware.
 - 1. Clearance Between Door and Frame: 1/8 inch, maximum.
 - 2. Clearance Between Bottom of Door and Finished Floor: 3/4 inch, maximum; not less than 1/4 inch clearance to threshold.

2.03 COMPONENTS

- A. Doors: Through-color gel coating on fiberglass reinforced polyester resin construction with reinforced core.
 - 1. Thickness: 1-3/4 inches, overall.
 - 2. Subframe and Reinforcements: Fiberglass pultrusions or polymer foam; no metal or wood.
 - 3. Waterproof Integrity: All edges, cut-outs, and hardware preparations factory fabricated of fiberglass reinforced plastic; provide cut-outs with joints sealed independently of glazing or louver inserts or trim.
 - 4. Hardware Preparations: Factory reinforce, machine, and prepare for all hardware including field installed items; provide solid blocking for each hardware item; make field cutting, drilling or tapping unnecessary; obtain manufacturer's templates for hardware preparations.
 - 5. Gel Coating: Ultraviolet stabilized polyester, marine grade NPG-isophthalic, with slightly textured semi-gloss final finish.
 - 6. Gel Coating Thickness: Minimum 15 mils wet, plus/minus 3 mils.
- B. Frames: Profiles and dimensions as indicated on drawings; same type and construction used in existing conditions.
 - 1. At hardware cut-outs provide continuous backing or mortar guards of same material as frame, sealed watertight.
 - 2. Frame Anchors: Stainless steel, Type 304; provide 3 anchors in each jamb for heights up to 84 inches with one additional anchor for each additional 24 inches in height.
- C. Hinge and Hardware Fasteners: Stainless steel, Type 304; wood screws.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions; do not penetrate frames with anchors.
- B. Set units plumb, level, and true-to-line, without warping or racking doors, and with specified clearances; anchor in place.
- C. Separate aluminum and other metal surfaces from sources of corrosion of electrolytic action at points of contact with other materials.

3.02 ADJUSTING

- A. Lubricate, test, and adjust doors to operate easily, free from warp, twist or distortion, and to fit watertight for entire perimeter.

- B. Adjust hardware for smooth and quiet operation.
- C. Adjust doors to fit snugly and close without sticking or binding.

END OF SECTION

SECTION 08 53 13
VINYL WINDOWS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Vinyl-framed, factory-glazed windows.
- B. Factory fabricated tubular extruded plastic windows with fixed and operating sash.
- C. Factory fabricated tubular extruded plastic sliding doors.
- D. Factory glazed including infill panels.
- E. Operating hardware.
- F. Insect screens.

1.02 RELATED REQUIREMENTS

- A. Section 07 90 05 - Joint Sealers: Perimeter sealant and back-up materials.

1.03 PERFORMANCE REQUIREMENTS

- A. Performance Requirements: As specified in PART 2, with the following additional requirements:
- B. Assembly: To accommodate, without damage to components or deterioration of seals, movement between window and perimeter framing, deflection of lintel.
- C. Vapor Seal: No vapor seal failure at interior static pressure of 1 inch, 72 degrees F, and 40 percent relative humidity.
- D. System Internal Drainage: Drain water entering joints, condensation occurring in glazing channels, or migrating moisture occurring within system, to the exterior by a weep drainage network.
- E. Air and Vapor Seal: Maintain continuous air barrier and vapor retarder throughout assembly, primarily in line with inside pane of glass and heel bead of glazing compound. Position thermal insulation on exterior surface of air barrier and vapor retarder.
- F. Thermal Movement: Design sections to permit movement caused by thermal expansion and contraction of plastic to suit glass, infill, and perimeter opening construction.

1.04 SUBMITTALS

- A. Product Data: Provide component dimensions, anchorage and fasteners, glass, internal drainage details and manufacturer's installation instructions.
- B. Shop Drawings: Indicate opening dimensions, framed opening tolerances, affected related work.
- C. Mock up: Provide mock up of one window for inspections and approval prior to installation of remaining windows.
 - 1. Mock up may remain as part of the work.
- D. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Protect finished surfaces with strippable coating. Do not use adhesive papers or sprayed coatings that bond when exposed to sunlight or weather.

