

SPECIFICATIONS FOR THE

Avalon Fire Department 2021 Station Addition and Renovations

3088 Dune Drive
Avalon, New Jersey 08202

for

The Borough of Avalon
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Avalon, New Jersey 08202

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SECTION 06100 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Wood framing.
2. Wood supports.
3. Wood blocking.
4. Wood cants.
5. Wood nailers.
6. Wood furring.
7. Wood grounds.
8. Wood sheathing.

1.2 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product indicated.

1. Include data for wood-preservative and fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that materials comply with requirements.

B. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses.

C. Research/Evaluation Reports: For the following:

1. Treated wood.
2. Engineered wood products.
3. Foam-plastic sheathing.
4. Power-driven fasteners.
5. Powder-actuated fasteners.
6. Expansion anchors.
7. Metal framing anchors.
8. Building wrap.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the manufacturers specified.

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2. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

2.2 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies certified by the American Lumber Standards Committee Board of Review.
 1. Factory mark each piece of lumber with grade stamp of grading agency.
 2. For exposed lumber indicated to receive stained or natural finish, mark grade stamp on end or back of each piece.
 3. Provide dressed lumber, S4S, unless otherwise indicated.
 4. Provide dry lumber with 15 percent maximum moisture content at time of dressing for 2-inch nominal thickness or less, unless otherwise indicated.
- B. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
 1. Allowable Design Stresses: Meet or exceed those indicated per manufacturer's published values determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.
- C. Wood Structural Panels:
 1. Plywood: DOC PS 1.
 2. Oriented Strand Board: DOC PS 2.
 3. Comply with "Code Plus" provisions in APA Form No. E30K, "APA Design/Construction Guide: Residential & Commercial."

2.3 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWWA C2 (lumber) and AWWA C9 (plywood), except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated according to AWWA C31 with inorganic boron (SBX). Preservative chemicals to be in accordance with EPA guidelines and regulations.
- B. Kiln-dry material after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
- C. Mark each treated item with treatment quality mark of an inspection agency approved by the American Lumber Standards Committee Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.

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2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
3. Wood framing members less than 18 inches above grade.
4. Wood floor plates that are installed over concrete slabs directly in contact with earth.

2.4 DIMENSION LUMBER

- A. General: Of grades indicated according to the American Lumber Standards Committee National Grading Rule provisions of the grading agency indicated.
- B. Non-Load-Bearing Interior Partitions: Construction, Stud, or No. 2 grade and any of the following species:
 1. Mixed southern pine; SPIB.
 2. Eastern softwoods; NELMA.
 3. Northern species; NLGA.
 4. Western woods; WCLIB or WWPA.
- C. Framing Other Than Non-Load-Bearing Partitions: Any species and grade with a modulus of elasticity of at least 1,300,000 psi and an extreme fiber stress in bending of at least 850 psi for 2-inch nominal thickness and 12-inch nominal width for single-member use.
- D. Exposed Framing: Hand select material for uniformity of appearance and freedom from characteristics that would impair finish appearance.
 1. Species and Grade: As indicated above for load-bearing construction of same type.
 2. Species and Grade: Hem-fir or Hem-fir (north), Select Structural grade; NLGA, WCLIB, or WWPA.
 3. Species and Grade: Southern pine, No. 1 grade; SPIB.
 4. Species and Grade: Spruce-pine-fir or Spruce-pine-fir (south), No. 1 grade; NELMA, NLGA, WCLIB, or WWPA.

2.5 TIMBER AND MISCELLANEOUS LUMBER

- A. For timbers of 5-inch nominal size and thicker, provide material complying with the following requirements:
 1. Species and Grade: Douglas fir-larch, Douglas fir-larch (north), or Douglas fir-south; No. 1 grade; NLGA, WCLIB, or WWPA.
 2. Species and Grade: Eastern hemlock, Eastern hemlock-tamarack, or Eastern hemlock-tamarack (north); No. 1 grade; NELMA or NLGA.
 3. Species and Grade: Southern pine, No. 1 grade; SPIB.
- B. Provide miscellaneous lumber for support or attachment of other construction, including the following:
 1. Rooftop equipment bases and support curbs.
 2. Blocking.

