GABLE END
VINYL SIDING INSTALLATION

Barnstable West Barnstable Elementary School

Barnstable, MA

LIST OF DOCUMENTS

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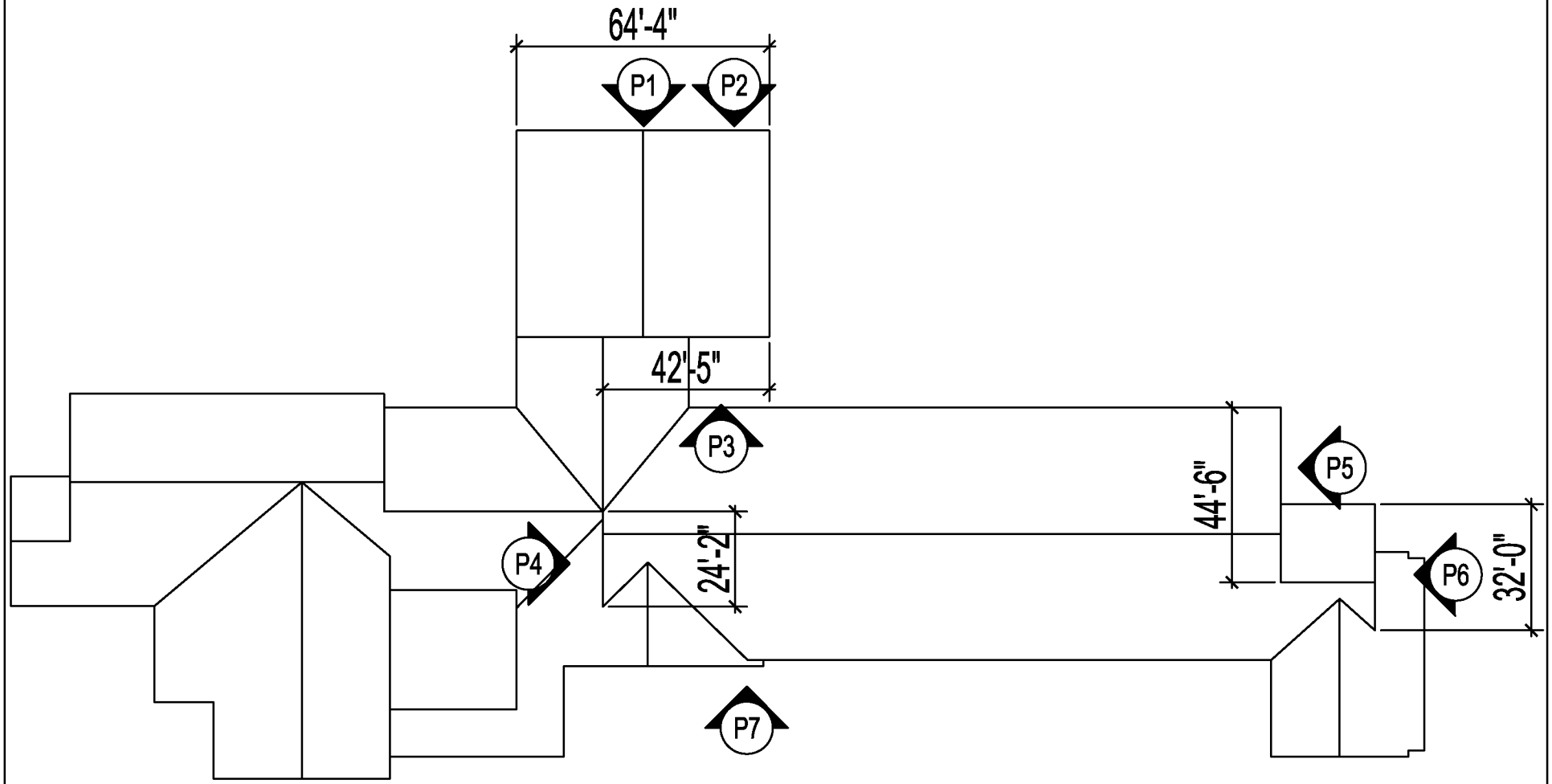
architects