1.07 WARRANTY

- A. Provide ten year manufacturer warranty.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Tubular Plastic Windows and Patio Doors:
 - 1. Jeld Wen Builders Series.
 - 2. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 VINYL WINDOWS

- A. Vinyl Windows: Factory fabricated frame and sash members of extruded, hollow, ultra-violet-resistant, polyvinyl chloride (PVC) with integral color; with factory-installed glazing, hardware, related flashings, anchorage and attachment devices.
 - 1. Configuration: As indicated on drawings.
 - 2. Color: Almond.
 - 3. Size to fit openings with minimum clearance around perimeter of assembly providing necessary space for perimeter seals.
 - 4. Framing Members: Fusion welded corners and joints, with internal reinforcement where required for structural rigidity; concealed fasteners.
 - 5. System Internal Drainage: Drain to exterior side by means of weep drainage network any water entering joints, condensation within glazing channel, or other migrating moisture within system.
 - 6. Glazing Stops, Trim, Flashings, and Accessory Pieces: Formed of rigid PVC, fitting tightly into frame assembly.
- B. Performance Requirements: Provide products that comply with the following:
 - 1. Comply with AAMA/WDMA/CSA 101/I.S.2/A440 requirements in accordance with the following:
 - 2. Performance Validation: Windows shall comply with AAMA/WDMA/CSA 101/I.S.2/A440 performance requirements as indicated by having AAMA, WDMA, or CSA certified label, or an independent test report for indicated products itemizing compliance and acceptable by authorities having jurisdiction.
 - 3. Design Pressure: In accordance with applicable codes.

2.03 GLASS AND GLAZING MATERIALS

- A. Glass and Glazing Materials: Energy Star Qualified glazing

2.04 HARDWARE

- A. Finish For Exposed Hardware: Tan baked enamel.
- B. Mount operating hardware less than 48" above finish floor in accessible units.
- C. Accessible Threshold Ramp: Where Sliding Doors are provided for Accessible Units provide Accessible Rubber Threshold Ramp: Express Ramps (866)-491-1110, or approved; 1.5" Beveled Rubber Threshold Ramp, ADA Compliant, trimable, non-skid surface.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify wall openings and adjoining air and vapor seal materials are ready to receive this work.

3.02 INSTALLATION

- A. Install window units, window frames, glass and glazing, and hardware in accordance with manufacturers instructions and Section 07 25 00.
- B. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities as necessary.
- C. Align window plumb and level, free of warp or twist, and maintain dimensional tolerances and alignment with adjacent work.

3.03 ADJUSTING

- A. Adjust hardware for smooth operation and secure weathertight closure.

3.04 CLEANING

- A. Remove protective material from pre-finished surfaces.
- B. Wash surfaces by method recommended and acceptable to sealant and window manufacturer; rinse and wipe surfaces clean.

END OF SECTION

SECTION 08 71 00
DOOR HARDWARE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Hardware for replaced doors.
- B. Thresholds.
- C. Weatherstripping, seals and door gaskets.

1.02 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the manufacture, fabrication, and installation of products onto which door hardware will be installed.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Hager Companies products as specified in Section 08 71 10, for hinges, locks, closers, and other items specified: www.hagerco.com.
- B. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 DOOR HARDWARE - GENERAL

- A. Provide all hardware specified or required to make doors fully functional, compliant with applicable codes, and secure to the extent indicated.
- B. Provide all items of a single type of the same model by the same manufacturer.
- C. Provide products that comply with the following:
 1. Applicable provisions of federal, state, and local codes.
- D. Finishes: All door hardware the same finish unless otherwise indicated.
 1. Primary Finish: Satin chrome plated over nickel on brass or bronze, 626 (approx US26D).
 2. Secondary Finish: Satin chrome plated over nickel on brass or bronze, 626 (approx US26D).
 3. Finish Definitions: BHMA A156.18.

2.03 HINGES

- A. Hinges: Provide hinges on every swinging door.
 1. Provide five-knuckle full mortise butt hinges unless otherwise indicated.
 2. Provide ball-bearing hinges at all doors having closers.
 3. Provide hinges in the quantities indicated.
 4. Provide non-removable pins on exterior outswinging doors.
 5. Where electrified hardware is mounted in door leaf, provide power transfer hinges.

2.04 LOCKS AND LATCHES

- A. Locks: Provide a lock and deadbolt for every exterior door, unless specifically indicated as not requiring locking.
 1. Lock Cylinders: Provide key access on outside of all locks unless specifically stated to have no locking or no outside trim.
- B. Keying: Grand master keyed.
 1. Key to existing keying system.
 2. Supply keys in the following quantities:
 - a. 3 grand master keys.

2.05 STOPS AND HOLDERS

- A. Stops: Complying with BHMA A156.8; provide a stop for every swinging door, unless otherwise indicated.
 - 1. Provide wall stops, unless otherwise indicated.
 - 2. If wall stops are not practical, due to configuration of room or furnishings, provide overhead stop.
 - 3. Stop is not required if positive stop feature is specified for door closer; positive stop feature of door closer is not an acceptable substitute for a stop unless specifically so stated.