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3. Cants.
4. Nailers.
5. Furring.
6. Grounds.

- C. For items of dimension lumber size, provide Construction, Stud, or No. 2 grade lumber with 15 percent maximum moisture content of any species.
- D. For concealed boards, provide lumber with 15 percent maximum moisture content and any of the following species and grades:
 1. Mixed southern pine, No. 2 grade; SPIB.
 2. Eastern softwoods, No. 2 Common grade; NELMA.
 3. Northern species, No. 2 Common grade; NLGA.
 4. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.

2.6 ENGINEERED WOOD PRODUCTS

- A. Laminated-Veneer Lumber: Composite of wood veneers with grain primarily parallel to member lengths, manufactured with exterior-type adhesive complying with ASTM D 2559. Allowable design values determined according to ASTM D 5456.
 1. Available Manufacturers:
 - a. Boise Cascade Corporation.
 - b. Georgia-Pacific Corporation.
 - c. Louisiana-Pacific Corporation.
 - d. Pacific Woodtech Corp.
 - e. Trus Joist MacMillan.
 - f. Union Camp Corp.; Building Products Division.
 - g. Willamette Industries, Inc.
 - h. Approved equal
 2. Extreme Fiber Stress in Bending, Edgewise: 2600 psi for 12-inch nominal- depth members.
 3. Modulus of Elasticity, Edgewise: 1,900,000 psi.
- B. Wood I-Joists: Prefabricated units complying with APA PRI-400; depths and performance ratings not less than those indicated.
 1. Available Manufacturers:
 - a. Boise Cascade Corporation.
 - b. Georgia-Pacific Corporation.
 - c. Louisiana-Pacific Corporation.
 - d. Pacific Woodtech Corp.
 - e. Superior Wood Systems, Inc.
 - f. Trus Joist MacMillan.
 - g. Union Camp Corp.; Building Products Division.

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- h. Willamette Industries, Inc.
 - i. Approved equal.
- 2. Web Material: Either oriented strand board or plywood, Exposure 1.
 - 3. Structural Capacities: Establish and monitor structural capacities according to ASTM D 5055.
 - 4. Trademark: Factory mark I-joists with APA trademark indicating nominal joist depth, joist class, span ratings, mill identification, and I-joist compliance with APA standard.

2.7 SHEATHING

- A. Plywood Roof Sheathing: Exterior, Structural 2, Exposure 1 sheathing.

2.8 PLYWOOD BACKING PANELS

- A. Telephone and Electrical Equipment Backing Panels: DOC PS 1, Exposure 1, C-D Plugged, fire-retardant treated, in thickness indicated or, if not indicated, not less than 1/2 inch thick.

2.9 MISCELLANEOUS MATERIALS

- A. Fasteners:

- 1. Where rough carpentry is pressure treated, exposed to weather, in ground contact, or in areas of high relative humidity, provide fasteners with hot-dip galvanized coating complying with ASTM A 153, triple-zinc coated or made of Type 304 stainless steel.
- 2. Power-Driven Fasteners: CABO NER-272.
- 3. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.

- B. Metal Framing Anchors: Made from hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation.

- 1. Available Manufacturers:

- a. Alpine Engineered Products, Inc.
- b. Cleveland Steel Specialty Co.
- c. Harlen Metal Products, Inc.
- d. KC Metals Products, Inc.
- e. Silver Metal Products, Inc.
- f. Simpson Strong-Tie Company, Inc.
- g. Southeastern Metals Manufacturing Co., Inc.
- h. United Steel Products Company, Inc.
- i. Approved equal.

- 2. Research/Evaluation Reports: Provide products acceptable to authorities having jurisdiction and for which model code research/evaluation reports exist that show

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compliance of metal framing anchors, for application indicated, with building code in effect for Project.