TLCR
architecture
14 IRON HILL STREET WEYMOUTH, MA 02189
781.340.0982 TEL 781.340.0985 FAX

Sheet Title: ROOF PLAN
Project Name: GABLE SIDING
BARNSTABLE WEST BARNSTABLE ES
BARNSTABLE, MA
Project Number: 1114
Drawn by: PMW Drawing Scale: NTS
Checked by: PMW Date: 11-4-2011

DRAWING #:
BWB
1

GENERAL NOTES:

1. SCOPE OF WORK

The scope of work of this contract includes the removal of existing wood battens on gable ends and rake boards as noted on drawings and indicated in photographs. The installation of new vinyl siding and vinyl trim, metal drip flashing, and new rake boards to match existing installation as indicated on the drawings and in photographs.

It is hereby noted that existing gable ends have existing cement asbestos panels that are to remain in place and become encapsulated with the new vinyl siding. The contractor shall take great care to not abrade or cause asbestos containing materials to become friable.

All work performed by the General Contractor shall be performed in accordance with recognized standards of good workmanship. The General Contractor is to provide all labor, materials, equipment and services necessary as required by the drawings to provide a complete and finished space. All materials will be of first quality and shall meet recognized standards of quality for their generic group. All methods of construction and assembly shall comply with manufacturer's recommendations.

The contractor shall work in a clean, organized and professional manner and shall be responsible for maintaining the safety and security of the site (space) during construction.

2. APPLICABLE CODES

All work shall be performed in strict accordance with the MA State Building Code 780 CMR - 8th Edition and all local, state. and/or federal laws, bylaws, and/or ordinances.

3. EXISTING CONDITIONS

Verify existing conditions and the proposed Scope of Work at the building prior to submitting bid. No extra charge will be allowed for discovery of field conditions that could have been verified and brought to the attention of the Architect or Tenant/Owner's representative prior to submitting bid. Verifiable conditions shall mean those existing physical areas pertinent to the specific project. The parameters of verifiable conditions will include, but not be limited to the electrical/ mechanical/ fire protection systems; floor, wall and ceiling surfaces.

4. OCCUPIED BUILDING

The contractors shall be advised that the Owner will be occupying portions of the building throughout construction. The contractor will be responsible for coordination with the Owner and tenants when planned work may disrupt on going operations within the building.

5. COORDINATING AND EXPEDITING

It shall be the full responsibility of the General Contractor to coordinate and expedite all phases of the work. All other trades, sub-contractors and/or separate contractors shall cooperate fully with the General Contractor.

6. WORK IN PLACE

Work in place that is subject to damage because of operations performed under this Contract, shall be covered, boarded up, or substantially enclosed with adequate protection. All forms of protection shall be constructed in a manner, such that, upon completion, the entire work will be delivered to the Owner in prior, whole and unblemished condition. Work damaged by failure to provide protection shall be replaced with new work, at the expense of the Contractor.

7. TEMPORARY UTILITIES AND SERVICES

The General Contractor shall provide and pay for the collection of debris, as required in connection with the scope of work defined in these construction documents. Contractor's construction materials, tools, equipment shall be stored only within the demised premises, or in areas temporarily designated for that purpose by the Owner.

8. PERMITS

The General Contractor shall secure and pay for all permits required. Copies of the permit will be given to the Owner and to the Architect.

EXIST VENT TO REMAIN

REMOVE & INSTALL NEW RAKE BOARD

REMOVE EXIST BATTENS

PATCH EXIST HOLE AS REQUIRED

EXIST CEMENT ASBESTOS PANELS TO REMAIN

INSTALL NEW VINYL SIDING

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Sheet Title: SOUTH END GABLE
Project Name: GABLE SIDING
BARNSTABLE WEST BARNSTABLE ES
BARNSTABLE, MA
Project Number: 1114
Drawn by: PMW Drawing Scale: NTS
Checked by: PMW Date: 11-4-2011

DRAWING #:

P1

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14 IRON HILL STREET WEYMOUTH, MA 02189
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Sheet Title: SOUTH END GABLE - HOLE
Project Name: GABLE SIDING
BARNSTABLE WEST BARNSTABLE ES
BARNSTABLE, MA
Project Number: 1114
Drawn by: PMW Drawing Scale: NTS
Checked by: PMW Date: 11-4-2011

DRAWING #:
P2

EXIST VENT TO REMAIN

REMOVE & INSTALL NEW RAKE BOARD

REMOVE EXIST BATTENS

EXIST CEMENT ASBESTOS PANELS TO REMAIN

INSTALL NEW VINYL SIDING

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14 IRON HILL STREET WEYMOUTH, MA 02189
781.340.0982 TEL 781.340.0985 FAX

Sheet Title: NORTH GABLE OF SOUTH WING
Project Name: GABLE SIDING
BARNSTABLE WEST BARNSTABLE ES
BARNSTABLE, MA
Project Number: 1114
Drawn by: PMW Drawing Scale: NTS
Checked by: PMW Date: 11-4-2011

DRAWING #:

P3

EXIST VENT TO REMAIN

REMOVE & INSTALL NEW RAKE BOARD

REMOVE EXIST BATTENS

EXIST CEMENT ASBESTOS PANELS TO REMAIN

INSTALL NEW VINYL SIDING

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14 IRON HILL STREET WEYMOUTH, MA 02188
781.340.0982 TEL 781.340.0988 FAX

Sheet Title: EAST GABLE @ MAIN ENTRANCE
Project Name: GABLE SIDING
BARNSTABLE WEST BARNSTABLE ES
BARNSTABLE, MA
Project Number: 1114
Drawn by: PMW Drawing Scale: NTS
Checked by: PMW Date: 11-4-2011

DRAWING #:

P4

EXIST VENT TO REMAIN

REMOVE & INSTALL NEW RAKE BOARD

REMOVE EXIST BATTENS

EXIST CEMENT ASBESTOS PANELS TO REMAIN

INSTALL NEW VINYL SIDING

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14 IRON HILL STREET WEYMOUTH, MA 02188
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Sheet Title: WEST GABLE OF WEST WING
Project Name: GABLE SIDING
BARNSTABLE WEST BARNSTABLE ES
BARNSTABLE, MA
Project Number: 1114
Drawn by: PMW Drawing Scale: NTS
Checked by: PMW Date: 11-4-2011

DRAWING #:

P5

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14 IRON HILL STREET WEYMOUTH, MA 02189
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Sheet Title: WEST GABLE OF WEST WING
Project Name: GABLE SIDING
BARNSTABLE WEST BARNSTABLE ES
BARNSTABLE, MA
Project Number: 1114
Drawn by: PMW Drawing Scale: NTS
Checked by: PMW Date: 11-4-2011

DRAWING #:

P6

TYPICAL EXIST GABLE END WITH VINYL SIDING & TRIM, NEW RAKE BOARD, & METAL DRIP FLASHING.

INSTALLATION OF NEW VINYL SIDING ON GABLES SHALL MATCH EXISTING INSTALLATION AS SHOWN.

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14 IRON HILL STREET WEYMOUTH, MA 02188
781.340.0982 TEL 781.340.0988 FAX

Sheet Title: EXISTING GABLE w/ VINYL SIDING
Project Name: GABLE SIDING
BARNSTABLE WEST BARNSTABLE ES
BARNSTABLE, MA
Project Number: 1114
Drawn by: PMW Drawing Scale: NTS
Checked by: PMW Date: 11-4-2011

DRAWING #:

P7

SECTION 01 1000
SUMMARY

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:
1. Work covered by Contract Documents.
2. Access to site.
3. Coordination with occupants.
4. Work restrictions.
5. Specification and drawing conventions.

B. Related Requirements:
1. Division 01 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:
1. Installation of vinyl siding over existing cement asbestos panels on gable ends

1.3 ACCESS TO SITE

A. Contractor shall have limited use of Project site for construction.
B. Use of Site: Limit use of Project site to areas within the affected by the work of this contract. Do not disturb portions of Project site beyond areas in which the Work is indicated.
C. Condition of Existing Building: Repair damage caused by construction operations.

