

DIVISION-6 CARPENTRY

SECTION 6.1 GENERAL

6.1.1 The "General Requirements" of these specifications are hereby made a part of this Division.

SECTION 6.2 ROUGH CARPENTRY

6.2.1 SCOPE

A. Includes all wood framing and truss installation required in the construction of the building and miscellaneous finishes not covered under other Sections of this Specification. This scope is to include the furnishing of the rough lumber package, the truss package and the labor to install these items. For specifications on the truss package, see Paragraph 6.2.2, "Roof Trusses, Material".

B. Furnished and installed as part of this Section:

- *1. Plates and straps under 1/8 inch thickness.
- *2. Joist hangers
- *3. Rough hardware as required.
- *4. All fasteners for connecting wood to wood.
- *5. Hollow Metal Doors and Frames mounted on the exterior of the building.
- *6. Asphalt felt backing behind exterior finish trim.

C. Work in connection with others:

1. Frame duct openings through wood partitions, provide curbs, platforms and openings for all roof mounted equipment, ventilation and exhaust systems.
2. Provide solid backing for all cabinets and fixtures.

* K.C. Metals and USP Lumber Connectors can be used in lieu of Simpson Products, but only if IRC or BOCA approved and of equal load values to the Simpson Products specified on drawings.

6.2.2 ROOF TRUSSES, MATERIALS

A. GENERAL

The wood and fabrication criteria of all prefabricated wood trusses shall meet with "National Design Specifications for Wood Construction by National Forest Products Association (latest edition); "Timber Construction Standards" by American Institute of Timber Construction (latest revision); and "Design Specifications for Metal Plate Connected Wood Truss Construction by Truss Plate Institute (latest edition), the same as if those specifications and all their references were set out in full herein.

B. LUMBER

All lumber used for the truss members shall conform to the published stress ratings for the species and grades as set out in the official grading rules of the appropriate lumber association or as listed in the reference specifications; except that, where ever this specification, or notes on the plans or truss engineering designs calls for lumber which exceeds the minimums set forth thereon, the specifications, plans, and/or truss engineering designs shall be applicable.

The moisture content of all lumber shall be within the proper limits, as stated in the reference specifications, but shall not, in any case, exceed 19% nor be less than 7% at the time of fabrication.

C. CONNECTORS

All truss connector plates shall be manufactured from only prime commercial quality galvanized steel of no less than 20 gauge thickness which has a minimum yield of 33,000 psi and a minimum ultimate tensile strength of 48,000 psi. The corrosion resistant coating shall be G-60 commercial class, hot-dipped galvanized before stamping.

D. FABRICATION

1. All truss designs shall bear the name and seal and/or registered number and state of residency of a licensed professional engineer.
2. See structural drawings for parallel chord (2X6/2X4) truss design and load requirements.
3. All trusses and other roof structural components shall be fabricated in a properly equipped manufacturing facility of a permanent nature. They shall be manufactured by experienced workmen, using precision cutting and truss assembly methods and under the direct supervision of a qualified foreman. All trusses shall be fabricated under the strict rules of the Truss Plate Institute (TPI).
4. The qualified component manufacturer must be a member of the Truss Plate Institute and participate in the Quality Control Test Criteria Program, or show to OWNER a quality assurance program comparable to the TPI Testing Criteria Program.
5. All truss members shall be accurately cut to length and angle from straight lumber to assure tight joints for finished truss.

E. HANDLING AND ERECTION

1. Fabricated trusses and subassemblies shall be handled with care so that they are not subject to damage. If the trusses are to be stockpiled or stored prior to erection, they shall be set in the horizontal position, resting upon temporary bearing supports and braced so that they will be subjected to no unusual bending or tipping over.
2. The permanent structural cross-bracing, to insure the overall rigidity of the truss system, shall be in accordance with the structural and truss plans.
3. Proper erection bracing shall be installed to hold the trusses true and plumb and in safe condition until permanent truss bracing and bridging can be solidly nailed in place to form a structurally sound framing system. All erection and permanent bracing shall be installed and all components permanently fastened before the application of any loads to the trusses.
4. All prefabricated wood trusses are to be installed in accordance with "Commentary and Recommendations For Handling, Installing and Bracing Metal Plate Connected Wood Trusses HB-91," as published by the Truss Plate Institute.