2.06 GASKETING AND THRESHOLDS

- A. Gaskets: Complying with BHMA A156.22.
 - 1. On each exterior door, provide weatherstripping gaskets, unless otherwise indicated; top, sides, and meeting stiles of pairs.
 - a. Where exterior door is also required to have fire or smoke rating, provide gaskets functioning as both smoke and weather seals.
 - 2. On each exterior door, provide door bottom sweep, unless otherwise indicated.
- B. Thresholds:
 - 1. At each exterior door, provide an ADA threshold, dark bronze finish.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that doors and frames are ready to receive work; labeled, fire-rated doors and frames are present and properly installed, and dimensions are as indicated on shop drawings.

3.02 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.
- B. Use templates provided by hardware item manufacturer.
- C. Mounting heights for hardware from finished floor to center line of hardware item: As listed in Schedule, unless otherwise noted:

3.03 ADJUSTING

- A. Adjust work under provisions of Section 01 70 00.
- B. Adjust hardware for smooth operation.

END OF SECTION

SECTION 09 21 16
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Gypsum wallboard.
- B. Joint treatment and accessories.
- C. Textured finish system.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Building framing and sheathing.
- B. Section 07 90 05 - Joint Sealers: Acoustic sealant.

1.03 REFERENCE STANDARDS

- A. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
- B. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board.
- C. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base.
- D. ASTM C1278/C1278M - Standard Specification for Fiber-Reinforced Gypsum Panel.
- E. ASTM C1396/C1396M - Standard Specification for Gypsum Board.
- F. ASTM C1658/C1658M - Standard Specification for Glass Mat Gypsum Panels.
- G. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- H. GA-216 - Application and Finishing of Gypsum Board; Gypsum Association.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing gypsum board application and finishing, with minimum 3 years of documented experience.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.

2.02 BOARD MATERIALS

- A. Manufacturers - Gypsum-Based Board: Contractor's Choice
- B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
 - 1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
 - a. Glass mat faced gypsum panels as defined in ASTM C1658/C1658M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.
 - b. Unfaced fiber-reinforced gypsum panels as defined in ASTM C1278/C1278M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.
 - 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 - a. Mold-resistant board "green board" is required behind all water fixtures.

3. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
4. Thickness:
 - a. Vertical Surfaces: 1/2 inch.
 - b. Ceilings: 5/8 inch.

2.03 ACCESSORIES

- A. Acoustic Sealant: Non-hardening, non-skimming, for use in conjunction with gypsum board.
- B. Finishing Accessories: ASTM C1047, galvanized steel, rolled zinc, or rigid plastic, unless otherwise indicated.
 1. Types: As detailed or required for finished appearance.
 2. All exterior corners to be square unless otherwise noted.
- C. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.
- D. Textured Finish Materials: Latex-based compound; plain.
- E. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

- A. Suspended Soffits: Space framing and furring members as indicated.
 1. Level ceiling system to a tolerance of 1/1200.
 2. Laterally brace entire suspension system.
- B. Acoustic Furring: Install resilient channels at maximum 24 inches on center. Locate joints over framing members.

3.03 BOARD INSTALLATION

- A. Comply with ASTM C 840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

3.04 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
- B. Corner Beads: Install at external corners, using longest practical lengths.

3.05 JOINT TREATMENT

- A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
 1. Level 3: All locations except as indicated below.
 2. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
- B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 1. Feather coats of joint compound so that camber is maximum 1/32 inch.

3.06 TEXTURE FINISH

- A. Apply finish texture coating by means of spraying apparatus in accordance with manufacturer's instructions orange peel texture.

3.07 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

SECTION 09 65 00
RESILIENT FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Resilient sheet flooring.
- B. Resilient base.

1.02 RELATED REQUIREMENTS

- A. Section 03 30 00 - Cast-in-Place Concrete: Restrictions on curing compounds for concrete slabs and floors. Concrete sealant for existing floors.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
- C. Selection Samples: Submit manufacturer's complete set of color samples for Architect's initial selection.
- D. Concrete Testing Standard: Submit a copy of ASTM F710.

PART 2 PRODUCTS

2.01 SHEET FLOORING

- A. Vinyl Sheet Flooring : Color and pattern throughout wear layer thickness and:
 - 1. Minimum Requirements: Comply with ASTM F1303, Type I, with 4 ply fused backing.
 - 2. Wear Layer Thickness:.020" inch minimum.
 - 3. Total Thickness:.086" inch minimum.
 - 4. Sheet Width: 72 inch minimum.
 - 5. Pattern: wood.
 - 6. Manufacturers:
 - a. Patcraft; Product Brookwood.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Vinyl Welding Rod: Solid vinyl bead produced by manufacturer of vinyl flooring for heat welding seams, in color matching field color.