3. Allowable Design Loads: Meet or exceed those indicated per manufacturer's published values determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.
- C. Building Paper: Asphalt-saturated organic felt complying with ASTM D 226, Type I (No. 15 asphalt felt), unperforated.
- D. Sheathing Tape: Pressure-sensitive plastic tape for sealing joints and penetrations in sheathing and recommended by sheathing manufacturer for use with type of sheathing required.
- E. Sill-Sealer Gaskets: Glass-fiber-resilient insulation, fabricated in strip form, for use as a sill sealer; 1-inch nominal thickness, compressible to 1/32 inch; selected from manufacturer's standard widths to suit width of sill members indicated.
- F. Adhesives for Field Gluing Panels to Framing: Formulation complying with APA AFG-01] ASTM D 3498 that is approved for use with type of construction panel indicated by both adhesive and panel manufacturers.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring,] nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- B. Apply field treatment complying with AWP A M4 to cut surfaces of preservative-treated lumber and plywood.
- C. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 1. CABO NER-272 for power-driven fasteners.
 2. Published requirements of metal framing anchor manufacturer.
 3. Table 23-II-B-1, "Nailing Schedule," and Table 23-II-B-2, "Wood Structural Panel Roof Sheathing Nailing Schedule," in the Uniform Building Code.
 4. Table 2305.2, "Fastening Schedule," in the BOCA National Building Code.
 5. Table 2306.1, "Fastening Schedule," in the Standard Building Code.
 6. Table 602.3(1), "Fastener Schedule for Structural Members," and Table 602.3(2), "Alternate Attachments," in the International One- and Two-Family Dwelling Code.
- D. Use finishing nails for exposed work, unless otherwise indicated. Countersink nail heads and fill holes with wood filler.

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- E. Framing Standard: Comply with AFPA's "Manual for Wood Frame Construction," unless otherwise indicated.
- F. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- G. Comply with applicable recommendations contained in APA Form No. E30K, "APA Design/Construction Guide: Residential & Commercial," for types of structural-use panels and applications indicated.
 - 1. Comply with "Code Plus" provisions in above-referenced guide.
- H. Fastening Methods:
 - 1. Combination Subfloor-Underlayment: Glue and nail to wood framing.
 - 2. Subflooring: Glue and nail to wood framing.
 - 3. Sheathing: Nail to wood framing.
 - 4. Plywood Backing Panels: Nail or screw to supports.
- I. Apply building paper horizontally with 2-inch overlap and 6-inch end lap; fasten to sheathing with galvanized staples or roofing nails. Cover upstanding flashing with 4-inch overlap.
- J. Apply sheathing tape to joints between sheathing panels and at items penetrating sheathing. Apply at upstanding flashing to overlap both flashing and sheathing.

END OF SECTION 06100

SECTION 06651 - SOLID SURFACE WINDOWSILLS AND COUNTERTOPS

1.1 SUMMARY

- A. Section Includes solid surfacing fabrication including but not limited to the following:
 - 1. Solid surface material countertops.
 - 2. Solid surface material backsplashes.
 - 3. Solid surface material end splashes.
 - 4. Solid surface material apron fronts.
 - 5. Solid surface material sinks.
 - 6. Solid Surface windowsill and Apron.

1.2 SUBMITTALS

- A. Product Data: For countertop materials and sinks.
- B. Shop Drawings: Submit Shop Drawings for work of this Section in accordance with Section 01300. Indicate plans, sections, dimensions, component sizes, edge details, thermosetting requirements, fabrication details, attachment provisions, sizes of furring, blocking, including concealed blocking and coordination requirements with adjacent work. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, waste receptacles and other items installed in the solid surface.
- C. Samples: For each type of material exposed to view.

1.01 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Installers: Provide work of this Section executed by competent installers with minimum 5 years' experience in the application of Products, systems and assemblies specified and with approval and training of the Product manufacturers.
- B. Mock-Ups:
 - 1. Prior to final approval of Shop Drawings, erect 1 full size mock-up of each component at Project site demonstrating quality of materials and execution for Architect review.
 - 2. Should mock-up not be approved, rework or remake until approval is secured. Remove rejected units from Project site.
 - 3. Approved mock-up will be used as standard for acceptance of subsequent work.
 - 4. Approved mock-ups may remain as part of finished work.