6.2.3 FRAMING MATERIALS

A. GENERAL

1. All lumber shall be grade stamped by "Western Wood Products Association" certified by the Board of Review of the American Lumber Standard Committee and manufactured in accordance with Product Standard 20_70, as published by the United States Department of Commerce.
2. All lumber shall not have a moisture content which exceeds 19% and shall indicated "S-Dry" on the grade stamp. Any Southern Pine material shall have a moisture content of 15%, kiln dried and shall be so indicated on the grade stamp.

B. 2X2 THROUGH 4X4 FRAMING (excluding structural posts): Any commercial softwood which conforms with the following minimum design values (in P.S.I.):

- Fb (non-repulsive) 675
 - Fc (perpendicular) 625
 - E 1,400,000
- Typical material: See Plans.

C. 2X6 THROUGH 4X16 FRAMING: Any commercial softwood which conforms with the following minimum design values (in P.S.I.):

- Fb (non-repulsive) 875
 - Fc (perpendicular) 625
 - E 1,600,000
- Typical material: Douglas Fir "No. 2" grade.

D. Non-Bearing Stud Framing: Any commercial softwood which conforms with the following minimum design values (in P.S.I.):

- Fb (non-repulsive) 675
 - Fc (parallel) 825
- Typical material: Douglas Fir "Stud" grade.

E. 4X4 Post Framing: Shall conform with the following minimum design values (in P.S.I.):

- Fb (non-repulsive) 1000
 - Fc (perpendicular) 625
 - E 1,700,000
- Typical material: Douglas Fir "No. 1".

F. Wood Mud Sills and Pressure Treated Lumber: shall be "water-borne paint" treated lumber, and shall conform to AWPC Quality Standard P-1.2.

G. Structural Wood Panels: All sheathing shall be APA Rated Sheathing Wood Panels, exterior type. Structural Wood Panels may also be Plywood conforming to PS-2-92. Panels shall be the size and quantity specified on structural drawings. Each panel shall be identified with manufacturer's trademark of the American Plywood Association.

6.2.4 MISCELLANEOUS

- A. As required Blocking: Provide solid blocking for plumbing fixtures, cabinets, light fixtures, behind shelf ledgers, etc., as necessary.
- B. As required framing: See structural drawings.
- C. All finish wood siding on exposed plywood siding shall be applied over one layer of asphalt saturated building paper.
- D. Nails: Nails on the ends of joists shall not exceed one fourth the joist depth. Holes bored through joists shall not exceed 1/3 the width of the joist. Holes bored through joists shall not exceed one third the depth of the joist. Nails in the top or bottom of the joists shall not exceed one sixth the depth and shall not be located in the middle third of the span. Holes through sills, plates, studs and double plates in interior bearing and shear walls shall not exceed 1/3 the plate width and shall be bored holes placed in the center of the stud or plate.

E. BRACING:

- A. All bearing walls not solidly sheathed shall have a diagonal let-in brace (1X4 wood or 15 ga. galvanized well brace strap) at each end and at 25 feet on center.
- B. All bolt heads and nuts bearing on wood shall have washers. All bolt holes in wood shall be drilled 1/32 inch to 1/16 inch diameter larger than the nominal bolt diameter.
- C. All framing shall comply with the governing codes whether or not specifically detailed on the plans.

6.2.5 WORKMANSHIP

- A. Layout accurately, plumb and level, all work.
- B. Construct framing with joints true and tight and well fastened with members assembled according to best practice.
- C. Brace structure adequately during erection.
- D. Adequately anchor installed work.
- E. All framing shall be of first class quality and workmanship.
- F. Drive pins are not permitted in any structural wall.

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SECTION 6.3 FINISH CARPENTRY & MILLWORK

6.3.1 SCOPE

A. Millwork includes types including milling of all interior and exterior exposed wood members, door and window frames.

B. Finishing and installation of the interior hollow metal doors and frames. Hollow metal doors and frames shall conform to the specifications and standards of Section 8.4 of this Specification.

C. Includes finish carpentry and the installation of doors and frames, blocking, case and cabinet work, millwork, plastic laminate work, and false base as indicated on drawings, and furnishing and installation of the Finish Hardware package.