2.02 RESILIENT BASE

- A. Resilient Base: ASTM F1861, Type TS rubber, vulcanized thermoset; top set Style B, Cove, and as follows:
 - 1. Height: 4 inch.
 - 2. Thickness: 0.125 inch thick.
 - 3. Finish: Satin.
 - 4. Color: Color as selected from manufacturer's standards.
 - 5. Manufacturers:
 - a. Johnsonite, a Tarkett Company: www.johnsonite.com.
 - b. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.
- B. Cementitious Sub-floor Surfaces: Verify that substrates are dry enough and ready for resilient flooring installation by testing for moisture and pH.

1. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.

3.02 PREPARATION

- A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.
- B. Remove sub-floor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with sub-floor filler to achieve smooth, flat, hard surface.
- C. Prohibit traffic until filler is cured.

3.03 INSTALLATION

- A. Starting installation constitutes acceptance of sub-floor conditions.
- B. Install in accordance with manufacturer's instructions.
- C. Spread only enough adhesive to permit installation of materials before initial set.
- D. Fit joints tightly.
- E. Set flooring in place, press with heavy roller to attain full adhesion.
- F. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.
- G. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.
- H. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

3.04 SHEET FLOORING

- A. Lay flooring with joints and seams parallel to longer room dimensions, to produce minimum number of seams. Lay out seams to avoid widths less than 1/3 of roll width; match patterns carefully at seams.
- B. Double cut sheet at seams.
- C. Lay flooring with tightly butted seams, without any seam sealer .

3.05 RESILIENT BASE

- A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.
- B. Install base on solid backing. Bond tightly to wall and floor surfaces.

END OF SECTION

SECTION 09 90 00
PAINTING AND COATING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints and stains.
- C. Scope:
 - 1. Exterior: Paint all exterior surfaces exposed to view, unless fully factory-finished included but not limited to exterior light poles and fixtures, fiber cement trim, new doors, cedar fascia, existing soffits, existing joists and trusses, structural brackets, and trash enclosures. Stain new fence.
 - 2. Interior: Paint all new and existing interior items in Community Building including walls, ceilings, trim, interior and exterior doors.

1.02 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency.
- B. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on all finishing products, including VOC content.
- C. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
 - 2. Extra Paint and Coatings: 5 gallons of each color; store where directed.
 - 3. Label each container with color in addition to the manufacturer's label.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.05 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.
- D. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
- E. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.

- B. Paints:
 - 1. Sherwin Williams, Inc.
 - 2. Benjamin Moore & Co: www.benjaminmoore.com.
 - 3. Miller Paint Company: www.millerpaint.com.
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.
- C. Joint Sealants: As specified in Section 07 90 05.

2.02 PAINTS AND COATINGS - GENERAL

- A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
 - 1. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 - 2. Supply each coating material in quantity required to complete entire project's work from a single production run.
 - 3. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
- B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
- C. Volatile Organic Compound (VOC) Content: 150/gal or lower.
 - 1. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

2.03 PAINT SYSTEMS - EXTERIOR

- A. Fiber Cement:
 - 1. One coat of primer sealer, by Fiber Cement Board manufacturer.
 - 2. Two coats of A-100 Exterior Latex Satin.
- B. Exterior Wood:
 - 1. One coat of Exterior Oil-Based Wood Primer.
 - 2. Two coats of A-100 Exterior latex satin.
- C. Fence: Oil-based, Semi-Transparent stain.
- D. Metals:
 - 1. One coat: DTM Acrylic Sherwin Williams B66-100 Series over shop applied primer.
 - 2. Touch-up paint after installation of steel.
 - 3. See Section 05 50 00 for finish on stairs and rails.
- E. Fiberglass Doors:
 - 1. Two coats of paint on exterior side of door and frame, interior side to be factory pre-painted.
 - a. Frame color to match building trim color.
 - b. Exterior of door to match building body color.