1.4 COORDINATION WITH OCCUPANTS

A. Full Owner Occupancy: Owner will occupy the building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
1. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

1.5 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.
B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner unless permitted under the following conditions:
1. Notify Owner not less than two days in advance of proposed utility interruptions.
C. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

1.6 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
   1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
   2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01 7300
EXECUTION

PART 1 – GENERAL

1.1 SUMMARY

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

1.2 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.3 QUALITY ASSURANCE

A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
   1. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection
   2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
      a. Primary operational systems and equipment.
      b. Fire separation assemblies.
      c. Air or smoke barriers.
      d. Mechanical systems piping and ducts.
      e. Control systems.
      f. Electrical wiring systems.
      g. Operating systems of special construction.
   3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:
      a. Water, moisture, or vapor barriers.
      b. Membranes and flashings.
      c. Equipment supports.
      d. Piping, ductwork, vessels, and equipment.
   4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

PART 2 – PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.
B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
   1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to the Architect for the visual and functional performance of in-place materials.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
   1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
      a. Description of the Work.
      b. List of detrimental conditions, including substrates.
      c. List of unacceptable installation tolerances.
      d. Recommended corrections.
   2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
   3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
   4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
   5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication.
B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of the Contractor, submit a request for information to Architect according to requirements in Division 01 Section "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

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

3.4 INSTALLATION

A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
   1. Make vertical work plumb and make horizontal work level.

2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
4. Maintain minimum headroom clearance of 96 inches (2440 mm) in occupied spaces and 90 inches (2300 mm) in unoccupied spaces.

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

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

D. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

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

3.5 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

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

C. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements of Division 01 Section "Summary."

D. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
4. Proceed with patching after construction operations requiring cutting are complete.

E. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.

a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
b. Restore damaged pipe covering to its original condition.

3. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

F. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.6 PROGRESS CLEANING

A. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.

B. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

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

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

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

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

3.7 STARTING AND ADJUSTING

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

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

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

3.8 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

END OF SECTION

SECTION 01 7700
CLOSEOUT PROCEDURES

PART 1 – GENERAL

1.1 SUMMARY

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

1.2 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

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

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 FINAL CLEANING

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

B. Cleaning: Employ experienced workers. Clean each surface to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
   1. Complete the following cleaning operations before requesting inspection for certification of Substantial of Project:
      a. Remove tools, construction equipment, machinery, and surplus material from Project site.
      b. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances.
      c. Remove labels that are not permanent.
      d. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.

END OF SECTION

SECTION 06 6000
PLASTIC FABRICATIONS

PART-1 GENERAL

1.1 SECTION INCLUDES
A. Cellular pvc trim boards for rake boards.

1.2 REFERENCES
A. ASTM D792 - Density and Specific Gravity of Plastics by Displacement.
B. ASTM D570 - Water Absorption of Plastics.
C. ASTM D638 - Tensile Properties of Plastics.
D. ASTM D790 - Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
E. ASTM D1761 - Mechanical Fasteners in Wood.
F. ASTM D5420 - Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by means of a Striker Impacted by a Falling Weight.
G. ASTM D256 - Determining the Pendulum Impact Resistance of Plastics.
H. ASTM D696 - Coefficient of Linear Thermal Expansion of Plastics Between -30°C and 30°C with a Vitreous silica Dilatometer.
I. ASTM D635 - Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.
J. ASTM E84 - Surface Burning Characteristics of Building Materials.
K. ASTM D648 - Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.
L. ASTM D3679 - Standard Specification for Rigid Poly Vinyl Chloride (PVC) Siding.

1.3 SUBMITTALS
A. Product Data: Submit three copies product data, manufacturer's catalogs, SPEC-DATA® product sheet, for specified products.
B. Samples: Submit three material samples representative of the texture, thickness and widths shown and specified herein.