6.3.2 MATERIALS

A. GENERAL

1. All exterior and interior finish lumber shall be net 3/4" thick for 1" material, and net 1-1/2" thick for all 2" material. The above applies to both surfaced and saw-textured material. All lumber shall conform to the standards and grading rules of the Western Wood Products Association, 1995 edition.
2. Unless specified otherwise, all lumber material grain patterns may be provided mixed grain.
3. All finish lumber shall be stored on-site off the ground, well ventilated and covered. All interior material shall be stacked and labeled in the room in which it will be applied, prior to installation.
4. All interior finish material shall be dried to a maximum moisture content of 15% and shall indicate "MC-15" on the grade stamp.
5. All exterior material shall be back and edge primed/sealed by Painting Contractor prior to application on building surface. All finish wood material shall be installed over asphalt saturated building paper.

B. Exterior Woodwork:

1. Window Frames and Stops: All material shall be S4S, Western Red Cedar, "C-Select" grade and shall conform to WPA Section 10.12 or as shown on plans.
 2. Door Frames and Stops: All material shall be S4S, Douglas Fir, "Prime Finish" grade and shall conform to WPA Section 10.52 or as shown on plans.
 3. Wood Trim: All material shall be saw-textured (exposed surface) by band saw, Western Red Cedar, "D-Select" WPA Section 10.13 or as shown on plans.
 4. Plywood: All interior plywood shall be 3/8" thick, exterior grade, American Plywood Association Siding #303.6_S/W with lapped edge, rough saw textured. Plywood shall be any Group 3 material, unless a specific material is called for on the drawings.
- Parquet inside Face: 1/2" ext. ply, medium density resin face if shown on plans.

C. Interior Woodwork:

1. Wood Trim: All interior wood trim and materials shall be S4S, Douglas Fir, "Prime Finish" grade and shall conform to WPA Section 10.52; or Idaho White Pine, "Choice WPP" grade and shall conform to WPA Section 10.12.
2. Oak Trim & Siding: Shall be S4S, Red Oak, plain sawn, "Grade I" and conform to the Architectural Woodwork Institute's (AWI) Quality Standards, Section 1005.1.
3. Decking shall be "C" select kiln dried saw textured Douglas Fir and shall conform to WPA section 10.12.
4. Nailing (Exterior): All trim and siding shall be nailed with hot-dipped galvanized finish nails. No electroplated nails will be allowed. Lumber 1-1/2" shall be nailed with 20d finish, and lumber less than 1-1/2" shall be nailed with 8d finish. Nails shall be driven flush with surface. Do not set any exterior nailing.
5. Nailing (Interior): All nailing shall be with finish nails, set for putty before staining/finishing. All saw-textured material, nails shall be driven flush.

6.3.3 INTERIOR FINISH

A. Mill, fabricate and erect interior finish materials as indicated. Machine sand at the mill and hand sand smooth at job site as necessary. Contractor to ease all edges of finish material before seat is applied.

- B. Interior trim set against plaster or wood shall be run with hollow backs. Make joints tight and in a manner to conceal shrinkage. Secure trim with fine finishing nails, screws, or glue where required. Set nails for putty, where surface is S4S.
- C. Window and door trim shall be single lengths, base in long lengths. Miter meetings at corners, tops at angles. Door jambs with scroffed joints are not permitted. All elements of joints shall be in single lengths.

6.3.4 CABINET WORK

A. Fabrication and installation of all cabinets shall be as indicated on the construction documents. All cabinets shall be laminate clad, exposed face fronts shall conform to the minimum standards of the Architectural Woodwork Institute, "A" quality grade "Custom Grade" (AWI Section 400B).

- B. All cabinet shelving shall be adjustable. Details shall conform to adjustable track to uprights shall be in performance with AWI "A" quality grade "Custom Grade".
- C. All cabinets shall be mill fabricated, cast with full style, drawers, hinges, pulls, catches and locks. Cabinet finish hardware shall conform to:

6.3.5 WORKMANSHIP

1. All wood finish, millwork and cabinet work shall be true to details, clean and sharply defined. Panels shall be set to allow for free movement in case of swelling or shrinkage. Means of fastening various parts together shall be concealed. All wood finish and cabinet work shall be dressed, sanded and cleaned before priming. All materials showing machinery, sandpaper or other defacing marks will be rejected. All work shall be of first class construction and to the satisfaction of OWNER. No plywood edge grain shall be exposed on cabinets or shelving; all such areas shall be self-edged.