2.04 ACCESSORY MATERIALS

- A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.
- B. Patching Material: Latex filler.
- C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Test shop-applied primer for compatibility with subsequent cover materials.
- D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Exterior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to coating application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- D. Seal surfaces that might cause bleed through or staining of topcoat.
- E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- F. Concrete and Unit Masonry Surfaces to be Painted: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.
- G. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair. Fill joints with Joint Sealant.
- H. Galvanized Surfaces to be Painted: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
- I. Uncorroded Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs.
- J. Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.
- K. Interior Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.
- L. Exterior Wood Surfaces to Receive Opaque Finish: Remove dust, grit, and foreign matter. Seal knots, pitch streaks, and sappy sections. Fill nail holes with tinted exterior calking compound after prime coat has been applied. Back prime concealed surfaces before installation.
- M. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

3.03 APPLICATION

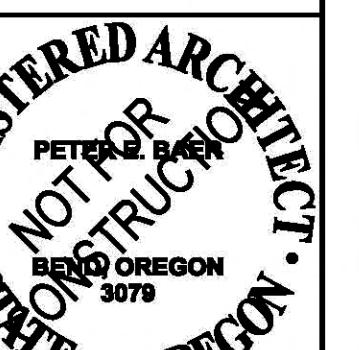
- A. Exterior Wood to Receive Opaque Finish: If final painting must be delayed more than 2 weeks after installation of woodwork, apply primer within 2 weeks and final coating within 4 weeks.
- B. Apply products in accordance with manufacturer's instructions.
- C. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- D. Apply each coat to uniform appearance.
- E. Sand wood and metal surfaces lightly between coats to achieve required finish.

- F. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- G. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 SCHEDULE - REFER TO DRAWING ON FOLLOWING PAGE.

END OF SECTION

pinnacle
architecture inc.
961 SW Dick Dr., Ste. 101, Bend, OR 97702
PH: (541) 386-8897 FAX: (541) 386-9167



ASPEN VILLA APARTMENTS
933 NW NORTH CANAL BLVD.
REDMOND, OREGON 97756

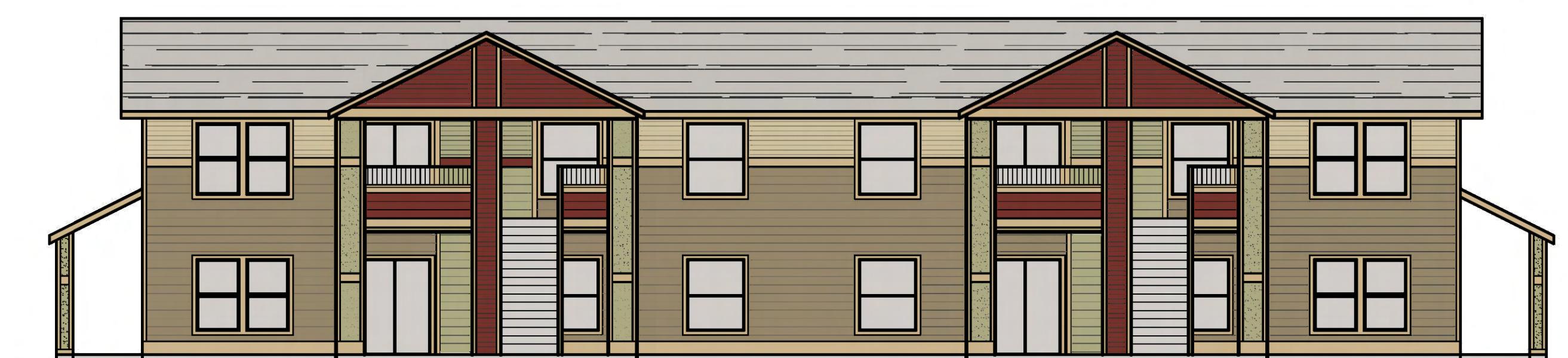
Approved for	Date	By
35% SD Review	8.18.14	BJM
65% DD Review		
100% CD Review		
Permit Submit		
Bidding/Const.		

REVISIONS		
no.	Description	Date

DRAWING NAME:
ELEVATIONS

Checked by: DBA
Drawn by: BJM

A3.1
BLDG A1
Job No: 1418.ASP
©



1 FRONT ELEVATION
1/8"=1'-0"



2 SIDE ELEVATIONS (SIMILAR)
1/8"=1'-0"



3 BACK ELEVATION
1/8"=1'-0"



4" Lap Siding
Sandstone Beige



8" Lap Siding
Woodstock Brown



Stucco Panel
Heather Moss



Trim
Khaki Brown



Accent Siding and Doors:
Country Lane Red

SECTION 10 14 00
SIGNAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Cash allowance for signs.

1.02 PRICE AND PAYMENT PROCEDURES

- A. See Section 01 21 00 - Allowances, for cash allowances affecting this section.
- B. Allowance amount covers purchase, delivery, and installation.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's printed product literature for each type of sign, indicating sign styles, font, foreground and background colors, locations, overall dimensions of each sign.

PART 2 PRODUCTS

2.01 SIGNAGE APPLICATIONS

- A. Accessibility Compliance: All signs are required to comply with ADA Standards for Accessible Design and ANSI/ICC A 117.1 and applicable building codes, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.