1.02 DELIVERY, STORAGE AND HANDLING

- A. Delivery and Acceptance Requirements: Deliver no components to Project site until areas are ready for installation.
- B. Storage and Handling Requirements:

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1. Store components indoors prior to installation.
2. Handle materials to prevent damage to finished surfaces.

1.03 WARRANTY

- A. Manufacturer Warranty: Provide manufacturer's standard warranty for material only for period of 10 years against defects and/or deficiencies in accordance with General Conditions of the Contract. Promptly correct any defects or deficiencies which become apparent within warranty period, to satisfaction of Architect and at no expense to Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer List: Products of the following manufacturers are acceptable subject to conformance to requirements of the Drawings, Schedules and Specifications:
 1. Meganite; www.meganite.com
 2. Cambria; www.cambriausa.com
 3. Wilsonart Contract; www.wilsonartcontract.com
 4. Or approved equal

2.2 SOLID SURFACE COUNTERTOP MATERIALS

- A. Solid Surface Material: Homogeneous-filled plastic resin complying with ICPA SS-1.
 1. Type: Provide Standard type unless Special Purpose type is indicated.
 2. Colors and Patterns: As selected by Architect from manufacturer's full range.
- B. Plywood: Exterior softwood plywood complying with DOC PS 1, Grade C-C Plugged, touch sanded.

2.3 COUNTERTOP FABRICATION

- A. Fabricate countertops according to solid surface material manufacturer's written instructions and to the AWI/AWMAC/WI's "Architectural Woodwork Standards."
- B. Configuration:
 1. Front: Eased square edge with separate apron
 2. End Splash: Matching backsplash.
- C. Countertops: 1-inch-thick, solid surface material with radius edge built up with same material].
- D. Joints: Fabricate countertops without joints.

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2.4 INSTALLATION MATERIALS

- A. Adhesive: Product recommended by solid surface material manufacturer.
- B. Sealant for Countertops: Comply with applicable requirements in Section 079200 "Joint

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions:
 - 1. Examine substrates and conditions, with fabricator present for compliance with requirements for installation tolerances and other conditions affecting performance of work. Proceed with installation only after unsatisfactory conditions have been corrected.
 - 2. Verify actual site dimensions and location of adjacent materials prior to commencing work.
 - 3. Examine cabinets upon which counter tops are to be installed. Verify cabinets are level to within 1/8" in 10' - 0".
 - 4. Notify Architect in writing of any conditions which would be detrimental to installation.
- B. Evaluation and Assessment: Commencement of work implies acceptance of previously completed work.

3.2 INSTALLATION

- A. Install components plumb, level, rigid, scribed to adjacent finishes in accordance with reviewed Shop Drawings and Product installation details.
- B. Fabricate field joints using manufacturer's recommended adhesive, with joints being inconspicuous in finished work. Exposed joints/seams are not permitted. Keep components and hands clean when making joints. Reinforce field joints as specified herein. Cut and finish component edges with clean, sharp returns.
- C. Route radii and contours to template. Anchor securely to base component or other supports. Align adjacent components and form seams to comply with manufacturer's written recommendations using adhesive in color to match work. Carefully dress joints smooth, remove surface scratches and clean entire surface.
- D. Install countertops/sills with no more than 1/8" sag, bow or other variation from a straight line.
- E. Seal between wall and components with joint sealant as specified herein and in Section 07920, as applicable.
- F. Provide endsplashes as indicated on Drawings. Adhere to countertops using a standard color-coordinated silicone sealant. Adhere applied sidesplashes to countertops using a standard color-matched silicone sealant. Provide sidesplashes at walls and adjacent millwork. Fabricate radius

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cove at intersection of counters with backsplashes to dimensions shown on reviewed Shop Drawings. Adhere to countertops using manufacturer's standard color-coordinated joint adhesive.

- G. Keep components and hands clean during installation. Remove adhesives, sealants and other stains. Ensure components are clean on date of Substantial Completion of the Work.

3.3 REPAIR

- A. Repair minor imperfections and cracked seams and replace areas of severely damaged surfaces in accordance with manufacturer's "Technical Bulletins".