SECTION 6.4 PLASTIC LAMINATE

- 6.4.1 SCOPE: Includes all labor, material and equipment required to furnish and install all high pressure laminated plastic as shown on the construction documents.
- 6.4.2 MATERIALS: A. Plastic Laminate shall be .050 inches thick, "General Purpose Type". Color, texture and finish shall be as specified in the Color/Material Schedule on the construction documents. B. Adhesive shall be as recommended, and approved by plastic laminate manufacturer.
- 6.4.3 INSTALLATION: A. Application of plastic laminate to various surfaces shall conform to all manufacturer's instructions and shall to the satisfaction of OWNER. B. At self edged surfaces, the flat top layer shall overlap the vertical surfaces and then corner edge shall be routed smooth. C. All joints to be tight to adjoining surface, unless noted otherwise on plans.

DIVISION 7 MOISTURE PROTECTION

SECTION 7.1 GENERAL

7.1.1 The "General Requirements" of these specifications are hereby made a part of this Division.

SECTION 7.2 ROOFING AND MANSARD COVERING

7.2.1 SCOPE

- 1. Includes all materials, labor and accessories to complete the work specified on drawings.
- 2. Reflected Items installed under other section.
- 3. Sheet metal
- 4. Certain Teed Fiberglass
- 5. Mechanical, Electrical and Plumbing roof jacks.
- 6. Pre-installation Conference: Conduct conference at Project site. Review methods and procedures related to roofing system including, but not limited to, the following:

1. Meet with Owner, Architect, Owner's Insurer if applicable, testing and inspecting agency representative, roofing installer, roofing system manufacturer's representative if required by manufacturer, deck installer, and installers whose work interfaces with or affects roofing including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule and verify availability of materials, installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.
10. The Roofing Contractor shall immediately notify the Owner in writing of any defective work by others, that might prevent him from properly performing his work in a first-class workmanlike manner in accordance with this specification. He shall not proceed with any work until such defects are remedied and the work approved by the Owner.

D. Guarantee: 1. Installer's Guarantee: Contractor shall provide to the Owner a one (1) year written guarantee for all roofing against defective workmanship and materials including all components of roofing system such as roofing membrane, base flashing, roof insulation, fasteners, cover boards, substrate boards, roof pavers, and walkway products, and shall, upon notification, immediately correct any and all defects that may occur. - Unless noted otherwise below.

2. Manufacturer's Guarantee: For the flat roof sections, contractor shall provide to the Owner a twenty (20) year written manufacturer's system guarantee for all roofing against defective workmanship and materials including all components of roofing system such as roofing membrane, base flashing, roof insulation, fasteners, cover boards, and walkway products. Guarantee shall have No Dollar Limit (NDL).

7.2.2 MATERIALS AND INSTALLATION

- A. Flat Roof (Equipment Well) Materials:** All materials must be tested by the roofing manufacturer, marketed as tested, install roof system according to manufacturer and NRCA guidelines complying with all requirements of the manufacturer NDL guarantee. This includes curbs, walls, and all penetrations.
- B. ALTERNATE Flat Roof (Equipment Well) Materials: (PVC - (TPO IS NOT ACCEPTABLE))

1. POLYVINYL-CHLORIDE roofing, Class "A" rating, must be tested by the manufacturer and marketed as their product. All materials shall be delivered in original packages bearing the manufacturer's label. All materials shall be from one of the following manufacturers and shall conform completely to the manufacturer's specifications and NRCA standards. Installers are required to provide proof of certification by the appropriate manufacturer for the PVC product they intend to install. Accepted manufacturers are: Manville Contract: Aaron Hill @ 415 200-6776 or Durast - (no contact).