2.02 SIGN TYPES

- A. Color and Font: Unless otherwise indicated:
 - 1. Character Font: Helvetica, Arial, or other sans serif font.
 - 2. Character Case: Upper case only.
 - 3. Background Color: Clear.
 - 4. Character Color: Contrasting color.

END OF SECTION

SECTION 10 28 00
TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Accessories for toilet rooms in community building.
- B. Grab bars in community building.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
- B. Stainless Steel Sheet: ASTM A666, Type 304.
- C. Mirror Glass: Float glass, ASTM C1036 Type I, Class 1, Quality Q2, with silvering, protective and physical characteristics complying with ASTM C1503.

2.02 FINISHES

- A. Stainless Steel: No. 4 satin brushed finish, unless otherwise noted.

2.03 TOILET ROOM ACCESSORIES

- A. Toilet Paper Dispenser: Single roll, surface mounted bracket type, chrome-plated zinc alloy brackets, spindleless type for tension spring delivery designed to prevent theft of tissue roll.
- B. Paper Towel Dispenser: Folded paper type, stainless steel, surface-mounted, with viewing slots on sides as refill indicator and tumbler lock.
- C. Mirrors: Stainless steel framed, 6 mm thick float glass mirror.
- D. Seat Cover Dispenser: Stainless steel, surface-mounted, reloading by concealed opening at base, tumbler lock.
- E. Grab Bars: Stainless steel, nonslip grasping surface finish.
- F. Sanitary Napkin Disposal Unit: Stainless steel, surface-mounted, self-closing door, locking bottom panel with full-length stainless steel piano-type hinge, removable receptacle.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify exact location of accessories for installation.

3.02 INSTALLATION

- A. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.
 - 1. Grab Bars: As indicated on the drawings.
 - 2. Other Accessories: As indicated on the drawings.

END OF SECTION

SECTION 22 40 00
PLUMBING FIXTURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Lavatories for community building.
- B. Sinks for community building.

1.02 REFERENCE STANDARDS

- A. NSF 61 - Drinking Water System Components - Health Effects.
- B. NSF 372 - Drinking Water System Components - Lead Content.

PART 2 PRODUCTS

2.01 GENERAL

- A. Potable Water Systems: Provide plumbing fittings and faucets that comply with NSF 61 and NSF 372 for maximum lead content; label pipe and fittings.

2.02 LAVATORY

- A. Wall Mount:
 - 1. Kohler; Model Kingston K-2005.
 - a. Faucet: Moen M-Bition 8422F05
 - 1) 4" Handles
 - 2) .5 GPM
 - 3) Flex Supply lines
 - 4) Chrome
 - b. P-trap: Dearborn Model: 701-1
 - c. Valve with Riser: Brass Craft Model: OCR1920A C.
 - d. Pipe insulation cover. Plumberex Handy-Shield Model: 3011 and 3021
 - e. Concealed Arm System: Zurn Model Z1231

2.03 KITCHEN SINKS

- A. Community Building:
 - 1. Dayton DSE 12522-4 Single Bowl SS
 - a. Faucet: Moen 67430 Chrome
 - b. Combination End Outlet Waste: Dearborn Brass Model P9121A
 - c. P-Trap: Dearborn Brass Model P9704A
 - d. Strainer: Smith Cooper Model 683 8440
 - e. Valve with Riser: Brass Craft Model: OCR1920A C
 - f. Pipe insulation covers. Plumberex HandyShield Model 3011 and 3021

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that walls and floor finishes are prepared and ready for installation of fixtures.

3.02 PREPARATION

- A. Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.

3.03 INSTALLATION

- A. Seal around plumbing penetrations in all exterior surfaces, surfaces that border on unconditioned spaces, between floors, and through the exterior of building.
- B. Install each fixture with trap, easily removable for servicing and cleaning.
- C. Provide chrome plated rigid or flexible supplies to fixtures with loose key stops, reducers, and escutcheons.

- D. Install components level and plumb.
- E. Seal fixtures to wall and floor surfaces with sealant as specified in Section 07 90 05, color to match fixture.
- F. Solidly attach water closets to floor with lag screws. Lead flashing is not intended hold fixture in place.

3.04 ADJUSTING

- A. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

3.05 CLEANING

- A. Clean plumbing fixtures and equipment.

END OF SECTION

SECTION 23 81 13
PACKAGED TERMINAL HEAT PUMP

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Unitary heat pumps
- B. Controls.

1.02 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data for manufactured products and assemblies. Indicate water, drain, thermostatic valves, and electrical rough-in connections with electrical characteristics and connection requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Amana or approved equal.