1.4 QUALITY ASSURANCE
A. Regulatory Requirements: Check with Local Building Code for installation requirements.
B. Allowable Tolerances:
1. Variation in component length: -0.00 / +1.00"
2. Variation in component width: ± 1/16"
3. Variation in component thickness: ± 1/16"
4. Variation in component edge cut: ± 2°
5. Variation in Density -0% + 10%
C. Workmanship, Finish, and Appearance:
1. Free foam cellular pvc that is homogeneous and free of voids, holes, cracks, and foreign inclusions and other defects. Edges must be square, and top and bottom surfaces shall be flat with no convex or concave deviation.
2. Uniform surface free from cupping, warping, and twisting.

1.5 DELIVERY, STORAGE AND HANDLING
A. Trim materials should be stored on a flat and level surface on a full shipping pallet. Handle materials to prevent damage to product edges and corners. Store materials under a protective covering to prevent jobsite dirt and residue from collecting on the boards.

1.6 WARRANTY
A. Provide manufacturer's 25 year warranty against defects in manufacturing that cause the products to rot, corrode, delaminate, or excessively swell from moisture.

PART-2 PRODUCTS

2.01 MATERIALS

A. Acceptable products:
   1. Kleer Lumber Inc., which is located at: 44 Greif Way ; Westfield, MA 01085
   2. AZEK Trimboards manufactured by Vycom Corporation, 801 Corey Street, Moosic, PA 18507.
   3. VERSATEX Trimboards manufactured by Wolfpac Technologies, Inc., 400 Steel Street, Aliquippa, PA 15001.
   4. Koma Trim Boards manufactured by Kömmerling USA, 3402 Stanwood Boulevard, Huntsville, AL 35811

B. PVC Trim and Moldings: Expanded rigid cellular PVC material by Kleer Lumber, Inc. Material shall be produced from PVC resins, recycled PVC and have an integral white color. Composite material is not acceptable.

C. Physical Properties: PVC material with a small-cell microstructure.
   1. Recycled Content: Minimum 19 percent pre-consumer recycled content, independently certified by Scientific Certification Systems (SCS).
   2. Density: 0.55 grams per cubic centimeter.
   3. Flame Spread Index: 14; self extinguishing; will not burn once active flame source is removed.
   4. Water Absorption: Less than or equal to 1 percent.
   5. Insect Resistant: Yes.
   6. Moisture, Rot and Mildew Resistant: Yes.
   7. Resistance to Cupping, Splitting, Delamination, and Warping: Yes.
   8. Direct Moisture Contact: Allowed.
   9. Direct Contact with Grade: Allowed.
   10. Direct Masonry Contact: Allowed.
   11. Thermodynamic: Linear expansion and contraction capabilities.
   12. Heat Forming: Allowed.
   13. Nonstructural and Non-Load Bearing: Utilize the same thickness to span ratios used for wood in non-load bearing applications.
   14. Paintable: Allowed with 100 percent acrylic paint and primer, if required by paint manufacturer; or coatings designed specifically for use on exterior vinyl products.
   15. Non-Yellowing: Yes.
   16. Environmental: Kleer sheets are extruded using low toxicity organotin heat stabilizers with minimal migration from PVC. Tin stabilizers added during formulation have minimal volatilization during normal processing conditions as well as under severe use conditions. Kleer sheet and Kleer PVC trim are free of conventional lead, barium, cadmium and zinc compounds and pose low risk to manufacturers, sheet processors, consumers and aquatic life. Materials are suitable for use where foods contact surfaces. Materials are recyclable.
   17. Variation in Component Length: Minus 0.00 inches, plus 1.00 inch.
   18. Variation in Component Width: Plus or minus 1/32 inch.
   19. Variation in Component Thickness: Plus or minus 1/32 inch.
   20. Variation in Component Edge Cut: Plus or minus 2 degrees.
   21. Variation in Density: Plus or minus 10 percent.

D. Products:
   1. Exterior Trim:
      a. Thickness: To match existing profiles or as noted on drawings.
      b. Width: To match existing profiles or as noted on drawings.
      c. Length: Manufacturers standard lengths as required.

2.02 ACCESSORY PRODUCTS

A. Fasteners:
   4. Use fasteners designed for wood trim and wood siding (thinner shank, blunt point, full round head). Fastener should have sufficient flexural and tensile strength to resist bending.
   5. Use a highly durable fastener such as stainless steel or hot-dipped galvanized.