- c. PVC Membrane Sheet: ASTM D 4434, Type II reinforced membrane that contains DE (Divaion) to reduce plasticizer migration. If the membrane does not contain DE, a post installation coating is required to mitigate plasticizer migration.
- i. Thickness: 50 mils nominal
2. Sheet Flashing: Manufacturer's unreinforced sheet flash of same material as sheet membrane.
- c. Metal Termination bars, with fasteners.
- d. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provision in WPA 4470.0 for fastening membrane to substrate, and acceptable to membrane roofing manufacturer. Product: High Load Fasteners, "Plates"

- e. Miscellaneous: Provide pourable sealers, preformed cone and vent sheet flashings, perform all work outside corner sheet flashings, T-joint covers, metal gully registers, gutters, and other accessories.
- f. Flashing factory fabricated for all conduit and pipe penetrations.
- g. Flexible Walkways: Formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway product used from membrane roofing system manufacturer. Place walk path equipment that is accessed by a technician and the roof hatch with path between the Roof Plan.

7.3 INSULATION AND COVER BOARD:

- a. Refer Section 7.4

SECTION 7.3 SHEET METAL

7.3.1 SCOPE

- 1. Includes all sheet metal formed sections, flashings, counterflashing, pitch pockets, diverters, gutter, downspouts, gravel guards, special screens, and attic vents.
- 2. Does not include work covered in sections on plastering, plumbing, air conditioning, roofing and miscellaneous metal.

7.3.2 MATERIALS

- A. Flashing: ASTM A 93, 24 ga. standard zinc coated steel.
- B. Solder: ASTM B 32, 60 wt.
- C. Downspouts: ASTM A 93, 24 ga. standard zinc coated steel (if shown on plans).
- D. Painter Box Liner: ASTM A 93, 16 ga. standard zinc coated steel (if shown on plans).

7.3.3 INSTALLATION

1. All joints in flashings, coping metal, roof platforms, and other metal work, shall be installed using a synthetic Elastomer base caulking. All joints shall be set in caulking, pop riveted, and caulking then applied to exterior of joint. No other type sealants are permitted.
2. Hem all exposed edges of metal.
3. Flash all joints necessary for a watertight job whether specifically detailed or not.
4. All flashing to have one layer of 15 lb. asphalt felt under.
5. All work shall be done in accordance with the "Sheet Metal and Air Conditioning Contractors National Association" standards.
6. Downspouts and G.I. Gutters:

1. All joints shall be soldered, close for a fully watertight job.
2. Hem all exposed edges of metal.
3. Downspouts shall conform to the details as shown on the drawings.
4. All work shall be done in accordance with the "Sheet Metal and Air Conditioning Contractors National Association" standards.

C. Parapet Copings, Gravel Stops, S-locks, and Flash Seam Penetling:

1. Conform to sectional profiles as shown on the drawings.

SECTION 7.4 INSULATION

7.4.2 MATERIALS AND INSULATION

A. Fiberglass Noise Barrier Batts, uncoated with nominal thickness 3-1/2 inches X 16-1/8 inches to fit framing. Select one of the following manufacturers:

1. Certain Teed Fiberglass
 2. Mowvie Building Materials
 3. Owens/Corning Fiberglas
- B. Thermal insulation at all exterior walls shall be minimum R-19 "Kraft Faced" fiberglass. No paper where exposed. Select one of the following manufacturer's (refer to plans for exact "R" values required):
1. Certain Teed Fiberglass
 2. Mowvie Building Materials
 3. Owens/Corning Fiberglas
 4. Dow Chemical Thermal Insulation Board
 5. Perimeter Sub insulation: Rigid cellular thermal insulation with closed-cells and integral high density skin, formed by the expansion of polystyrene base resin in an extrusion process to comply with ASTM C578 for type indicated; with 5-year aged R-values of 5.4 and 5 at 40 and 75 deg. F (4.4 and 23.9 deg. C) respectively, 1" thickness unless otherwise noted.

6. Owens-Corning - Foamular SM
7. Owens-Corning - Certifoam SE
8. Amoco Foam Products - Amofoam CM
9. Rigid Roofing Insulation: 2 layers of polyisocyanurate board insulation run perpendicular to minimize joint alignment. Insulation Thermal Value (R), minimum: See Thermal Envelope Requirements on Sht. 71. Provide insulation of thickness required for two layer application.