3.4 SITE QUALITY CONTROL

- A. Non-Conforming Work: Replace damaged work which cannot be satisfactorily repaired, re-stored or cleaned, to satisfaction of Architect at no cost to Owner.

3.5 CLEANING

- A. Remove excess adhesive and sealant from visible surfaces.
- B. Clean surfaces in accordance with manufacturer's "Care and Maintenance Instructions".

3.6 PROTECTION

- A. Provide protective coverings to prevent physical damage or staining following installation for duration of construction phase.
- B. Protect surfaces from damage until date of Substantial Completion of the Work.

END SECTION 06651

SECTION 07132 – PRE-APPLIED SHEET MEMBRANE WATERPROOFING

PART 1 - GENERAL

1.01. SUMMARY

A. This Section includes requirements for providing labor, materials, tools, and equipment to complete the Work as shown on the Drawings Architectural Division and as specified herein including, but not limited to, the following:

1. Pre-applied sheet membrane waterproofing that forms an integral bond to poured concrete for the following applications:
 - a. Vertical applications: Membrane applied against soil retention system prior to concrete foundation wall placement (Henry Blueskin Pre-seal 320) or membrane applied to poured concrete foundation walls (Henry WP-200 or approved equal).
 - b. Horizontal applications: Membrane applied on prepared subbase prior to concrete slab placement (Henry Blueskin Pre-Seal 435 or approved equal).

B. Pre-applied sheet membrane waterproofing must meet the following standards:

1. A single source manufacturer must warrant pre-applied sheet waterproofing components.
2. Pre-applied fully bonded polypropylene sheet waterproofing comprised of polypropylene film with a heat bonded dimple surfaced geotextile, used to form a mechanical and chemical bond to poured concrete to prevent water migration at the interface of the membrane and structural concrete; having the following typical properties:
 - a. Resistance to Hydrostatic Head (ASTM D5385): 231 ft. (70.4m)
 - b. Puncture Resistance (ASTM E154)
 - c. Lateral Migration Resistance (ASTM D5385 Modified): 231 ft. (70.4m)
 - d. Lap Peel Adhesion (ASTM D1876): 6.9lbs/in (1200 N/m)
 - e. Permeance (ASTM E96): <0.1 Perms
 - f. Peel Adhesion to Concrete (ASTM D903): 5 lbs/in (875 N/m)

1.02. ADMINISTRATIVE REQUIREMENTS

A. Pre-installation meetings: A pre-applied pre-construction meeting must be completed to provide requirements and coordination for the waterproofing and subsequent warranty prior to the pre-applied waterproofing installation to maintain warranty eligibility. The pre-applied waterproofing pre-construction meeting is mandatory and must be attended by the Waterproofing Manufacturer Representative, General Contractor, Installing Contractor, Waterproofing Manufacturer's Qualified Inspector, Concrete/Shotcrete Contractor, Construction Manager, Owner's Representative and trades with associated scopes of work that directly affect the pre-applied waterproofing application or long-term ability to maintain a watertight assembly.

SECTION 07132 – PRE-APPLIED SHEET MEMBRANE WATERPROOFING

- B. Pre-applied waterproofing installations require independent inspection by a Waterproofing Manufacturer’s Qualified Inspector at the expense and coordination of the Contractor. Independent inspections include, but are not limited to, the following:
 - 1. Monitor waterproofing installation and compliance with project specific requirements, Waterproofing Manufacturer’s published literature and site specific details.
- C. The Contractor shall hire a Waterproofing Manufacturer’s Qualified Inspector Independent Inspections:
 - 1. Waterproofing Manufacturer’s Qualified Inspector to produce reports and digital photographs documenting each inspection. Failure to provide Waterproofing Manufacturer’s Qualified Inspector independent inspections will result in delay or rejection of warranty request.
 - a. Waterproofing membrane installation start
 - b. Periodic intervals to verify continued compliance with project specific requirements, Waterproofing Manufacturer’s published literature and site specific details
 - c. Waterproofing seam integrity.
 - d. Final inspection prior to concrete or backfill placement against the waterproofing, including at grade terminations and transition details