6. The fasteners should be long enough to penetrate the solid wood substrate a minimum of 1 1/2".
7. Use standard nail guns with a pressure setting between 70 psi and 100 psi. The recommended pressure depends on the type of gun, type of nail, ambient temperature, and the substrate. Care should be taken not to overdrive the nail into the material.
8. Use minimum 2 fasteners per every framing member for trimboards applications. Trimboards 8" or wider, as well as sheets, will require additional fasteners.
9. Fasteners must be installed no more than 2" from the end of each board.
10. Avoid fastening trimboards over hollow or uneven areas. Fasten trimboards onto flat, solid substrates.
11. 3/8" and 1/2" sheet product is not intended to be ripped into trim pieces. These profiles must be glued to a substrate and mechanically fastened.

B. Adhesives:
1. Glue all PVC trimboard to PVC trimboard joints such as long fascia runs, etc. with manufactures recommended adhesive, a cellular pvc cement, to prevent joint separation.
2. The glue joint should be secured with a fastener and/or fastened on each side of the joint to allow adequate bonding time.
3. Surfaces to be glued should be smooth, clean and in complete contact with each other.
4. To bond PVC trimboard to other substrates, various adhesives may be used. Consult adhesive manufacturer to determine suitability.

C. Sealants:
1. Use urethane, polyurethane or acrylic based sealants without silicone.

2.3 FINISHES

A. PREPARATION:
1. Surface to be painted is clean, dry, and free of dirt, loose or peeling paint, mildew, chalk, grease and any other surface contaminants before paint application.
2. Use 100% acrylic latex or 100% acrylic latex with urethane additive paint with a light reflective value equal to or greater than 55 units.
3. Follow the paint manufacturer's application recommendations.
4. Nail holes may be finished with a two component methacrylate, poly urethane, polymer, or acrylic based caulk, or painted over. Use a caulk that is UV resistant.

PART-3 EXECUTION

3.1 INSTALLATION

A. Manufacturers instructions:
1. Comply with manufacturer's product catalog installation instructions and product technical bulletin instructions.

B. Cutting:
1. Use carbide tipped blades designed to cut wood work well. Avoid fine tooth metal cutting blades.

C. Drilling
1. Use standard woodworking drills. Do not use drills made for normal rigid pvc.
2. Periodic removal of shavings from the drill hole may be necessary.

D. Nail Location
1. Use 2 fasteners per every framing member for trimboard applications.
2. Trimboards over 12" or wider, as well as sheets, will require additional fasteners.
3. Fasteners must be installed no more than 2" from the end of each board.

E. Fastener Schedule:
1. Along Length of Board: Fasten at 16 inches (406.4 mm) on center, maximum.
2. Within Width of Board: 4 inches (101.6 mm) on center, maximum.
3. Distance from End of Each Board: Not more than 2 inches (50.8 mm).

F. Thermal Expansion and Contraction
1. PVC trimboard products expand and contract with changes in temperature.
2. Properly fastening material along its entire length to minimize expansion and contraction.

3. When properly fastened, allow for 1/8" per 18 foot of product for expansion and contraction.
4. Joints between pieces of PVC trimboards should be glued to eliminate joint separation. When gaps are glued on a long run, allow expansion and contraction at ends of the run.

END OF SECTION

SECTION 07 4640
VINYL SIDING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Vinyl siding,

B. Accessories and trim.

1.2 REFERENCES

A. ASTM D 635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.

B. ASTM D 638 - Standard Test Method for Tensile Properties of Plastics.

C. ASTM D 648 - Test Method for Deflection Temperature of Plastics Under Flexural Load.

D. ASTM D 696 - Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30 Degrees C and 30 Degrees C.

E. ASTM D 790 -- Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

F. ASTM D 1435 - Standard Practice Method for Outdoor Weathering of Plastics.

G. ASTM D 1929 - Standard Test Method for Ignition Properties of Plastics.

H. ASTM D 2843 - Standard Test Method for Density of Smoke from the Burning or Decomposition of Plastics.

I. ASTM D 3679 - Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Siding.

J. ASTM D 4101 - Standard Specification for Propylene Plastic Injection and Extrusion Materials.

K. ASTM D 4216 - Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Related Plastic Building Product Compounds.

L. ASTM D 4226 - Standard Test Method for Impact Resistance of PVC Building Products.

M. ASTM D 4477 - Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Soffit.

N. ASTM D 5206 - Standard Windload Resistance Test.

O. ASTM E 84 - Standard test Method for Surface Burning Characteristics of Building Materials.

P. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

1.3 PERFORMANCE REQUIREMENTS

A. PVC Fire Resistance: Provide vinyl siding products that meet or exceed the following ratings:
   1. Flame spread index 20, fuel contribution 0, smoke development rating 360, per ASTM E 84.
   2. Self-ignition temperature: 824 degrees F (440 degrees C) per ASTM D 1929.
   3. Fire endurance classification of 1 hour, per ASTM E 119 as wall assembly.

B. Cedar Impressions Shake and Shingle Siding: TPO Fire Resistance: Provide thermoplastic polyolefin siding products that meet or exceed the following ratings:
   1. Minimum self-ignition temperature of 650 degrees F (343 degrees C), per ASTM D 1929.
   2. Smoke density rating of 40, per ASTM D 2843.

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

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

D. Verification Samples: For each finish product specified, two samples, minimum size 12 inches (300 mm) long, representing actual product, color, and patterns.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Provide installer with not less than three years of experience with products specified or has obtained Master Craftsman credentials from CertainTeed.

B. Mock-Up: Provide a mock-up for evaluation of installation techniques and workmanship.
   1. Finish areas designated by Architect.
   2. Do not proceed with remaining work until workmanship and color is approved by Architect.
   3. Reinstall mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

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

1.7 PROJECT CONDITIONS

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

1.8 WARRANTY

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

PART 2 PRODUCTS

2.1 MATERIALS

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

2.2 VINYL SIDING

A. Basis of Design: Monogram 46, Double 5 inch (127 mm) clapboard or equal:
   1. Design: Double 5 inch (127 mm) clapboard; rough cedar finish with STUDfinder Installation System.
   2. Nail Hem: RigidForm 220 Technology Roll Over Nail Hem.
   3. Lock: CertiLock self aligning post formed positive lock.
   4. Width: 10 inch (254 mm).
   5. Length: 12 feet (3.66 m) plus or minus .025 inch (6 mm).
   6. Average Thickness: 0.046 inch (1.17 mm).
   7. Panel Projection: 3/4 inch (19 mm).
   8. Panel Exposure: 5 inch (127 mm) plus or minus .062 inch (1.57 mm).
   9. Maximum Warp (per 2 panels): 0.250 inch (6 mm).
   10. Color: As selected by Owner from manufacturer's standards.

2.3 VINYL CARPENTRY ACCESSORIES

A. Standard Accessories:
   1. J-Channel: Standard width, 12 feet, 6 inches (3.81 m) length.
   2. Color: As selected by Owner from manufacturer's standards.

2.4 FASTENERS

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

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

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

3.2 PREPARATION

A. Examine, clean, and repair as necessary any substrate conditions which would be detrimental to proper installation.

B. Do not begin installation until unacceptable conditions have been corrected.

3.3 INSTALLATION

A. Install products in accordance with the latest printed instructions of the manufacturer. Installer should have current Master Craftsman credentials.

B. Install products with all components true and plumb.

C. Nail horizontal panels by placing nail in center of slot. Nail vertical panels by placing first nail at top of top slot and remaining nails in center of slots. Drive nails straight, leaving 1/16 inch (1.6 mm) space between nail head and flange of panel.

D. Allow space between both ends of siding panels and trim for thermal movement. Overlap horizontal panel ends one-half the width of factory pre-cut notches.

E. Stagger lap joints in horizontal siding in uniform pattern as successive courses of siding are installed.

F. Install J-channel and flashing to accommodate successive courses of vertical siding. Install

wood shims at building corners to bring cut edges of vertical siding out to correct plane.

3.4 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

3.5 CLEANING

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

END OF SECTION