C. All insulation batts shall be securely stapled to studs at walls. Insulation in sloping ceiling shall be located where shown on plans and installed per manufacturer latest printed specs.

F. Any insulation that is to be exposed and painted shall be covered with a layer of foil paper stapled to sides of trusses in a neat manner ready to receive paint.

- G. Sill Plate Gasket to be installed between concrete slab and wood sill plate, following manufacturer's written instructions.
1. 3/8" thick polyethylene with self-adhering strip: Use "Piete Liner" as manufactured by Protec Wrap or equal.
2. Width to match sill plate width.

SECTION 7.5 CAULKING AND SEALANT

7.5.1 SCOPE

Caulk all joints between masonry and wood, masonry and break metal and all other similar materials.

7.5.2 MATERIALS

- A. Polyurethanes: 1. Synthacaulk GC-21 Polysulfide
2. Silicone (Outdoor Sealant) - Certifoam SE
1. Dow Corning: Silicone Sealant #795
2. General Electric: Silyon #SCS2000 Weatherproof Sealant
3. Silicone (Interior Sealant) - Certifoam SE
2. Dow Corning: Mitec Instant #786
2. General Electric: Silicone Sealant #SCS1700

7.5.3 APPLICATION

A. Prime coat all surfaces determined by the manufacturer.
B. All caulking and sealants shall be the proper material for the situation as determined by manufacturer's suggestion. Mix and application of caulking compounds shall be accordance with manufacturer's specific specifications.

- C. Joints and spaces deeper than 1/2 inch shall be filled solidly with oakum to within 1/4 inch of surface before caulking.
- D. Apply caulking at joints around wood and metal frames attached to plaster or masonry finished exterior walls, joints at exterior door sills and metal thresholds, and where not specifically indicated, necessary to obtain complete weather tight construction.
- E. Caulking shall be applied to all doors, windows, and sill surfaces. Remove and caulk molds in integral part of door or window frames.
- 4. Set fixed doors, door stops, all exterior glass stops, sills and thresholds in a full bead of caulking compound. Remove excess compound after sill or threshold is set.

7.5.4 FINISH

- A. Finish all caulked joints with the proper tool and remove caulking compound from all adjacent surfaces. Exposed caulking shall be free from wrinkles.
 - B. Exposed caulking shall be selected to match colors of adjacent finishes.
- NOTE: Caulking bead shall be installed with a small uniform bead, smoothly finished, and acceptable to the Owner. Any work unacceptable shall be removed and redone to an acceptable condition.
- 7.6 Not Used
7.7 Not Used

SECTION 7.8 (EFS) EXTERIOR INSULATION AND FINISH SYSTEM

7.8.1 SCOPE

A. Furnish and install all Polymer-Based EFS and all accessories for walls, cornices, copings, soffits, and accent features as indicated on the construction documents.

B. Related Work Specified Elsewhere:

1. Substrates
 2. Adjoining non-plaster surfaces
 3. Expansion Joints - Refer to stucco specification & drawings.
 4. Backer Rods and Sealants/Caulkings*
 5. Waterproofing/Damp-proofing*
 6. Sillage*
- *Must comply with EFS manufacturer's approvals.

7.8.1.1 QUALITY ASSURANCE

1. Manufacturer's Qualifications: Only manufacturers who provide all of the following are acceptable suppliers for this project:
2. Established on-going contractor/applcator training programs for at least ten years in the area of this project.
3. Full-scale fire test reports and documentation of ICC Acceptance.
4. Resident Sales / Field Technical Service personnel.
5. Local inventory of EFS products.
6. Must be an active member of EIMA (EFS Industry Members Association)

- B. Applicator's Qualifications: Only applicators who provide all of the following are acceptable for this project (Itemized Certificate of Compliance required):
1. Licensed, bonded, insured (documentation Required).
2. Successful performance history with EFS over at least five years in the area of this project.
3. Trained by EFS manufacturer or AWI EFS smart program for at least five years.
4. Established on-going training program for workmen, including manufacturer's training.
5. Pre-Application Conference attendance and periodic inspection of work in progress by principal/officer of firm.
6. Three-year minimum warranty on workmanship.

- C. Supervision/Inspection: 1. Provide continued duty supervision of working crew.
2. Secure duty inspection by