1.03. SUBMITTALS

- A. Provide the following requested information in accordance with Section 01300 – Submittals.
- B. Action Submittals:
 - 1. Product Data:
 - a. Waterproofing Manufacturer’s guide specification
 - b. Waterproofing Manufacturer’s technical data sheets
 - c. Waterproofing Manufacturer’s standard details
 - d. Evidence that the waterproofing assembly meets specified requirements
 - 2. Certificates:
 - a. Product certification stating that assembly components are supplied and warranted by a single source Waterproofing Manufacturer.
 - b. Statement that Installing Contractor is authorized by Waterproofing Manufacturer to complete Work as specified
 - c. Qualifications of the Contractor hired independent qualified inspector.

1.04. QUALITY ASSURANCE

- A. Single Source Responsibility:

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1. Obtain waterproofing and auxiliary materials from a single Waterproofing Manufacturer regularly engaged in the manufacturing and supply of the specified products.
2. Verify product compliance with federal, state, and local regulations.

B. Manufacturer's Qualifications:

1. Waterproofing Manufacturer shall demonstrate qualifications to supply materials of this section by certifying the following:
 - a. Waterproofing system shall be supplied by a Waterproofing Manufacturer with a minimum of 20 years of experience in the production and sales of waterproofing.

C. Installer's Qualifications:

1. Waterproofing Installing Contractor:
 - a. Only authorized Installing Contractor(s) shall install the waterproofing assembly.
 - b. Installing Contractor(s) must have at least three (3) years of experience in Work as described in this section.
 - c. Perform Work in accordance with the Waterproofing Manufacturer's published literature and as specified in this section.
 - d. Maintain one (1) copy of the Waterproofing Manufacturer's instructions on site.
 - e. Allow the Waterproofing Manufacturer representative site access during installation.
 - f. Contact the Waterproofing Manufacturer a minimum of two weeks prior to scheduling a meeting.

1.05. MOCK-UPS

A. Mock-ups:

1. Provide a mock-up to verify selections made under submittals and to set quality standards for materials and execution in accordance with Section.

1.06. DELIVERY, STORAGE, AND HANDLING

A. Delivery of Materials: Deliver materials to the jobsite in undamaged and clearly marked containers and/or wrapping indicating the name of the Waterproofing Manufacturer and product.

B. Storage of Materials:

1. Store materials as recommended by the Waterproofing Manufacturer and conform to applicable safety regulatory agencies. Refer to all applicable data including, but

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not limited to, SDS sheets, Product Data sheets, product labels, and specific instructions for personal protection.

2. Keep solvents away from open flame or excessive heat.
3. Store rolled materials on end.
4. Product requirements may vary. Refer to Waterproofing Manufacturer's published literature.

- C. Handling: Product requirements may vary. Refer to Waterproofing Manufacturer's published literature.

1.07. SITE CONDITIONS

- A. Environmental Requirements:

1. Do not perform Work during rain or inclement weather.
2. Product requirements may vary. Refer to Waterproofing Manufacturer's published literature.

- B. Protection:

1. It is the responsibility of the Installing Contractor to protect all surfaces not included in scope of Work from damage.
2. It is the responsibility of the General Contractor to organize and protect installed waterproofing components from damage by other trades.

- C. Complete preparation Work prior to installing the waterproofing assembly.

1.08. WARRANTY

- A. Single Source Warranty:

1. Installing Contractor Warranty:

- a. Installing Contractor must warrant the installation; provide material and labor costs for repair in the event of a leak as a result of faulty workmanship for a period of two (2) years from the date of Substantial Completion.

2. Manufacturer's Single Source Warranty:

- a. Material warranty:

1. Installing Contractor must be an authorized Installing Contractor.
2. Manufacturer must warrant the material against product defect for a period of ten (10) years from date of Substantial Completion.

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PART 2 - PRODUCTS

2.01. MANUFACTURERS

- A. The Basis of Design for this system is Henry Company, 999 N. Pacific Coast Highway, Suite 800, El Segundo, CA 90245, (800) 486-1278, www.henry.com. Approved equal manufacturers will be considered in accordance with Specification Section 01300 – Submittals.