PART 3 EXECUTION

3.01 INSTALLATION

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

3.02 SCHEDULES

- A. Community Building:
 - 1. Provide an air cooled, through the wall PTHP to serve the Community Room area. Locate the unit per the architectural drawings. Provide a remote wall mounted digital programmable thermostat to control the system. Mount a remote thermostat in the Community Room with a tamperproof cover.
 - 2. Provide an air cooled, through the wall PTHP to serve the Office. Locate the unit per the architectural drawings. Provide a remote wall mounted digital programmable thermostat to control the system.
 - 3. Provide code required ventilation to the building spaces through the PTHP system.

END OF SECTION

SECTION 26 51 00
INTERIOR LIGHTING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Interior luminaires for Community Building.
- B. Exit signs.

1.02 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction; National Electrical Contractors Association.
- B. NECA/IESNA 500 - Standard for Installing Indoor Commercial Lighting Systems; National Electrical Contractors Association.
- C. NECA/IESNA 502 - Standard for Installing Industrial Lighting Systems; National Electrical Contractors Association.
- D. NFPA 70 - National Electrical Code; National Fire Protection Association.
- E. NFPA 101 - Life Safety Code; National Fire Protection Association.
- F. UL 1598 - Luminaires.

PART 2 PRODUCTS

2.01 LUMINAIRE TYPES

- A. Furnish products as indicated in luminaire schedule included on the drawings.
- B. Substitutions: See Section 01 60 00 - Product Requirements, except where individual luminaire types are designated with substitutions not permitted.

2.02 LUMINAIRES

- A. Provide products that comply with requirements of NFPA 70.
- B. Provide products that are listed and labeled as complying with UL 1598, where applicable.
- C. Provide products listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.
- D. Unless otherwise indicated, provide complete luminaires including lamp(s) and all sockets, ballasts, reflectors, lenses, housings and other components required to position, energize and protect the lamp and distribute the light.
- E. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, hardware, supports, trims, accessories, etc. as necessary for a complete operating system.
- F. Provide products suitable to withstand normal handling, installation, and service without any damage, distortion, corrosion, fading, discoloring, etc.

2.03 EXIT SIGNS

- A. All Exit Signs: Internally illuminated with LEDs unless otherwise indicated; complying with NFPA 101 and all applicable state and local codes, and listed and labeled as complying with UL 924.
 - 1. Number of Faces: Single or double as indicated or as required for the installed location.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install products according to manufacturer's instructions.
- B. Install luminaires securely, in a neat and workmanlike manner, as specified in NECA 1 (general workmanship), NECA 500 (commercial lighting), and NECA 502 (industrial lighting).
- C. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires.
- D. Install accessories furnished with each luminaire.

- E. Bond products and metal accessories to branch circuit equipment grounding conductor.
- F. Exit Signs:
 - 1. Unless otherwise indicated, connect unit to unswitched power from same circuit feeding normal lighting in same room or area. Bypass local switches, contactors, or other lighting controls.
- G. Install lamps in each luminaire.

END OF SECTION

SECTION 32 12 16
ASPHALT PAVING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Single course bituminous concrete paving.

1.02 QUALITY ASSURANCE

- A. Perform Work in accordance with State of Oregon Highways standard.
- B. Mixing Plant: Conform to State of Oregon Highways standard.
- C. Obtain materials from same source throughout.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Aggregate for Base Course: In accordance with State of Oregon Highways standards.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that compacted subgrade is dry and ready to support paving and imposed loads.
- B. Verify gradients and elevations of base are correct.

3.02 PLACING ASPHALT PAVEMENT - SINGLE COURSE

- A. Install Work in accordance with State of Oregon Highways standards.
- B. Place asphalt within 24 hours of applying primer or tack coat.
- C. Compact pavement by rolling to specified density. Do not displace or extrude pavement from position. Hand compact in areas inaccessible to rolling equipment.
- D. Perform rolling with consecutive passes to achieve even and smooth finish without roller marks.

END OF SECTION

SECTION 32 17 13
PARKING BUMPERS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Rubber parking bumpers and anchorage

1.02 REFERENCE STANDARDS

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide unit configuration, dimensions.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Parking Bumpers: GNR Technologies, Rubber Car Stop, , pre-drilled for two dowels.
 - 1. Nominal Size: 4 inches high, 6 inches wide, 6 feet long.
 - 2. Profile: Manufacturer's standard.
 - 3. Finish: Black with in-molded reflective pavement marking tape in white parallelograms.
- B. Dowels: Cut reinforcing steel, 1/2 inch diameter, 18 inch long, pointed tip.
- C. Adhesive: Epoxy type.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Instal units in accordance with manufacturers written instructions.
- B. Install units without damage to shape or finish. Replace or repair damaged units.
- C. Install units in alignment with adjacent work.
- D. Fasten units in place with 2 dowels per unit.

END OF SECTION

SECTION 32 17 23.13
PAINTED PAVEMENT MARKINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Parking lot markings, including parking bays, crosswalks, arrows, handicapped symbols, and curb markings.
- B. "No Parking" curb painting at fire lanes. Paint all curbs that do not have parking adjacent to them and are adjacent to a drive lane.

1.02 DELIVERY, STORAGE, AND HANDLING

- A. Deliver paint in containers of at least 5 gallons accompanied by batch certificate.
- B. Store products in manufacturer's unopened packaging until ready for installation.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.03 FIELD CONDITIONS

- A. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.04 EXTRA MATERIALS

- A. See Section 01 60 00 - Product Requirements, for additional provisions.
- B. Supply two containers of each color for Owner's use.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Line and Zone Marking Paint: MPI No. 97 Latex Traffic Marking Paint; color(s) as indicated.
 - 1. Parking Lots: Yellow.
 - 2. Handicapped Symbols: Blue.
 - 3. Fire lanes: Red -- White lettering
- B. Temporary Marking Tape: Preformed, reflective, pressure sensitive adhesive tape in color(s) required; Contractor is responsible for selection of material of sufficient durability as to perform satisfactorily during period for which its use is required.

PART 3 EXECUTION

3.01 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.

3.02 PREPARATION

- A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- B. Clean surfaces thoroughly prior to installation.
 - 1. Remove dust, dirt, and other granular surface deposits by sweeping, blowing with compressed air, rinsing with water, or a combination of these methods.
- C. Where oil or grease are present, scrub affected areas with several applications of trisodium phosphate solution or other approved detergent or degreaser, and rinse thoroughly after each application; after cleaning, seal oil-soaked areas with cut shellac to prevent bleeding through the new paint.
- D. Establish survey control points to determine locations and dimensions of markings; provide templates to control paint application by type and color at necessary intervals.
- E. Temporary Pavement Markings: When required or directed by Architect, apply temporary markings of the color(s), width(s) and length(s) as indicated or directed.

1. After temporary marking has served its purpose, remove temporary marking by carefully controlled sandblasting, approved grinding equipment, or other approved method so that surface to which the marking was applied will not be damaged.
2. At Contractor's option, temporary marking tape may be used in lieu of temporary painted marking; remove unsatisfactory tape and replace with painted markings at no additional cost to Owner.

3.03 INSTALLATION

- A. Begin pavement marking as soon as practicable after surface has been cleaned and dried.
- B. Do not apply paint if temperature of surface to be painted or the atmosphere is less than 50 degrees F or more than 95 degrees F.
- C. Apply in accordance with manufacturer's instructions using an experienced technician that is thoroughly familiar with equipment, materials, and marking layouts.
- D. Comply with FHWA MUTCD manual (<http://mutcd.fhwa.dot.gov>) for details not shown.
- E. Apply markings in locations determined by measurement from survey control points; preserve control points until after markings have been accepted.
- F. Apply uniformly painted markings of color(s), lengths, and widths as indicated on the drawings true, sharp edges and ends.
 1. Apply paint in one coat only.
 2. Wet Film Thickness: 0.015 inch, minimum.
 3. Width Tolerance: Plus or minus 1/8 inch.
- G. Parking Lots: Apply parking space lines, entrance and exit arrows, painted curbs, and other markings indicated on drawings.
 1. Mark the International Handicapped Symbol at indicated parking spaces.
 2. Hand application by pneumatic spray is acceptable.
- H. Symbols: Use a suitable template that will provide a pavement marking with true, sharp edges and ends, of the design and size indicated.

END OF SECTION

SECTION 32 31 13
FENCES AND GATES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fence framework, fabric, and accessories.

1.02 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, and schedule of components.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Fences and Gates:
 - 1. Contractor's choice of supplier; Cedar Fence.

2.02 MATERIALS AND COMPONENTS

- A. 5.5" Cedar vertical boards, alternate sides of fence with boards for 'good neighbor' fence.
- B. Galvanized steel posts at 6' on center buried in 8" diameter concrete piers. Wrap posts in cedar boards. Cedar cap at each post.
- C. Top, Middle and Bottom Rails: 2x4 cedar.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Provide gate at western sidewalk intersection. Gate hardware to be ADA accessible with lever access on both sides. Gate to be 36" wide clear.

END OF SECTION