2.02. MATERIALS

Obtain waterproofing and auxiliary materials as a single-source from the Waterproofing Manufacturer to ensure compatibility, warranty, and compliance with the following requirements:

1. Pre-applied fully bonded polypropylene sheet waterproofing membrane comprised of polypropylene film with a heat bonded dimple surfaced geotextile, used to form a mechanical and chemical bond to poured concrete to prevent water migration at the interface of the membrane and structural concrete; having the following typical properties:
 - a. Resistance to Hydrostatic Head (ASTM D5385): 231 ft. (70.4m)
 - b. Puncture Resistance (ASTM E154)
 - c. Lateral Migration Resistance (ASTM D5385 Modified): 231 ft. (70.4m)
 - d. Lap Peel Adhesion (ASTM D1876): 6.9lbs/in (1200 N/m)
 - e. Permeance (ASTM E96): <0.1 Perms
 - f. Peel Adhesion to Concrete (ASTM D903): 5 lbs/in (875 N/m)

- A. Blind Side Concrete Vertical Walls: Primary Assembly Products:
 1. Pre-Applied Sheet Waterproofing; choose from the following:
 - a. Pre-applied fully bonded polypropylene sheet waterproofing membrane comprised of polypropylene film with a heat bonded dimple surfaced geotextile, used to form a mechanical and chemical bond to poured concrete to prevent water migration at the interface of the membrane and structural concrete; having the following typical properties:
 1. Basis of Design: Henry Blueskin PreSeal™ 320 or approved equal.
 2. Color: White
 3. Thickness (ASTM D37367): 32 mils (0.81mm)
 4. Resistance to Hydrostatic Head (ASTM D5385): 231 ft. (70.4m)
 5. Lateral Migration Resistance (ASTM D5385 Modified): 231 ft. (70.4m)
 6. Water Absorption (ASTM D570): 0.4%
 7. Elongation (ASTM D412): 45%
 8. Tensile Strength (ASTM D412): 1400 psi (9.7 MPa)
 9. Lap Peel Adhesion (ASTM D1876): 6.9lbs/in (1200 N/m)
 10. Puncture Resistance (ASTM E154): 110 lbs (490 N)

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11. Peel Adhesion to Concrete (ASTM D903): 5 lbs/in (875 N/m)
12. Low Temperature Flexibility (ASTM D1970): Unaffected at -20 °F (-29 °C)

B. Backfilled Vertical Wall:

1. WP-200 Sheet

- a. Primary sheet applied self-adhered waterproofing membrane shall be Blueskin® WP200 manufactured by Henry (or approved equal), 1.5mm (60 mils) SBS modified bitumen, self-adhering sheet membrane with a cross-laminated polyethylene film, and having the following physical properties:

1. Thickness: 1.5 mm (60 mils) min.
2. Flexibility: Pass @ -40 degrees C to ASTM D1970
3. Vapour permeance: 2.8 ng/Pa.s.m² (0.05 perms) to ASTM E96
4. Tensile strength (membrane): 2.24 MPa to ASTM D412,
5. Tensile strength (film): 34.5 MPa to ASTM D882,
6. Elongation: 300% to ASTM D412,
7. Puncture resistance: 222 N min. to ASTM E154.

2. PRIMER

- a. Primer for self-adhering membranes at temperatures above 25 degrees F shall be Aquatac™ Primer manufactured by Henry, a polymer emulsion based adhesive, quick setting, having the following physical properties:

1. Color: Aqua;
2. Weight: 8.7 lbs/gal;
3. Solids by weight: 53%;
4. Water based, no solvent odours
5. Drying time (initial set): 30 minutes at 50% RH and 70 degrees F;
6. Water Vapor Permeance (ASTM E96): <0.1 Perms

C. Underslab Horizontal:

- a. Pre-applied fully bonded polypropylene sheet waterproofing membrane comprised of polypropylene film with a heat bonded dimple surfaced geotextile, used to form a mechanical and chemical bond to poured concrete to prevent water migration at the interface of the membrane and structural concrete; having the following typical properties:

1. Basis of Design: Henry Blueskin PreSeal™ 435 or approved equal.
2. Color: White
3. Thickness (ASTM D37367): 43.5 mils (1.1mm)
4. Resistance to Hydrostatic Head (ASTM D5385): 231 ft. (70.4m)

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5. Lateral Migration Resistance (ASTM D5385 Modified): 231 ft. (70.4m)
6. Water Absorption (ASTM D570): 0.6%
7. Elongation (ASTM D412): 70%
8. Tensile Strength (ASTM D412): 1900 psi (14.4 MPa)
9. Lap Peel Adhesion (ASTM D1876): 6.9lbs/in (1200 N/m)
10. Puncture Resistance (ASTM E154): 225 lbs (1000 N)
11. Peel Adhesion to Concrete (ASTM D903): 5 lbs/in (875 N/m)
12. Low Temperature Flexibility (ASTM D1970): Unaffected at -20 °F (-29 °C)
13. Water Vapor Permeance (ASTM E96): <0.1 Perms

D. Assembly Auxiliary Materials:

1. Waterstop; chose from the following:
 - a. Preformed adhesive hydrophilic waterstop designed to swell in the presence of water, providing a watertight seal in cold joints on concrete structures, having the following properties:
 1. Basis of Design: Henry Hydro-Flex Waterstop or approved equal.
 2. Rain or wet conditions: Swells into unconsolidated concrete surfaces upon contact with water.
 - b. Non-swelling preformed joint sealant that provides a lasting, watertight bond to both fresh and cured concrete surfaces, having the following properties:
 1. Basis of Design: Henry Synko-Flex® Waterstop or approved equal.
 2. Rain or wet conditions: Does not rely on swelling to achieve a watertight seal
2. Tape; choose from the following:
 - a. Double-sided, ready-to-use acrylic adhesive tape for fastening pre-applied waterproofing membranes to vertical surfaces and adhering pre-applied waterproofing membrane seams, having the following properties:
 1. Basis of Design: Henry Blueskin PreSeal™ Tape 50S or approved equal.
 2. Color: Blue Acrylic adhesive
 - b. Reinforced acrylic detailing tape used to seal pre-applied waterproofing corners, edges, penetrations and seams for vertical and horizontal applications, having the following properties:
 1. Basis of Design: Henry Blueskin PreSeal™ Tape 120V or approved equal.
 2. Color: White with non-woven facer

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3. Sealant:
 - a. Moisture cure, medium modulus polymer modified sealing compound, having the following typical properties:
 1. Basis of Design Product: Henry 925 BES Sealant or approved equal.
4. Drainage Composite:
 - a. Two-part prefabricated geo-composite drain board consisting of a formed polystyrene core covered on one side with a woven or non-woven polypropylene filter fabric:
 1. Basis of Design: Henry® DB200 or approved equal.

PART 3 - EXECUTION

3.01. EXAMINATION

- A. It is the Installing Contractor's responsibility to verify the substrate is in accordance with Waterproofing Manufacturer requirements and as specified in this Section prior to installation of pre-applied waterproofing. Commencement of the Work or any parts thereof, indicates installer acceptance of the substrate.
 1. Substrates must be sound and solid to eliminate movement during concrete pour.
 2. Substrates must be continuous, regular and smooth.
 3. Substrate gaps or voids: one-half (0.5) inch wide gap maximum
 4. Grout around penetrations for stability.
 5. Horizontal substrates:
 - a. Substrates must be free of loose aggregate and sharp protrusions.
 - b. Avoid curved or rounded substrates.
 - c. Installations over compacted earth or crushed stone:
 1. Verify pre-applied waterproofing is suitable for application over compacted earth or crushed stone. Refer to product specific technical data sheet.
 2. Ensure substrate is well compacted to avoid displacement due to traffic or concrete pour.
 - d. Pre-applied waterproofing can be applied to dry or damp surfaces on horizontal substrates.
 - e. Remove standing water.
 6. Vertical Substrates: