

TECHNICAL SPECIFICATION NO.

**REPAIR AND REROOF WAREHOUSE LOWER ROOF,
MISCELLANEOUS REPAIRS,
NEW OVERHEAD DOOR AND PASS DOOR
AT PEAKS ISLAND SERVICE CENTER**

PORTLAND, MAINE

Prepared For:

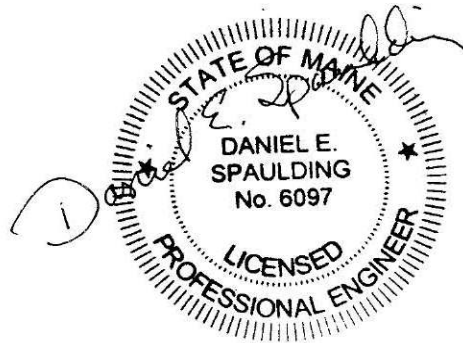
Central Maine Power Company

83 Edison Drive

Augusta, Maine 04330

Prepared By:

*Civil/Structural Engineering:
Spaulding Engineering and Construction Services, Inc.
24 Common Street
Waterville, Maine 04901
(207) 861-9923
Issued for Bid – 10-12-11*



10-12-11

TECHNICAL SPECIFICATIONS
TECHNICAL SPECIFICATIONS, ADDENDA AND APPENDICES
TABLE OF CONTENTS

TITLE

Division 1 - General Requirements

Section 01000 – General Requirements

Division 2 – Site Work

Section 02050 – Selective Demolition

Division 6 - Wood and Plastic

Section 06001 - Carpentry Work

Division 7 - Thermal and Moisture Protection

Section 07534 – Elastomeric Sheet Roofing – Fully Adhered Roof System

Section 07900 - Joint Sealers

Division 8 - Doors and Windows

Section 08111 – Steel Doors and Frames

Section 08360 - Sectional Overhead Doors

Division 9 - Finishes

Section 09900 – Painting

APPENDICES

Appendix A- Iberdrola USA Inc. – Contractor Safety Requirements

Appendix B – Asbestos Testing Results

Appendix C – Sketches

Appendix D - Photos

SECTION 01000

GENERAL REQUIREMENTS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 REQUIREMENTS INCLUDED

- A. Work Covered, and type of Contract.
- B. Construction Schedule.
- C. Contractor Use of Premises.
- D. Permits.
- E. Owner Occupancy.
- F. Applications for Payment.
- G. Coordination.
- H. Field Engineering/Work Layout.
- I. Reference Standards.
- J. Dimensions.
- K. Site Conditions and Representations.
- L. Safety.
- M. Conduct of Employees.

1.03 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Contractor shall furnish all labor, materials, equipment, supplies, and other facilities, except as specifically noted in the Specifications and shall perform all work necessary, proper for or incidental for the following work: repair and replace lower warehouse roofing, perform repairs on the wall facing the ocean, install framing and sheathing to seal ventilation opening, install new overhead door and install new pass door. The work is located at the Peak's Island Service Center located on Peaks Island located off from the shore of Portland, Maine.

01000-1

B. The general scope of work for this Project is as follows:

Project – Repair and Reroofing Lower Warehouse Roof - 34'-6" wide x 70' long (2415 square feet):

1. This project will require that the existing tar and gravel roof be removed and disposed of. Existing gravel can be disposed of onsite. All other materials shall be disposed of by the Contractor in accordance with all local, state and federal rules and regulations. The Contractor shall provide the Owner with a manifest detailing description, quantity and disposal facility.
2. The roofing and flashing has been tested for asbestos. The roofing material is non-asbestos containing; however, the flashing contains asbestos. The Contractor shall retain the Owner's preferred asbestos removal contractor to perform this work. The flashing asbestos shall be removed and disposed by Acadia Contractors, LLC, 780 Auburn Road, Turner Maine 04282-4130. Telephone (207) 225-5400. Contact: Kevin Pratt, President. All asbestos shall be properly handled and disposed of in accordance with all local, state and federal rules and regulations.
3. All existing roof penetrations will be abandoned.
4. There are three (3) areas that will require that the entire roof deck and roof joists be removed and disposed of. The Contractor shall provide and install new 2x10 SPF #2 or better roof joists and ¾" tongue and groove CDX plywood roof sheathing. New 2x6 pressure treated sills will need to be installed and bolted to the existing W10 beams with ½" diameter bolts at 2' center to center.
5. One (1) area where there currently are roof penetrations that will be abandoned will require the installation of two (2) new 2x10 roof rafters and plywood sheathing.
6. All electrical conduit and lighting will be removed by the Owner's electrical contractor. Contractor shall coordinate with the Owner's electrical contractor for removals to not delay the work.
7. The new 2x10 roof rafters will overlap the existing rafters in the adjacent bays. All new roof rafters and adjacent rafters shall be tied to the new pressure treated sills with Simpson galvanized H3 connectors.
8. Provide and install a layer of Isocyanurate insulation in the areas that will receive the new ¾" CDX plywood sheathing to match the elevation of the existing roof planking.
9. Provide and install a new 1 ½ inch layer over the entire roof and fasten as required to achieve a FM- 75 psf wind uplift rating.
10. Provide and install new LSFR, 0.060 inch adhered EPDM membrane.
11. Provide and install two (2) new roof drains.

01000-2

12. Provide and install new roof drain system to discharge at current location. Provide and install all associated 4 inch diameter roof drain piping, insulation and fittings to produce a fully functional roof drain system. Coordinate with the Owner who will have their electrical contractor install heat tape before the pipe is insulated along the entire roof drain piping system routing.
13. Provide and install all pressure treated end blocking and install new aluminum trim along exposed eaves.

Project – Perform Demolition and Repairs of the Warehouse Building Wall Facing the Ocean:

1. Provide all framing lumber to frame around the existing plexiglass windows and cover openings with primed texture 1-11 siding. This work will be required at all three window locations. Caulk all areas to provide water-tight installations.
2. At the middle opening. The glass block and grout will have been removed prior to the Contractor arriving onsite. Remove all framing, plywood, siding and side concrete infill to allow the installation of a new 10' wide x 14' high low headroom overhead door.
3. The Contractor shall provide and install a 10' wide x 14' high-Overhead Door Company 420 Series Heavy Duty non-insulated overhead door, low headroom track, 110 volt operator with garage door opener and electronic edge sensor for the middle bay. The Contractor shall be responsible for all headers, fasteners, framing, blocking, plywood, siding, and aluminum trim to frame in the new door.

**Project – Perform Demolition and Construct New Vent Opening Cover for the Abandoned Vent on the Left Wall of the Warehouse:
Repairs of the Warehouse Building Wall facing the Ocean:**

1. Demolish the existing covering over the abandoned vent on the left side of the warehouse.
2. Provide and install new pressure treated nailers and studding.
3. Provide and install new texture 1-11 primed siding.
4. Provide and install aluminum flashing over the top of the texture 1-11 siding.
5. Provide and install caulking around all framing and texture 1-11 siding to make assembly water –tight.

**Project – Perform Demolition and Install Office New Pass Door:
(Existing wood framed opening 47” wide x 126 ½” high.)**

1. The existing office entrance door is constructed with a wooden door frame, and transom.
 2. The Contractor shall demolish the existing door, frame and all framing and siding within the 47 inch wide x 126 ½” opening.
 3. The Contractor shall provide new wood studding and framing to allow the installation of a new 3’-0” x 7’-0” steel insulated door with steel frame.
 4. Door, frame and hardware shall be as follows:
 - a. Provide and install new galvanized 16 gauge preprimed Curries “M” series knock-down frame and reinforced for hardware frame.
 - b. Provide and install new galvanized Curries 16 gauge preprimed – 1 ¾” thick insulated series 707N door with 4” wide x 25” high wire glass. Door shall be reinforced and prepared for all hardware.
 - c. Both door and frame shall be reinforced to receive new closer.
 - d. Provide and install 1 ½ pair McKinney TA2314 4.5 x 4.5 x 32D X NRP stainless steel ball bearing full mortise bearing hinges with non removable pins.
 - e. Provide and install Sargent EN281 PSH door closer with cushion stop and hold open arm.
 - f. Provide and install Sargent 8813 ETL x 32D Exit device.
 - g. Shop paint one coat of paint on door and frame prior to installation.
 - h. Provide and install new weatherstripping on sides, top and bottom of door.
 - i. Provide and install a new National Guard 5/8” x 5 inch aluminum threshold.
- C. All electrical demolition, new lighting, roof drain system heat tape and wiring will be done by CMP’s electrical contractor and is not part of the scope of work for this Project. The Contractor shall be responsible for coordinating with CMP’s electrical contractor to provide sufficient notice of when electrical demolition or installation of new electrical work can be completed so as not to delay the work.

1.04 CONTRACT METHOD

- A. The Contract method is lump sum as outlined in the Agreement.

1.05 CONSTRUCTION SCHEDULE

- A. Within 7 days after award of Contract, the Contractor shall prepare and submit to the Owner for approval, a schedule covering starting and completion dates for salient features and principal construction operations involved in its performance.
- B. Project Schedule
 - 1. The Project can start as soon as project is awarded and must be completed no later than Friday, December 18, 2011.
- C. Scheduling
 - 1. The Contractor shall arrange their work to conform to the requirements of the sketches and shall complete the work of the Contract within the time specified or as extended by written change orders.

1.06 PERMITS

- A. The Owner will obtain and pay for the Building Permit. Any other applicable permits or inspections required at the site shall be obtained and paid for by the Contractor. Permits required for disposing of debris, and hauling the like, shall be obtained by the Contractor. Debris shall be disposed of in accordance with the State of Maine Solid Waste Management Regulations, Chapters 400-406, 408, 409, and 411. The Contractor shall submit copies of all waste manifests to the Owner for their records.

1.07 OWNER OCCUPANCY

- A. The Owner will be occupying the existing building throughout the entire construction period. Close coordination with the Owner is critical to ensure that the Owner's operations are not impacted throughout the Project. The Contractor shall be responsible for coordinating site access and the use of the site for their operations to cause as little impact to the Owner's operations as possible. The site shall be open to the Owner to allow for inspections and other work required to accommodate the Owner's layout of the space.
- B. The Owner will provide the Contractor the entire area to complete the warehouse roof repairs and ocean side wall repairs.

1.08 APPLICATIONS FOR PAYMENT

- A. Submit each application for payment in accordance with the Agreement. Applications for payment shall be submitted using the AIA Document G702 “Application and Certificate for Payment” form.
- B. Content and Format: That specified for Schedule of Values in Section 01300.

1.09 COORDINATION

- A. Coordinate work of the various sections of the work to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items installed later.
- B. Verify characteristics of elements of interrelated operating equipment are compatible; coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- C. Execute cutting and patching to integrate elements of work, uncover ill-timed, defective, and non-conforming work, provide openings for penetrations of existing surfaces, and provide samples for testing. Seal penetrations through floors, walls, and ceilings.

1.10 FIELD ENGINEERING/WORK LAYOUT

- A. The Contractor shall exercise proper precautions to verify figures and meet tolerances as required by the manufacturer or specified herein before laying out the work. The Contractor will be held responsible for any errors resulting from their failure to exercise such precaution.

1.11 REFERENCE STANDARDS

- A. For products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. The date of the standard is that in effect as of the Bid date, or date of Owner-Contractor Agreement when there are no bids, except when a specific date is specified.
- C. Obtain copies of standards when required by the Agreement. Maintain copy at job site during progress of the specific work.

1.12 DIMENSIONS

- A. The sketches provided are general in nature and based on limited field information obtained at the site. The Contractor once arriving at site shall field verify all areas to receive the work and notify engineer of any discrepancies between the sketches and the actual field conditions uncovered. The Contractor shall study and compare all Sketches and verify all figures before laying out or constructing the work and shall be responsible for any and all errors in their work, which might have been avoided thereby. Whether or not an error is believed to exist, deviations from the Sketches and the dimensions given thereon shall be made only after agreement in writing is obtained from the Owner. The Contractor shall take all measurements of existing established conditions, which shall take precedence over the figured dimensions on the Drawings.

1.13 SITE CONDITIONS AND REPRESENTATIONS

- A. Wherever existing conditions or construction not required as part of the work of the Agreement are shown on the Sketches, they are so shown as a source of information to the Contractor. The Owner, while believing such information to be substantially correct, assumes no responsibility therefore. The Contractor shall have made themselves familiar with all conditions affecting the nature and manner of performing the work and shall not be entitled to any extra compensation for any work or expense arising from or caused by their neglect to have verified all existing conditions and requirements.
- B. It shall be the sole responsibility of the Contractor to satisfy themselves as to the nature of the work to be done, the general and local conditions, particularly those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electrical power, roads, and uncertainties of weather, or similar physical conditions of the site, the condition of the ground, the character of equipment and facilities needed preliminary to and during the prosecution of the work, and all other matters which can in any way affect the work or cost thereof. It shall further be the sole responsibility of the Contractor to satisfy themselves, as necessary, and assume all risk with respect to the character, quality, and quantity of any and all surface and subsurface materials to be encountered. Any failure on the part of the Contractor to acquaint themselves with the available information will not relieve them from responsibility for estimating properly the difficulty or cost of successfully performing the work.

1.14 SAFETY

- A. The Contractor shall abide by all local, state, federal, OSHA and Iberdrola USA Safety Standards.

01000-7

1.15 CONDUCT OF EMPLOYEES

- A. Any profanity, lewdness or offensive behavior will result in the Owner immediately discharging the Contractor's employee from the site.

1.16 MEASUREMENT & PAYMENT

- A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

01000-8

SECTION 02050

SELECTIVE DEMOLITION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 SECTION INCLUDES

- A. Scope of Work.
- B. Submittals.
- C. General demolition requirements.
- D. Waste and debris.
- E. Protection.
- F. Dust control.
- G. Noise control.
- H. Asphalt pavement and concrete demolition removals.

1.03 RELATED REQUIREMENTS

- A. Section 01000 – General Requirements.

1.04 SCOPE OF WORK

- A. The following is a summary of the demolition work required for this Project; however, it does not dictate the sequence of work or contain all of the individual requirements to accomplish the work:
 - 1. Lower roof reroofing:
 - a. The existing flashing contains asbestos. The Contractor shall utilize Acadia Construction LLC to remove and dispose of the asbestos containing flashing.
 - b. Remove all roofing stone. The stone can be placed in the existing parking graveled areas.
 - c. Remove existing roofing materials and dispose of in accordance with all local, state and federal rules and regulations.
 - d. Remove areas of deteriorated roof planking and 2x10 rafters as indicated on the sketches. Dispose of in accordance with all local, state and federal rules and regulations.

02050-1

2. New ocean side overhead door:
 - a. Remove and dispose of all wooden framing and siding.
 - b. Remove and dispose of all concrete materials required to achieve the required door opening width.
 - c. Dispose of all materials in accordance with all local, State and federal rules and regulations.

3. New office door and frame:
 - a. Remove and dispose of wooden framing, door frame and door.
 - b. Dispose of all materials in accordance with all local, State and federal rules and regulations.

1.06 SUBMITTALS

- A. Submit proposed methods and operations of building demolition to the Owner for review prior to the start of the work. Demolition procedures, dust control, noise control, after hours and weekend work and temporary enclosures shall be addressed. The Contractor shall ensure that all openings are secure at the end of each day and that the building and Owner occupied areas security is maintained.
- B. The Contractor shall be responsible for all permits except for the Building Permit and ensure that all disposal is performed in accordance with all local, state and federal requirements. The Contractor shall provide the Owner with copies of waste manifest for all materials removed from the site.

1.07 MEASUREMENT & PAYMENT

- A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

Not Used

02050-2

PART 3 EXECUTION

3.01 GENERAL DEMOLITION REQUIREMENTS

- A. Perform demolition/removal work without damage to adjacent work. Where such retained work is damaged, the Contractor shall patch, repair, repaint or restore to the original condition.
- B. Demolition/removal work shall be as indicated on the Sketches and as specified herein. Perform removal work in a neat and workmanlike manner.
- C. Removed materials shall become the property of the Contractor, unless specified or indicated otherwise.

3.02 WASTE/DEBRIS

- A. Waste and debris shall be placed in Contractor furnished containers to prevent the spread and accumulation of clutter, dust and dirt. Debris shall be removed from the work site as often as necessary to prevent the overflowing of the waste containers.
- B. All disposal of waste and debris shall be in accordance with all local, state and federal rules and regulations.

3.03 PROTECTION

- A. The Owner will be occupying the site throughout the work. The Contractor shall take all precautions to protect personnel, visitors, and property in the area of the work. Provide barriers and warning signs to reroute personnel and visitors around areas of work. Include warning signs of overhead work where necessary.
- B. Provide all other barriers, warning devices and enclosures as required to protect the Owner from all jobsite hazards.

3.04 DUST CONTROL

- A. The Owner will be occupying the site throughout the work. Dust control is an essential part of the demolition work. The Contractor shall take all precautions to prevent dust from entering areas outside of the work areas throughout the Project.

3.05 NOISE CONTROL

- A. The Owner will be occupying the site throughout the work. The Contractor shall ensure that their demolition operations are performed in a manner to limit noise levels so as not to interfere with Owner's normal business operations.

END OF SECTION

02050-4

SECTION 06001

CARPENTRY WORK

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 DESCRIPTION OF WORK

- A. Carpentry work includes work not specified as part of other sections and which is generally not exposed, except as otherwise indicated. Types of work in this Section include carpentry work for:

1. Wood nailers, blocking, and sleepers.
2. Wood roof joists,
3. Simpson roof rafter clips.
4. Texture 1-11 exterior siding.
5. Interior wall plywood.
6. Exterior CDX tongue and groove roof sheathing.
7. Miscellaneous wood trim boards.
8. Aluminum trim.
9. Masonry fasteners.
10. Wood fasteners.

1.03 RELATED WORK

- A. Section 07534 – Elastomeric Roofing - All trim to match fascia.
- B. Section 07900 – Joint Sealers
- C. Section 08360 – Sectional Overhead Doors – Wood supports for tracks.
- D. Section 08111- Standard Steel Doors and Frames
- E. Section 09900 - Painting

1.04 REFERENCES

- A. Lumber Standards: Comply with PS20 and with applicable rules of the respective grading and inspecting agencies for species and products indicated.
- B. Plywood Product Standards: Comply with PS1 (ANSI A199.1) or, for products not manufactured under PS1 provisions, with applicable APA Performance Standard for type of panel indicated.

06001-1

1.05 QUALITY ASSURANCE

- A. Rough Carpentry Lumber: Visible grade stamp, of agency certified by National Forest Products Association (NFPA).
- B. When applicable, fabricate cabinetwork and site made finish carpentry items in accordance with recommendations of Quality Standards of Architectural Woodwork Institute (AWI).

1.06 JOB CONDITIONS

- A. Coordination: Fit carpentry work to other work; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds and similar supports to allow proper attachment of other work.

1.07 MEASUREMENT & PAYMENT

- A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Lumber, General:
 - 1. Factory mark each piece of lumber and plywood with type, grade, mill and grading agency, except omit marking from surfaces to be exposed with transparent finish or without finish.
 - 2. Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.
 - 3. Provide dressed lumber, S4S, unless otherwise indicated.
- B. Roof rafters – 2 x10 Spruce/Pine/Fir #2 kiln dried
- C. Roof rafter tie downs: Simpson type H3 rafter connectors.
- D. Exterior texture 1-11 – 5/8" exterior grade texture 1-11 siding.
- E. Exterior grade CDX tongue and groove 3/4" thick plywood.
- F. Interior Wall Sheathing: 1/2" Exterior grade CDX plywood.
- G. Aluminum Trim: Provide pre-finished white 0.019" thick aluminum coil stock to be field bent.
- H. Masonry anchors: Provide 1/4 inch Red Head Masonry Tap Cons as indicated on the Sketches
- I. Miscellaneous Lumber:
 - 1. Provide wood for support or attachment of other work including cant strips, bucks, nailers, blocking, furring, grounds, stripping and similar members. Provide lumber of sizes shown or specified, worked into shapes shown, and as follows:

- a. Moisture content: 19% maximum for lumber items not specified to receive wood preservative treatment.
- 2. Grade: Construction Grade light framing size lumber of Spruce/Pine/Fir No. 2 grade or better.
- 3. Miscellaneous Materials:
 - a. Fasteners and Anchorages: Provide size, type, material and finish as indicated and as recommended by applicable standards, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts, washers and anchoring devices. Provide metal hangers and framing anchors of the size and type recommended by the manufacturer for each use including recommended nails.
 - b. Where rough carpentry work is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners and anchorages with a hot-dip zinc coating (ASTM A 153).

2.02 WOOD TREATMENT

- A. Preservative Treatment: Where lumber is indicated as “PT” pressure treated, or is specified herein to be treated, comply with applicable requirements of AWWA Standards C2 (Lumber) and C9 (Plywood) and of AWPB standards listed below. Mark each treated item with the AWPB Quality Mark Requirements.
- B. Pressure-treat above-ground items with water-borne preservatives complying with AWPB LP-2. After treatment, kiln-dry to a maximum moisture content of 15%. Treat indicated items and the following:
 - 1. Wood cants, nailers, curbs, blocking, stripping and similar members in connection with roofing, flashing, vapor barriers and waterproofing.
 - 2. Sills, sleepers, blocking, furring, stripping and similar concealed members in contact with masonry or concrete.
 - 3. Building sills in contact with concrete.
 - 4. If cut after treatment, coat cut surfaces with heavy brush coat of same chemical used for treatment.
 - 5. Inspect each piece of treated lumber or plywood after drying and discard damaged or defective pieces.

2.03 MISCELLANEOUS TRIM BOARDS

- A. Provide and install all miscellaneous trim boards required to produce a finished appearance.

PART 3 EXECUTION

3.01 ROUGH CARPENTRY WORK

- A. No attempt is made in this Specification to list the various elements of rough carpentry work, as the major part of the work to be done is clearly shown on or reasonably inferred from the Drawings. The rough carpentry work required shall include all such work required throughout the project to complete the entire intent of the work, regardless of whether or not each and every item is

06001-3

specifically called for. Refer to Drawings to determine the major extent of the rough carpentry work required.

- B. The Contractor shall be responsible for structural integrity, connections, and anchorage of all rough carpentry work.
- C. Construct all rough carpentry work plumb, level, and true with tight, close fitting joints, securely attached and braced to surrounding construction, all in a first class workmanlike manner. Counterbore for bolt heads, nuts, and washers where required to avoid interference with other materials.
- D. All structural members shall be full-length without splices, and spaced not farther than 16 in. on center, except as may be otherwise specifically indicated on the Sketches.
- E. Wood blockings, nailers, edgings, sleepers, etc., shall be installed as indicated or specified and shall be furnished in not less than 12 ft. lengths, except where shorter lengths are required.
- F. Nailing of rough carpentry work shall conform to requirements of the governing laws and codes.
- G. Discard units of material with defects which might impair quality of work, and units which are too small to fabricate work with minimum joints or optimum joint arrangement.
- H. Set carpentry work accurately to required levels and lines, with members plumb and true and accurately cut and fitted.
- I. Securely attach carpentry work to substrate by anchoring and fastening as shown and as required by recognized standards. Countersink nail heads on exposed carpentry work and fill holes.
- J. Use common wire nails, except as otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required.
- K. Secure roof sheathing perpendicular to framing members with ends staggered.
- L. Installation, screwing and nailing of plywood sheathing, and underlayment to wood and light gauge steel framing and furring shall be in strict accordance with the printed specifications and recommendations of the American Plywood Association and of the manufacturer of the light gauge framing and furring systems. At exterior roofs, walls, sills, etc., use stainless steel or galvanized screws for all fastenings.

END OF SECTION

06001-4

SECTION 07534

ELASTOMERIC SHEET ROOFING FULLY ADHERED ROOF SYSTEM

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 DESCRIPTION OF WORK

- A. The roofing Contractor shall supply all labor, equipment, temporary protection, tools, and equipment necessary for the proper installation and completion of the work as required in these specifications and in accordance with good roofing practice.
 - 1. The Project includes a new fully adhered EPDM roof over an existing double layer of 1 inch roof sheathing or new ¾ inch CDX plywood with isocyanurate insulation and edge nailers. The project shall also include the installation of prefinished aluminum fascia/ trim, two (2) new roof drains, PVC drain piping and insulation..
 - 2. Mobilize with all-necessary material and equipment to accomplish all activities of the project.
 - 3. Install a new Fully Adhered Roofing System produced by “Firestone Building Products or Carlisle” per the Drawings and Specifications. The Fully Adhered Roofing System shall consist of insulation, fasteners, adhesives, membrane and all other appurtenances.
 - 4. Contractor shall verify all dimensions, details, and existing conditions prior to bid.
 - 5. The work includes, but is not necessarily limited to, the installation of:
 - a. insulation
 - b. fasteners
 - c. roof membrane
 - d. roof membrane flashings
 - e. wood blocking
 - f. pressure treated wood blocking & plywood
 - g. metal work (perimeter fascia)
 - h. sealants and adhesives

1.03 RELATED WORK

- A. Section 07900 – Joint Sealers

1.04 QUALITY ASSURANCE

- A. This roofing system shall be applied only by an approved Contractor authorized prior to bid by roof membrane manufacturer.
- B. Upon completion of the installation, an inspection shall be made by a representative of the manufacturer to ascertain that the roofing system has been installed according to applicable manufacturer's specifications and details. A copy of the Roof Inspection Report shall be supplied to the Owner.
- C. There shall be no deviation made from this Specification or the approved shop drawings without prior written approval by the Owner and the roofing system manufacturer.
- D. All work shall be completed by personnel trained and authorized by manufacturer.

1.05 CODE REQUIREMENTS

- A. The proposed roofing system shall meet the requirement of the following recognized code approval or testing agencies. These requirements are minimum standards and no roofing work shall commence without written documentation of the system's compliance, as required in the "Submittals" section of this Specification.
 - 1. Factory Mutual Research Laboratories, Norwood, Massachusetts
 - a) F. M. Class C system approval
 - b) F. M. 75 pounds per square foot wind uplift criteria
 - c) Increase perimeter fastening by at least 50 % but no less than 1 fastener every 2 square feet.
 - d) Increase corner fastening by 100% but not less than 1 fastener every square foot.
 - e) Fastening for 4' x 8' sheet shall be 16/24/32 for field/perimeter and corners respectively.
 - 2. Underwriters' Laboratories, Chicago, Illinois
 - a) U.L. Class C membrane system

1.06 SUBMITTALS

- A. The roofing Contractor shall submit to the Owner the following for review prior to the start of any work:
 - 1. Samples of each material to be used on the roof system including each components manufacturer's literature.

07534-2

2. Written approval by the insulation manufacturer (as applicable) for use and performance of the product in the proposed system.
3. Specimen copy of Manufacturer's warranty.
4. Specimen copy of Contractor's warranty.
5. Roof drain manufacturer's data and installation sheets.
6. Dimensioned shop drawings which shall include:
 - a. Outline of roof and roof size;
 - b. Profile details of flashing methods for penetrations and terminations.
 - c. Technical acceptance from manufacturer.
7. Certifications by producers of roofing and insulating materials that all materials supplied comply with all requirements of the identified ASTM and industry standards.
8. Certification that system specifications meet all identified code and insurance requirements.
9. MSDS sheets.

1.07 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. All products delivered to the jobsite shall be in the original unopened containers or wrappings.
- B. Handle all materials to prevent damage. Place all materials on pallets and fully protected from moisture.
- C. Membrane rolls shall be stored lying down on pallets, and fully protected from moisture.
- D. Bonding adhesives shall be stored at temperatures above 40 degrees F.
- E. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Follow precautions outlined on container or supplied by material manufacturer/supplier.
- F. Any materials, which are determined damaged by the Owner and manufacturer, are to be removed from the jobsite and replaced at no cost to the Owner.

1.08 JOB CONDITIONS

- A. Install all materials in accordance with manufacturer's recommended procedures and temperatures.
- B. Only as much of the new roofing as can be made weathertight each day including all flashings and metalwork, shall be installed.
- C. All work shall be scheduled and executed without exposing the interior building areas to the effects of inclement weather. The existing building and its contents shall be protected against all risks, and any damages shall be repaired or replaced by the Contractor at no cost to the Owner.
- D. All surfaces to receive new insulation, membrane or flashings shall be thoroughly dry. Should surface moisture occur, the Contractor shall provide the necessary equipment to dry the surface prior to application.

07534-3

- E. All new and temporary construction, including equipment and accessories, shall be secured against wind blow-off or damage.
- F. Temporary waterstops shall be installed at the end of each day's work, and shall be removed before proceeding with the next day's work. Waterstops shall be compatible with all materials and shall not emit dangerous or incompatible fumes.
- G. Arrange work sequence to avoid use of newly-constructed roofing for storage, walking surface, and equipment movement. Where such access is absolutely required, the Contractor shall provide all necessary protection for all new and existing roof areas, which receive traffic during construction.
- H. Prior to and during application, all dirt, debris, and dust shall be removed from surfaces either by vacuuming, sweeping, blowing with compressed air and/or similar methods.
- I. All roofing, insulation, flashings and metal work removed for construction shall be immediately taken off the site to a legal dumping area authorized to receive such materials. Any hazardous materials such as asbestos or materials containing asbestos fibers shall be removed and disposed of by Acacia Construction LLC. in accordance with all local, state and federal rules and regulations.
- J. The Contractor shall follow all safety regulations as required and recommended by OSHA.
- K. The Contractor shall take care during application and storage that overloading of deck and structure does not occur.
- L. Liquid materials such as solvents and adhesives shall be stored and used away from open flames, sparks and excessive heat.
- M. Contaminants, such as grease, fats, oils, and solvents, shall not be allowed to come into contact with the manufacturer's roofing membrane. Any such contact shall be reported to manufacturer.
- N. If any unusual or concealed condition is discovered, stop work and notify Owner and manufacturer immediately in writing.
- O. Site clean-up, including both interior and exterior building areas which have been affected by construction, shall be completed to the Owner's satisfaction.

1.09 WARRANTY

- A. Upon completion of the work and receipt of final payment, the following warranty shall be issued:
 - 1. Manufacturer's fifteen (15) year system warranty
 - 2. Roofing Contractor's two (2) year warranty

1.10 MEASUREMENT & PAYMENT

- A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

07534-4

PART 2 - PRODUCTS

2.01 GENERAL

- A. All components of the Fully Adhered roofing system including but not limited to: insulation, fasteners, adhesives and membrane are to be products of the roofing system manufacturer as indicated on the detail Drawings and specified in the Contract documents.
- B. Components to be used that are other than those supplied or manufactured by the roofing system manufacturer may be submitted for review and acceptance by roofing system manufacturer.

2.02 APPROVED MEMBRANE SYSTEMS

- A. Firestone 60 mils (0.060 inches) nominal thickness, single-ply low slope fire resistant (LSFR) synthetic roofing membrane.

2.03 MEMBRANE

- A. Membrane shall conform to ASTM D4637 (latest revision) Standard for EPDM sheet roofing. Classification: Type II, Grade 1.
- B. As manufactured, membrane shall conform to the following physical properties:

Property	Test Method	Minimum Performance
Specific Gravity	ASTM D-297	1.15± .05
Tensile Strength	ASTM D-412	1305 psi min. (9.0 Mpa)
Factory Seam Strength	Modified	
Elongation	ASTM D-816	Membrane Rupture
Tear Resistance	ASTM D-412	300% Minimum 150
	ASTM D-624	lbs/in min (26.27 N/mm)
Shore A Durometer	ASTM D-2240	65 +/- 10
Ozone Resistance	ASTM D-1149	No Cracks
7 days/100 pphm @ 100°F with 50% extension Heat Aging 28 days @ 240°F	ASTM D-573	Tensile Minimum 1205 psi (8.3 Mpa) Elongation min. 200%

Brittleness Temp.	ASTM D-2137	-49° F (-45°C)
Water Resistance	ASTM D-471	+ 8, -2
change in weight after immersion		
7 days @ 150°F, %		
Water vapor permeability	ASTM E-96	2.0
max, perm mils		
Tolerance on Nominal thickness, %	ASTM D-412	± 10

2.04 ACCESSORY PRODUCTS

- A. The following products are supplied by the roofing system manufacturer and may be incorporated in specifications as needed or detailed on the drawing:

Bonding Adhesive:

Splice Adhesive:

Lap Sealant:

Pourable Sealer:

Water Block Seal:

All-Purpose Sealant:

Pre-Fabricated Pipe Flashing: Formed EPDM membrane

Termination Bar: aluminum bar x 10' long

Seam Flashing: EPDM semi-cured

Splice Tape:

Primers:

2.05 RELATED MATERIALS

- A. Wood Nailers: Pressure treated (P.T.) southern yellow pine #2 grade or better. Wood nailers shall be installed at the perimeter of the entire roof and around such other roof projections and penetrations as specified on project drawings. Height of nailers shall be matched to that of the insulation thickness being used.

1. Wood nailers shall be Pressure treated (P.T.) southern yellow pine #2 or better lumber. Creosote or asphaltic-treated lumber is not acceptable.
2. Wood nailers shall conform to Factory Mutual's Loss Prevention Data 1-49.
3. All wood shall have a maximum moisture content of 19% by weight on a dry weight basis.

07534-6

- B. Plywood:
 - 1. When bonding directly to plywood, or laying roofing membrane directly over plywood a minimum standard 1/2" smooth surfaced marine grade plywood with marine grade glue shall be used.
 - 2. Plywood shall have a maximum moisture content of 19% by weight on a dry weight basis.

2.06 INSULATION

- A. Insulation shall be installed as a separation layer over the substrate..
 - 1. Insulation shall be a Factory Mutual Class C fire rated, FM 75 wind uplift approved board.
 - 2. Insulation shall meet all identified code/insurance requirements.
- B. The following insulation board shall be used below the adhered membrane.
 - 1. Isocyanurate Insulations (ISO 95+)
- C. Insulation shall be a minimum of one and one half (1 1/2) inches thick.
- D. Insulation(s) compressive strength shall be a minimum of 20 psi.

2.07 INSULATION AND FASTENER

- A. The existing building has a roof deck made up of two (2) layers of one (1) inch thick diagonal roof planking. New repaired areas will be repaired with 3/4" CDX tongue and groove plywood.
- B. Roofing system fasteners for the roofing systems shall be as recommended by roof system manufacturer for the FM 75 wind uplift requirements for a wooden roof deck.
- C. Fastener Manufacturer's Warranty:
 - 1. Fasteners and plates shall be Factory Mutual approved and meet F.M. Standard 4470 for corrosion resistance.
 - 2. Fastener manufacturer shall warranty the performance of the fastener and plates for the duration of the roofing system manufacturer's warranty.
 - 3. For "non penetrating fastener" pullout tests shall be performed by the fastener manufacturer. The results of these tests plus a statement by the fastener manufacturer concerning the fasteners suitability for the intended job, and installation instructions shall be submitted to the roofing Contractor prior to the job start.

2.08 MISCELLANEOUS FASTENERS AND ANCHORS

- A. All fasteners shall be of the same type as metal being secured. In general, all fasteners, anchors, nails, straps, shall be galvanized or stainless steel. Fasteners for attachment of metal to wood blocking shall be annular ring nails. Fasteners for attachment of metal to masonry shall be expansion type fasteners. All fasteners shall meet Factory Mutual Standard 4470 for corrosion resistance.

07534-7

2.09 FASCIA/TRIM

- A. Fascia and trim shall be minimum 0.040" aluminum UNA-Edge DE Drip Edge System with Kynar finish as manufactured by Firestone or Owner approved alternate. Color will be by Owner from manufacturer's standard colors.

2.11 ROOF DRAINS

- A. The Contractor shall provide and install two (2) new roof drains, piping, and insulation,
- B. The new piping will have heat tape installed by the Owner's electrical contractor. This Contractor shall coordinate with the Owner's electrical contractor to ensure that all heat tape is installed and tested prior to the new pipe being insulated with ½ inch thick insulation.

PART 3 - EXECUTION

3.01 GENERAL

- A. The roofing Contractor shall coordinate the installation so that each area is made watertight at the end of each work period.

3.02 ROOF SUBSTRATE PREPARATION

- A. Correct Substrate Defects
 - 1. Bring defects to the attention of the Owner, in writing, to be corrected before work commences.
 - 2. The Contractor shall be responsible for correcting improper conditions affecting the roofing installation.
- B. Project Layout:
 - 1. The Roof System shall be installed in a fashion so that field and flashing splices are installed to shed water (shingle type fashion).
- C. Remove Moisture:
 - 1. Ponded water, snow, frost and/or ice on the deck of the roof system must be removed from the work surface prior to installing the roof system
- D. Prepare Final Surface:
 - 1. Acceptable substrates to which the fully adhered roof system is installed must be properly prepared prior to membrane installation. The surface must be clean, dry, smooth, free of sharp edges, fins, loose or foreign materials, oil, grease and other materials, which may damage the membrane. All roughened surfaces which could cause damage shall be properly isolated from the membrane.
- E. Fill Voids:
 - 1. All surface voids of the immediate substrate greater than 1/4" wide must be properly filled with an acceptable insulation or suitable fill material.

07534-8

3.04 WOOD NAILER LOCATION AND INSTALLATION

- A. Wood nailers shall be installed as specified by the Sketches or as noted on roof system manufacturer details. Wood nailers shall be pressure treated.
 - 1. Position Wood Nailer: Total wood nailer height shall match the total thickness of insulation being used and shall be installed with a 1/8" gap between each length and at each change of direction.
 - 2. Secure Wood Nailer: Wood nailers shall be firmly fastened to the deck. Mechanically fasten wood nailers to resist a force of 200 pounds per lineal foot. Refer to attachment requirements as specified by roof system manufacturer Design Guide Manual.
 - 3. Taper Wood Nailer: The wood nailer shall be tapered so that it will always be flush at the point of contact with the insulation.

3.05 INSULATION INSTALLATION

- A. Install Insulation:
 - 1. Install only as much insulation as can be covered with roofing membrane and completed before the end of the day's work or before the onset of inclement weather.
- B. Fit Insulation:
 - 1. Neatly fit insulation to all penetrations, projections, and nailers. Insulation shall be loosely fitted, with gaps not greater than 1/4". All gaps greater than 1/4" shall be filled with insulation of the same type and subsequently attached. Under no circumstances shall the membrane be left unsupported over a space greater than 1/4".
- C. Stagger Insulation Joints:
 - 1. When installing multiple layers of insulation, all joints between layers shall be staggered.

3.06 MEMBRANE PLACEMENT

- A. Place Membrane and Allow to Relax:

Place membrane panels, without stretching, over the acceptable substrate and allow to relax for a minimum of 30 minutes prior to attachment.

3.07 MEMBRANE LAP SPLICING

- A. Perform all membrane lap splices in strict accordance with the roof system manufacturer's written installation instructions.

3.08 MEMBRANE SECUREMENT (BASE TIE-IN) LOCATION AND INSTALLATION

- A. Provide Membrane Securement:
 - 1. Secure membrane at all locations where the membrane terminates or goes through an angle change greater than 2" in 12" (i.e. roof edges, curbs, interior walls, etc.), except for round pipe penetrations less than 18" in diameter and square penetrations less than 4" square.
- B. Install Reinforced Perimeter Fastening Strip or Batten Strips into the Structural Substrate or Wood Nailer as Shown on Roof System Manufacturer Details:
 - 1. Mechanically fasten Reinforced Perimeter Fastening Strips with fasteners and Seam Plates in accordance with roof system manufacturer details and Specifications.
 - 2. Mechanically fasten Batten Strips with Fasteners, in accordance with roof system manufacturer details and Specifications.
 - 3. Refer to the roof system manufacturer System Design Guide Manual to determine the applicable fastener and the associated penetration requirements for the specific substrate conditions.

3.09 FLASHING - PENETRATIONS

- A. General:
 - 1. Flash all penetrations passing through the membrane.
 - 2. The flashing seal must be made directly to the penetration.

3.10 FLASHING - WALLS, PARAPETS, MECHANICAL EQUIPMENT CURBS, SKYLIGHTS, ETC.

- A. General:
 - 1. Using the longest pieces practical, flash all walls, parapets, curbs, etc., to the height as specified by the project designer.
- B. Complete all flashings in strict accordance with roof system manufacturer's written instructions.

3.11 EDGE TRIM AND FASCIA TRIM - ROOF EDGE METALS

- A. Perform all roof edge flashings in strict accordance with the roof system manufacturer's written instructions.
- B. Provide continuous cleat for fastening fascia/edge trim.
- C. All fascia/edge trim shall be installed in accordance with Firestone recommendations.
- D. Install fascia in accordance with manufacturer's recommendations; refer to fabrication and installation requirements specified by Factory Mutual loss prevention data sheet 1-49 (latest issue) and SMACMA recommendations. In some instances, roof system manufacturer's requirements may exceed the requirements of SMACMA. In these instances, the roof system manufacturer's requirements will take precedence.

3.12 MEMBRANE REPAIR

- A. Repair Cuts/Punctures in the Membrane, or Wrinkles Within 18" of a Splice:
 - 1. A wrinkle running toward a splice or within 18" of a splice must be repaired. The wrinkle must be cut out and patched with a section of EPDM membrane having no factory splices. Provide a splice that extends a minimum of 3" beyond the boundaries of the cut in all directions.
 - 2. Repair a cut or puncture in the EPDM membrane with EPDM membrane. The repair must extend a minimum of 3" beyond the boundary of the affected area in all directions. Round all corners of the repair piece (Example: a pinhole will require a minimum 6" x 6" EPDM section).
- B. Clean the Membrane:
 - 1. When repairing membrane, which has been in service for some time, it is necessary to remove accumulated dirt. Proper membrane preparation is made by first scrubbing the membrane with a scrub brush and warm soapy water, then rinsing with clear water and drying with clean cotton cloths. Clean the area according to roof system manufacturer's written instructions.
- C. Install Splice:
 - 1. Repairs must be made with Splice Adhesive.

3.13 TEMPORARY CUT-OFF

- A. All flashings shall be installed concurrently with the roof membrane in order to maintain a watertight condition as the work progresses. All temporary waterstops shall be constructed to provide a 100% watertight seal.
- B. The stagger of the insulation joints shall be made even by installing partial panels of insulation. The new membrane shall be carried into the waterstop. The waterstop shall be sealed to the deck and/or substrate so that water will not be allowed to travel under the new or existing roofing. The edge of the membrane shall be sealed in a continuous heavy application of sealant. When work resumes, the contaminated membrane shall be cut out. All sealant, contaminated membrane, insulation fillers, etc. shall be removed from the work area and disposed of off site. None of these materials shall be reused in the new work.
- C. If inclement weather occurs while a temporary waterstop is in place, the Contractor shall provide the labor necessary to monitor the situation to maintain a watertight condition.
- D. If any water is allowed to enter under the newly completed roofing, the affected area shall be removed and replaced at the Contractor's expense.

3.14 ROOF DRAINS

- A. Install new Johns-Manville Flex-I- Drains in strict accordance with manufacturer's written instructions.
- B. The new 4 inch PVC roof drain leaders will be routed to the exterior wall.
- C. All new drain piping, tie-ins, hangers and insulation shall be installed by a plumber in accordance with the Maine State Plumbing Code and all other codes, standards and best practices of the industry.

3.15 COMPLETION

- A. Prior to demobilization from the site, the work shall be reviewed by the Owner and the Contractor. All defects shall be noted and noncompliance with the specifications or the recommendations of the roof system manufacturer shall be itemized in a punch list. These items must be corrected immediately by the Contractor to the satisfaction of the Owner and the roof system manufacturer's requirements prior to demobilization.
- B. All warranties as required in part 1 of this specification shall have been submitted for approval and shall have been accepted at time of contract award.

END OF SECTION

07534-12

SECTION 07900

JOINT SEALERS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 DESCRIPTION OF WORK

- A. The work of this section consists of furnishing and installing sealants to provide a barrier against air, water, moisture, or dirt, and where needed for appearance.
- B. Preparing sealant substrate surfaces
- C. Sealant and backing
- D. Sealing of exterior joints between perimeters of door frames and other items occurring in openings in exterior walls and the surrounding masonry, and other construction, including bedding sealing of sills and thresholds, except as otherwise specified.
- E. Sealing of interior perimeter joints around door frames.
- F. All other exterior and interior sealing called for, or reasonably inferred from the Sketches, and as required to provide weather-tight conditions in exterior walls.

1.03 RELATED WORKS

- A. Section 06001 – Carpentry Work
- B. Section 07534 – Elastomeric Sheet Roofing
- C. Section 08360 – Sectional Overhead Doors
- D. Section 08111 – Standard Steel Doors and Frames

1.04 SUBMITTALS

- A. Manufacturer's technical data and application instructions.
- B. Samples of sealant colors.

1.05 QUALITY ASSURANCE

- A. Contractor shall have copies of referenced ASTM standards available on the job site.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in manufacturer's original, unopened containers and store in a protected area at temperatures recommended by manufacturer.

1.07 PROJECT/SITE CONDITIONS

- A. Environmental.
 - 1. Install sealants only in favorable weather conditions as defined in ASTM C962. To help balance extension and compression of sealants in exterior working joints, install sealants at substrate temperatures as near as possible to 55 degrees F.

1.08 MEASUREMENT & PAYMENT

- A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Other manufacturer's products may be used provided they are approved as equal.
- B. Backer Rod Manufacturing and Supply Company, Denver, Colorado.
- C. Dow Chemical Company, Midland, Michigan.
- D. Dow Corning Corporation, Midland, Michigan.
- E. General Electric Company, Waterford, New York.
- F. Pecora Corporation, Harleysville, Pennsylvania.
- G. Sika Chemical Corporation, Lyndhurst, New Jersey.
- H. Sonneborn-Contech, Minneapolis, Minnesota.
- I. Tremco, Cleveland, Ohio.
- J. Williams Products, Inc., Troy, Michigan.

2.02 MATERIALS

- A. Exterior Sealants.
 - 1. Vertical Surfaces: Silicone or urethane. ASTM C920, Type S, Grade NS, Class 25, Use M, A, or O, as applicable.
 - 2. Horizontal Surfaces in Traffic Areas: Urethane. ASTM C920, Type S or M, Grade P, Class 25, Use T. Grade NS, Use T, in areas with slopes exceeding 1 percent.
- B. Interior Sealants.
 - 1. Vertical Surfaces, Movement Anticipated: Silicone or urethane. ASTM C920, Type S, Grade NS, Class 25, Use M, A, or O, as applicable.
 - 2. Horizontal Surfaces in Traffic Areas: Urethane. ASTM C920, Type S or M, Grade P, Class 25, Use T. Grade NS, Use T, in areas with slopes exceeding 1 percent.
 - 3. Horizontal Surfaces in Nontraffic Areas: ASTM C920, Type S, Grade P, Class 25, Use NT. Grade NS, Use NT, in areas with slopes exceeding 1 percent.
 - 4. Vertical and Horizontal Surfaces in Humid Areas: ASTM C920, Type S, Grade NS, Class 12-1/2, Use O.

07900-2

5. Vertical and Horizontal Surfaces, Dry Areas Only, No Movement Anticipated:
Single component water-based latex, paintable, ASTM C834.
- C. Joint Fillers.
 1. ASTM C962, Type A, rod stock closed cell polyethylene foam, closed cell neoprene foam, or open cell urethane foam, recommended by sealant manufacturer for compatibility with sealant and primer.
 - a. Polyethylene: Ethafoam SB by Dow Chemical.
 - b. Neoprene: Neocord by Williams Products.
 - c. Urethane: Denverfoam by Backer Rod Manufacturing and Supply.
 - D. Bond Breaker Tape.
 1. Colored polyethylene pressure sensitive tape, minimum thickness 0.012 inch.
 - E. Primer.
 1. Use primer if sealant manufacturer recommends it for anticipated substrates and environmental conditions. If manufacturer or COR decides that adhesion tests are necessary to determine primer use, send substrate samples to sealant manufacturer with copy of transmittal to COR. Testing will not be at Contractor's expense.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Sealants.
 1. Follow sealant manufacturer's instructions for installation of sealants, joint fillers, bond breakers, and primers. Tool joints concave.
 2. Install latex sealants in accordance with ASTM C790.
 3. Install elastomeric sealants in accordance with ASTM C962.

END OF SECTION

SECTION 08111

STANDARD STEEL DOOR AND FRAME

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 WORK INCLUDED

- A. Non-rated steel entrance door and frame.
- B. Office door hardware

1.03 RELATED WORK

- A. Section 07900- Joint Sealers.
- B. Section 09900 - Painting

1.04 REFERENCES

- A. UL 10B -93, Fire Tests of Door Assemblies.
- B. ASTM-A366-95A - Specification for Steel, Sheet, Carbon, Cold-Rolled, Commercial Quality.
- C. ASTM-A568-95 -Specification for Steel, Sheet, Carbon, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled.
- D. ASTM-A 569-91A - Specification for Steel, Carbon, (0.15 Maximum Percent), Hot-Rolled Sheet and Strip Commercial Quality.
- E. ASTM-A924-95 - General Requirements for Steel Sheet, Metallic coated by the Hot-Dip Process.
- F. ASTM-A620- Specifications for Steel, Sheet, Carbon, Drawing Quality, Special Killed, Cold Rolled (for embossed panels).
- G. ANSI A250.8-1998/SDI100 - Recommended specifications for standard steel doors and frames.
- H. SDI-105-92 - Recommended Erection Instructions for Steel Frames.
- I. ANSI/SDI A250.6 - 1997 - Hardware on Steel Doors (reinforcement-application).
- J. NFPA-80-1995 - Standard for Fire Doors and Windows.
- K. NFPA-101-1994 - Life Safety Code.
- L. ANSI-A250.4-1994 Test Procedure and acceptance criteria for physical endurance, steel doors and frames.
- M. ANSI-A224.1-1990 Test Procedure and acceptance criteria for prime painted steel surfaces for steel doors and frames.

08111-1

- N. ADA, The Americans with Disabilities Act - Title III - Public Accommodations
- O. ANSI-A117.1-1992 American National Standards Institute - Accessible and Usable Buildings and Facilities
- P. U. L. - Underwriter's Laboratories
- Q. WHI - Warnock Hersey International, Division of Inchcape Testing Services
- R. State and Local codes including Authority Having Jurisdiction
- S. N.F.P.A. 105-93 Smoke and draft control assemblies.
- T. U.L. - 1784-90 Air leakage test of door assemblies.
- U. ASTM E283- 91 Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.

1.05 SUBMITTALS

- A. Submit shop drawings and product data for Owner review and approval.
- B. Indicate frame configuration, anchor types and spacings, location of cutouts for hardware, reinforcement, and finish.
- C. Indicate door elevations, door swing, internal reinforcement, and closure method.

1.06 DELIVERY, STORAGE AND PROTECTION

- A. Deliver door and frame cardboard wrapped, crated, palletized or otherwise protected during transit and site storage.
- B. Inspect door and frame upon delivery for damage. Minor damages may be repaired provided refinished items are equal in all respects to new work and accepted by the Owner. Otherwise remove and replace damaged items.
- C. Store doors and frames at the building site in a dry, secure place.
 1. Place units on minimum 4 inches (101.6) high wood blocking.
 2. Avoid use of non-vented plastic or canvas shelters, which could create a humidity chamber.
 3. If cardboard wrapper/packaging on door becomes wet, remove packaging materials immediately.
 4. Provide 1/4 inch (6.3) spaces between stacked doors to promote air circulation.

1.07 MEASUREMENT & PAYMENT

- A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Curries
- B. Republic
- C. Steelcraft American Standard.
- D. Substitutions: Under provisions of Section 01600. All doors and frames shall be by same manufacturer.

2.02 DOORS

- A. Material:
 - 1. Steel requirements, all doors and frames to be manufactured of commercial quality, stretcher leveled flatness, cold rolled steel per ASTM-A-366 and A-568 general requirements or galvanealed to 'A-60' minimum coating weight standard per ASTM-A924. Internal reinforcing may be manufactured of hot rolled pickled and oiled steel per ASTM-A569.
 - 2. Coating Materials, primer, Use manufacturer's standard rust inhibiting primer conforming to ANSI-A-224.1-1990.
 - 3. Core Materials
 - a. Nonlabeled doors or labeled doors, polystyrene foam core, self-extinguishing, non-toxic in case of fire.
 - 4. Glass lite frames in doors fabricated of not less than 18 ga.(1.2) galvanized steel with attachment screws allowed only on the non-secure side, not visible when viewing door lite frame face.
- B. Flush doors shall be 1-3/4 in. thick, sizes as indicated, custom fabricated of two outer steel sheets not lighter than 16 gauge for exterior door, with edges welded and finished flush. Seams or joints will not be permitted on door faces.
- C. Exterior doors shall be capped to retard moisture penetrating the door.
- D. Provide continuous 15 gauge min. reinforcing channels welded to face sheets at tops and bottoms of doors. Heads of all doors shall be closed flush.
- E. Provide minimum 14 gauge hardware reinforcement for closers, overhead holders and rim panic hardware
- F. All hollow portions of doors shall be filled with UL approved mineral rock wool or other approved thermal and sound-deadening insulation. "U" factor of exterior doors shall be .09 or better.
- G. Lock edges of stiles shall be beveled 1/8 in. in 2 in. Clearance shall be 1/8 in. at tops and sides, and at bottom shall be as required to properly fit thresholds, weatherstripping, finish floor materials, etc., but in no case more than 3/8 in. except where may be specifically otherwise indicated.

- H. Workmanship:
1. The finished doors shall be strong and rigid, free of rattle, neat in appearance, and free from dents, buckling, warping, and other defects. Buckling or warping of face sheets or edges of any door exceeding 1/16 in. when measured with a straight edge will result in rejection of the door.
 2. Formed members shall be straight and true, with mitered joints formed to sharp accurate profiles, and set in true alignment.
 3. All welded joints on exposed surfaces shall be dressed smooth, leaving no visible trace of the joints.

2.03 HOLLOW METAL FRAMES

- A. Materials:
1. All sheet metal for fabrication of exterior frames shall be hot-dip galvanized and chemically-treated cold-rolled carbon sheet steel of type specified for exterior doors hereinabove and shop primed to receive field paint.
 2. Sheet metal for all other frames shall be cold-rolled, stretcher-leveled sheet steel.
 3. All sheet metal shall be of prime quality, free of rust, scale, pitting and surface defects.
- B. Hollow metal frames shall be fabricated to sizes and profiles indicated on the Drawings. Unless otherwise specifically called for on the Drawings, steel for the exterior frame shall be 16 gauge.
- C. Frames shall be knock-down type for field assembly.
- D. Wall Anchors: Provide concealed metal wall anchors of sizes, shapes, and designs appropriate for adjoining wall construction. Wall anchors shall be non-removable, welded-on, and of same material and gauge as the frame. Frames shall be provided with three anchors per jamb at masonry walls, and four anchors per jamb at other types of walls and partitions.
- E. Floor and Head Anchors:
1. Provide manufacturer's standard concealed 12 gauge clip-angle floor anchor at each frame jamb and equivalent concealed floor anchor at each mullion. Each floor anchor shall be drilled to receive two 3/8 in. diameter steel anchor bolts. Floor anchors at jambs in areas to receive subsequent floor fill or setting beds shall be adjustable type; others shall be solidly welded to the jambs.
- F. Workmanship:
1. The finished frame shall be strong and rigid, neat in appearance, and free from dents, buckling, warping, and other defects.
 2. Glazing beads shall be straight and true, with mitered joints, formed to sharp accurate profiles, and set in true alignment, as described herein below.
 3. All welded joints on exposed surfaces shall be dressed smooth, leaving no visible trace of the joints.

- G. Identification: Before shipment, each frame shall be clearly labeled with removable metal or plastic tag to show mark number and job location.

2.04 PREPARATION FOR HARDWARE

- A. Door and frame shall be mortised, reinforced, drilled, and tapped at factory to receive all locks and mortised hardware, and shall be reinforced to receive surface applied hardware. Drilling and tapping for surface applied hardware will be done in the field under Carpentry Section. Templates for finish hardware items will be provided in required quantities by Finish Hardware supplier.
- B. All reinforcements shall be welded securely in place, and welds shall not be noticeable on the outside of the face sheets.
- C. Provide for concealed installation of panic device operating bars, flush bolts and/or any other items as may be called for on the hardware schedules, or details.
- D. Each door frame shall be punched to receive rubber silencers; three on latch side of each single door frame and two at head of each door pair frame.
- E. Provide 20 gauge protective enclosures over all mortised cut-outs on frames.

2.05 SHOP FINISH

- A. After fabrication, tool marks and surface imperfections shall be dressed smooth by grinding, filling, and sanding as necessary for a smooth, even appearance. Exposed surfaces shall be degreased and thoroughly cleansed of rust, scale, oil, and other impurities.
- B. All exposed surfaces of ungalvanized steel shall be hot-phosphate coated to condition the surface of the metal to resist and inhibit corrosion and provide positive paint adhesion. Galvanized sheet metal surfaces shall have been given hot-phosphate treatment at the mill, as previously specified, and shall be additionally treated as required to assure positive paint adhesion.
- C. Then a dip or spray coat of rust-inhibitive metallic oxide, zinc chromate, or synthetic resin primer shall be applied to all exposed surfaces, including backs of frames. Primer shall be baked or oven dried at time and temperature recommended by manufacturer for development of maximum hardness and resistance to abrasion. Finish surfaces shall be smooth and free of irregularities, ready to receive subsequent finish painting under Painting Section.

2.06 DOOR GLASS

- A. Materials:
 - 1. Door shall have a 4" wide x 25" lite with ¼" thick wire mesh reinforced safety glass.

2.07 OFFICE DOOR HARDWARE

- A. Hinges: 1 ½ pair McKinney TA2314 4.5 x 4.5 x 32D XNRP stainless steel ball bearing full mortise hinges with non removable pins.
- B. Door Closer: Sargent EN 281 PSH door closer with cushion stop and hols open arm.
- C. Emergency panic device and lockset: Sargent 8813 ETL X 32D exit device.
- D. Rubber silencers: Three (3) per door.
- E. Aluminum Threshold: National Guard 5/8" high x 5" wide aluminum threshold.

PART 3 EXECUTION

3.01 DELIVERY

- A. Deliver hollow metal door, frame, and related items to project site in accordance with instructions of the Contractor, properly protected during shipment, handling, and storage to prevent damage from any source whatever. Doors and frames and related items shall be tailgate unloaded at site by the Contractor and stored in interior area(s) fully protected from moisture and damage.

3.02 INSTALLATION

- A. Install door, frame and hardware in strict accordance with the manufacturer's written instructions

3.03 SHOP AND FIELD PAINTING OF DOOR AND FRAME

- A. Door and frame shall be factory primed and receive one (1) coat of paint at Contractor's shop or in existing building prior to installation.
- B. Door and frame shall be painted with Sherwin-Williams Industrial and Marine Coatings – Series B66 – 200 Series DTM Acrylic Coating at 2.5 – 4 mils D.F.T. Color: To be selected by Owner.

END OF SECTION

08111-6

SECTION 08360

SECTIONAL OVERHEAD DOORS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 WORK INCLUDED

- A. Electric overhead sectional doors.
- B. Non-insulated panels of flush design.
- C. Operating hardware and supports.

1.03 RELATED WORK

- A. Section 06001 - Carpentry wood framing for door opening.
- B. Section 07900- Joint Sealers.

1.04 REFERENCES

- A. ANSI A216.1 - Section Overhead Type Door (NAGDM 102).
- B. ANSI/ASTM A446 - Steel Sheet, Zinc-Coated (Galvanized) by the Hot Dip Process, Structural (Physical) Quality.
- C. ANSI/ASTM A526 - Steel Sheet, Zinc-Coated (Galvanized) by the Hot Dip Process, Commercial Quality.

1.05 SYSTEM DESCRIPTION

- A. Overhead Garage Doors 10'-0" wide x 14'-0" high (1 required):
 1. Door shall be Overhead Door Company 420 Series non-insulated overhead doors.
 2. Panels for Exterior Overhead Doors: Flush steel sections. Nominal thickness 2" thick.
 3. Tracks shall be bracket type 2 inch low headroom track.
 4. Exterior steel: Galvanized 20 gauge thickness. Factory primed and painted white.
 5. Designed for minimum 35 psf wind loading.
 6. Provide and install low headroom front mounted torsion low headroom 2 inch door tracks.

7. Electric operators: Heavy Duty trolley operator for low headroom lift sectional doors. Power requirements shall be 110volt/60 cycle/1 phase. Door shall be able to be manually operable in case of power failure.
8. Electric eye system to stop door when anything comes in contact with the beam.
9. Provide neoprene bulb type bottom seal.
10. Provide brush type side weatherstripping.
11. Provide hand held automatic remote door opener.

1.06 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in overhead door construction with three years minimum experience.
- B. Applicator: Company specializing in installing overhead doors approved by manufacturer.

1.07 WARRANTY

- A. Provide one year manufacturer's warranty for workmanship, materials and installation. The foam and steel composite panels shall be warranted for five years against delamination.

1.08 SUBMITTALS

- A. Submit shop drawings and product data for Owner's review and approval.
- B. Indicate opening dimensions and tolerances, component construction, connections and details, anchorage methods and spacing, hardware, and locations, installation details.

1.09 OPERATION AND MAINTENANCE DATA

- A. Submit operation and maintenance data for Owner's use.
- B. Include data for motor and transmission, shaft and gearing, lubrication frequency, control adjustments, and spare part sources.

1.10 MEASUREMENT & PAYMENT

- A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Overhead Door Company
- B. Richard -Wilcox
- C. Substitutions: If Contractor is to substitute overhead doors, they shall submit door substitute with their bid.

2.02 MATERIALS

- A. Overhead doors:
 - 1. Exterior overhead doors shall be Overhead Door Company Model 420 or approved equal.
 - 2. Overhead door sheet steel: ANSI/ASTM A526; 20 gauge thick galvanized to 1.25 oz/sq. ft., flat embossed with a textured pattern.
 - 3. Weatherstripping: Brush type weatherstripping.
 - 4. Electric operator. 110 volt/60 cycle/1 phase.
 - 5. Electric eye system to stop door when anything comes in contact with the beam.
 - 6. Provide hand held automatic remote door opener.

2.03 COMPONENTS

- A. Panels: Flush steel construction; outer steel sheet of 20 gauge thick, flat profile; back cover steel sheet of 26 gauge thick; 16 gauge galvanized end and center stiles; continuous steel reinforcement for hardware attachments.
- B. Track: Bracket mount 2 inch wide heavy duty commercial galvanized steel rolled steel track, continuous, vertical mounted, designed to provide continuous track support for full opening height.
- C. Hinge and Roller Assemblies: Heavy duty hinges and adjustable roller holders of galvanized steel; floating hardened steel ball bearing rollers, located at top and bottom of each panel at meeting joint.
- D. Jamb Weatherstripping: Brush type weather stripping for the full height of jamb.
- E. Lift Mechanism: Torsion spring on cross head shaft, with braided steel lift cables.
- F. Electric Operator: NEMA Type 1 UL approved motor. 110 volt/60 cycle/1 phase.
- G. Control Station: Standard three button (open-close-stop) type control for each electric operator; 24 volt circuit; surface mounted.
- H. Hand held automatic remote door opener.
- I. Electric Eye Safety Stop: Provide photoelectric eyes at the bottom of the door to stop door when anything breaks the plane of the eye.

2.04 FINISHES

- A. Precoated Steel: Shop precoated with baked-on polyester coating of white color.

PART 3 EXECUTION

3.01 INSPECTION

- A. Verify that wall openings are ready to receive work and opening dimensions and tolerances are within limits.
- B. Beginning of installation means acceptance of existing surfaces.

3.02 PREPARATION

- A. Prepare opening to permit correct installation of door unit and air and vapor barrier seal.

3.03 INSTALLATION

- A. Install door unit assembly in accordance with manufacturer's instructions.
- B. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.
- C. Securely brace door tracks suspended from structure. Secure tracks to structural members only.
- D. Fit and align door assembly including hardware, level and plumb, to provide smooth operation.
- E. Coordinate installation of electrical service with Owner's electrical Contractor.
- F. Coordinate installation of sealants and backing materials at frame perimeter.
- G. Install glass and glazing watertight.

3.04 TOLERANCES

- A. Maintain dimensional tolerances and alignment with adjacent work.
- B. Variation from Plumb: 1/16 inch maximum.
- C. Variation from Level: 1/16 inch maximum.
- D. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch from 10 ft. straight edge.

3.05 ADJUSTING AND CLEANING

- A. Adjust door assembly.
- B. Clean door and frame.
- C. Remove labels and visible markings.

END OF SECTION

SECTION 09900

PAINTING

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions (if any) and Division-1 Specification Sections, apply to work of this Section.

1.02 DESCRIPTION OF WORK

- A. Surface Preparation.
- B. Field painting of steel doors, exterior and interior wood surfaces.
- C. Touch-up of field and shop painted items.
- D. Surface finish schedule.

1.03 REFERENCES

- A. ANSI/ASTM D16 - Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.

1.04 QUALITY ASSURANCE

- A. Product Manufacturer: Company specializing in manufacturing quality paint and finish products with five years experience.
- B. Applicator: Company specializing in commercial painting and finishing with ten years documented experience.

1.05 REGULATORY REQUIREMENTS

- A. Conform to 2009 International Building Code for flame/fuel/smoke rating requirements for finishes.
- B. All adhesives, solvents, primers and coatings containing Volatile Organic Compounds (VOCS) shall meet the requirements of the Environmental Protection Agency (EPA) and Maine Department of Environmental Protection Agency (MeDEP) contained in Chapter 151 – “ Architectural and Industrial Maintenance (AIM) Coatings

1.06 SUBMITTALS

- A. Submit product data & MSDS sheets for all materials to be used.
- B. Provide product data on all finishing products.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptance.
- B. Container labeling to include manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing.
- C. Store paint materials at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in well ventilated area, unless required otherwise by manufacturer's instructions.
- D. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.08 ENVIRONMENTAL REQUIREMENTS

- A. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 50 degrees F for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
- B. Do not apply exterior coatings during rain or snow, or when relative humidity is above 50 percent, unless required otherwise by manufacturer's instructions.
- C. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

1.09 EXTRA STOCK

- A. Provide one gallon of each color and surface texture to Owner.
- B. Label each container with color, texture, and room locations in addition to the manufacturer's label.

1.10 MEASUREMENT & PAYMENT

- A. Work for this Section shall be included in the Contractor's costs of items identified on the Proposal Form.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS - COATING MATERIALS FOR ALL COATED SURFACES EXCEPT STEEL

- A. Sherwin Williams: See Finish Schedule for colors and location.

2.02 MATERIALS

- A. Coatings: Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating.
- B. Coatings: Good flow and brushing properties; capable of drying or curing free of streaks or sags.
- C. Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated, but required to achieve the finishes specified, of commercial quality.

2.09 FINISHES

- A. Refer to schedule at end of Section for surface finish schedule.

PART 3 EXECUTION

3.01 INSPECTION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Plywood and wood trim: 12 percent.
- D. Beginning of installation means acceptance of existing surfaces.

3.02 PREPARATION

- A. Remove electrical plates, hardware, light fixture trim, and fittings prior to preparing surfaces or finishing.
- B. Correct minor defects and clean surfaces, which affect work of this Section.
- C. Shellac and seal marks which may bleed through surface finishes.
- D. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

- E. Uncoated Steel and Iron Surfaces: Remove grease, scale, dirt, and rust. Where heavy coatings of scale are evident, remove by wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.
- F. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.
- G. Interior Wood Items Scheduled to Receive Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.

3.03 PROTECTION

- A. Protect elements surrounding the work of this Section from damage or disfiguration.
- B. Repair damage to other surfaces caused by work of this Section.
- C. Furnish drop cloths, shields, and protective methods to prevent spray or droppings from disfiguring other surfaces.
- D. Remove empty paint containers from site.

3.04 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.
- B. Both coats of finish paint on all exposed walls shall be applied with roller only.
- C. Do not apply finishes to surfaces that are not dry.
- D. Apply each coat to uniform finish.
- E. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.
- F. Sand lightly between coats to achieve required finish.
- G. Allow applied coat to dry before next coat is applied.
- H. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- I. Prime back surfaces of interior and exterior woodwork with primer paint.

3.05 CLEANING

- A. As work proceeds, promptly remove paint where spilled, splashed, or spattered.
- B. During progress of work, maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.
- C. Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

3.06 SCHEDULE

- A. Pass Door and Frame:
 - 1. Door and frame shall be factory primed and receive one (1) coat of paint at Contractor's shop or in existing building prior to installation.
 - 2. Door and frame shall be painted with Sherwin-Williams Industrial and Marine Coatings – Series B66 – 200 Series DTM Acrylic Coating at 2.5 – 4 mils D.F.T. Color: To be selected by Owner.
- B. Texture 1-11 siding and exterior trim.
 - 1. Prime coat all exposed exterior texture 1-11 and trim with one (1) coat of Sherwin- Williams Multi-Purpose Latex Primer .
- C. Interior plywood and trim.
 - 1. Prime coat all exposed interior plywood and trim with one (1) coat of Sherwin- Williams Multi-Purpose Latex Primer .
 - 2. Paint all interior plywood and trim with two (2) coats of Sherwin-Williams SuperPaint Interior Acrylic Latex Paint.
 - 3. Color: To be selected by Owner.

END OF SECTION

09900-5

APPENDIX A
CONTRACTOR SAFETY REQUIREMENTS

EXHIBIT J

Iberdrola USA Inc.

CONTRACTOR SAFETY REQUIREMENTS

September 22, 2008

Table of Contents

1. Purpose	4
2. Scope and Responsibilities	4
3. Safety Administration	5
Pre-Bid Meeting	5
Project Health & Safety Plan	5
Post-Award Contractor Safety Orientation	5
4. Procedures	6
A. Prohibited Conduct	6
B. General Rules	6
C. Incident Reporting	7
D. Asbestos Containing Materials	7
E. Compressed Air/Air Tools	8
F. Confined and Enclosed Spaces	8
G. Cranes	8
H. Drugs and Alcohol	8
I. Electrical Safety	9
J. Excavations	9
K. Fire Regulations	10
L. Hazard Communication	11
M. PCB Fluids (Polychlorinated Biphenyl Fluids)	11
N. Hazardous Waste	11
O. Housekeeping	12
P. Ladders and Scaffolding	12
Q. Lead	12
R. Medical Services	12
S. Motor Vehicles	13
T. Overhead Work	13
U. Personal Safety Equipment	13
V. Radiation	14
W. Tools	14
X. Water Safety	14
Y. Work Area Protection (Flagging)	14

5. Specific Requirements for Electric and Gas Work 14

 Electric Power Generation, Transmission and Distribution Work 15

 Helicopter Regulations 15

 Gas Distribution Operations and Personal Protective
 Equipment in Potentially Hazardous Atmospheres 16

Attachment A – Contractor’s Sign-Off Sheet 17

Attachment B – Personal Protective Equipment Matrix 18

CONTRACTOR SAFETY REQUIREMENTS FOR SERVICES PROVIDED TO IBERDROLA USA OPERATING COMPANIES

August 13, 2008

1. PURPOSE

The purpose of this document is to advise Contractors providing services to Iberdrola USA Operating Companies (“Operating Companies”) of their responsibility to plan and perform their work in conformance with all applicable federal, state, and local laws, rules, regulations and ordinances of any agency having jurisdiction on the premises. These requirements apply to construction type projects where Operating Company employees are not working at the same site, and to Contractors who perform independent work related to electric transmission and distribution operations, and gas operations. Commitment to safe work practices is important at all Operating Company job sites; thus, evidence concerning Contractor safety performance and past safety history are factors that influence contract award decisions.

2. SCOPE AND RESPONSIBILITIES

This document shall be provided to Contractors to aid in the communication of hazards and minimum safety requirements, and to establish Operating Company expectations regarding safe work behavior while on company property. All Contractors must follow the requirements in this document, as well as their own company safety rules, policies and procedures. In the case of conflicting requirements, the most stringent shall prevail.

Each Contractor shall have a current written safety program and employee safety rules that comply with all regulatory requirements. In addition, each Contractor employee shall be familiar with the safety requirements in this document, and is expected to abide by them. All Contractors and Subcontractor employees must be properly equipped and trained.

Contractors shall communicate the required safety rules and regulations to their employees in a documented tailboard meeting prior to the start of the job. The form given in Attachment A may be used for this purpose. Contractors are responsible for interpreting these rules for non-English speaking and reading-impaired employees. Contractors are responsible for informing all Subcontractors of the safety rules and regulations set forth here and in the contract terms and conditions.

Operating Company Project Monitors shall facilitate Contractor compliance with safety requirements by including this document into contract specifications. All questions pertaining to this document shall be directed to the Operating Company Project Monitor or an Operating Company Health and Safety Representative. Neither the Operating Company Project Monitor nor Health and Safety Representatives shall exercise general supervisory authority over contractor worksites. In particular, the Company shall not

conduct worksite safety inspections, identify safety and health hazards, or correct deficiencies and violations. Moreover, the Company shall not provide personal protective equipment to contractor employees, perform employee exposure monitoring, or provide advice concerning safe work practices. Rather, the Contractor is accountable for all aspects of worker protection, as well as for preventing, detecting and promptly correcting all safety and health deficiencies associated with activities covered by the contract scope of work.

3. SAFETY ADMINISTRATION

Pre-Bid Meeting

For certain projects where specific safety issues exist or known site conditions require special precautions, a pre-bid meeting may be held. The purpose of the meeting is to emphasize the key safety requirements that apply to the project, and offer the opportunity for bidders to ask questions regarding job site conditions and worker protection issues. When necessary, an Operating Company Health and Safety Representative will participate to address safety-related issues such as known site hazards and anticipated personal protective equipment (PPE) requirements. Where applicable, announcement of a pre-bid meeting will be issued with the contract Request for Proposal.

Prospective Contractors will be informed that past safety performance is an evaluation factor that may determine contract award and/or disqualification of bidders.

Project Health & Safety Plan

Contractors performing high-hazard work may be required to prepare and submit a Project Health & Safety Plan (e.g., as required under 29 CFR 1910.120 and 29 CFR 1926.65). Projects requiring a Plan will be identified at the pre-bid stage of the contracting process. The Plan must address topics such as:

1. Scope of work and planned activities
2. Potential health and safety hazards
3. Individual job functions and responsibilities
4. Personal protective equipment and hazard mitigation strategies
5. Emergency equipment and incident response procedures
6. Exposure monitoring and control
7. Training and medical surveillance requirements
8. Standard operating procedures

Depending on the nature of the project, the Contractor may be required to have their Plan endorsed by a Certified Industrial Hygienist (CIH), Certified Safety Professional (CSP), and/or a licensed Professional Engineer (P.E.).

Post-Award Contractor Safety Orientation

For certain projects, a pre-construction conference may be required to discuss and agree upon safety procedures and controls at the job site. Contractor management

representatives, key Contractor employees (i.e., designated on-site “Competent Person”), Operating Company Project Monitors, and Operating Company Health and Safety Representatives shall typically participate. The topics for discussion include:

1. Job site housekeeping practices
2. Storage of materials and tools
3. Restricted areas and evacuation plans
4. Safety inspection and exposure monitoring plans
5. Procedures for documented employee safety meetings and job briefs
6. Subcontractor responsibilities
7. Hazardous chemicals and spill response procedures
8. Certification of Contractor employee qualifications
9. Site security and public protection
10. Emergency notification call lists and procedures

The orientation session is not intended to provide Contractor employees with training to meet regulatory compliance requirements.

4. PROCEDURES

A. Prohibited Conduct

Violation of the following conduct rules shall result in immediate dismissal of an employee from the site by the Contractor.

1. The possession or drinking of alcohol on any company property, including parking lots.
2. The suspected use of any substances which alter mental or physical capacity, including but not limited to non-prescription drugs, prescription drugs not prescribed to the user, narcotics, marijuana or other “controlled substance” or “controlled dangerous substance.”
3. Possession of firearms, ammunition, explosives or other weapons on company property/private vehicles
4. Engaging in fighting or horseplay
5. Operating switches, valves, or push buttons unless authorized

B. General Rules

The Contractor shall ensure that all personnel comply with the following rules, regardless of the nature of their job.

1. Contractor employees shall not enter any building or area where their work does not require their presence.
2. The Contractor shall maintain current safety warning signs/devices, barricades, handrails, and guardrails, and erect new ones if the hazard changes. The contractor shall also remove signs from the work site when there is no longer a hazard present.
3. Contractor employees shall not use emergency exits other than for

- emergencies, or block emergency exits.
4. The Contractor shall have a program to provide for frequent and regular inspections of the job site, materials, and equipment by designated competent persons.
 5. The Contractor shall instruct each employee in the recognition and avoidance of unsafe conditions and in the regulations applicable to his/her work environment to control or eliminate any hazards or other exposure to illness or injury.
 6. The Contractor shall permit only those employees qualified by training or experience to operate equipment and machinery.
 7. Contractor employees shall not work on equipment or facilities that are not included in the contract scope of work, or where specific permits/clearances may be required prior to performing a task.

C. Incident Reporting

1. After notifying emergency agencies or calling 911, as appropriate, the Operating Company Project Monitor shall be notified immediately, and in writing, of any accidents involving personal injury requiring medical treatment, or property damage. The Contractor is responsible for notifying OSHA, when applicable. Appropriate written reports shall be completed within one working day.
2. All work must be done in a manner which minimizes the possibility of a spill of hazardous or non-hazardous substance to the environment. Placement of fuel, oils, chemicals and sanitary facilities, or fueling, greasing, or oiling of equipment shall be in a location which avoids, to the degree possible, water sources, wells, or other ecologically sensitive sites. Any spill must be immediately reported in writing to the Operating Company Project Monitor and the appropriate authorities. Contractor is responsible for all associated clean-up costs, penalties, etc.

D. Asbestos Containing Materials (ref: 29 CFR 1926.1101 and 1910.1001)

Contractors shall not disturb known or suspected asbestos-containing materials. When these materials are encountered and could potentially be disturbed by the work being performed, work should immediately be stopped and confirmatory analyses performed as necessary. The Contractor shall immediately notify the Operating Company Project Monitor in writing. Examples of presumed asbestos-containing materials include, but are not limited to, the following:

- Cement wallboard and exterior sheathing
- Thermal insulation and high temperature gaskets
- Ceiling tiles and lay-in panels
- Acoustical and decorative plaster
- Vinyl or asphalt floor tile and sheathing, and mastic
- Electrical cloth, electrical panel partitions, underground conduit, and

fabric-type wire insulation

- Roofing shingles, felt, base flashing, and caulking
- Boiler, breeching, duct, and pipe insulation
- Wallboard and spackling/taping/joint compounds

E. Compressed Air/Air tools (ref: 29 CFR 1926.302 and 1910.243)

1. The contractor will comply with the standards for compressed air equipment used in providing compressed air for performing operations such as cleaning, drilling, hoisting and chipping.
2. Pneumatic power tools shall be secured to the hose in a positive manner to prevent accidental disconnection.
3. Safety clips or retainers shall be securely installed and maintained on pneumatic impact tools to prevent attachments from accidentally being expelled.
4. The manufacture's safe operating pressure for all fittings shall not be exceeded.
5. All hoses exceeding ½ -inch inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of failure.

F. Confined and Enclosed Spaces (ref: 29 CFR 1926.21; 1910.269(e) and 1910.146)

The Contractor is responsible for developing their own program and complying with all applicable confined-space and enclosed space work practices and standards. Contractor employees working in confined/enclosed space conditions must have demonstrated competency in proper work practices and rescue techniques (achieved by training and experience). The Contractor shall have a means of emergency rescue arranged prior to start of work and must check with the local fire department or agency expected to provide rescue assistance as to their availability prior to entering space.

G. Cranes (ref: 29 CFR 1926.550; 1910.179 and 1910.180)

The Contractor shall not use Operating Company cranes. Specific exceptions to this rule shall be written and made part of the contract. Qualified employees, with licenses when required, will operate cranes. If a license is required, the operator will have the license with them when operating subject cranes. Lift plans may be necessary before work begins. Documentation will be submitted to the Operating Company Project Monitor upon request. The Contractor must maintain a physical barrier around all equipment and machinery in the hoisting area. In areas exposed to vehicular traffic, the Contractor must conform with OSHA paragraph 1926.651(d) and also make appropriate arrangements with local authorities for traffic control/detour. All crane sites and equipment must be secured during off work hours to prevent unauthorized access.

H. Drugs and Alcohol (ref: 49 CFR 382; DOT Part 199)

1. Possession or use of controlled substances or alcohol is strictly prohibited on Operating Company premises or while working for the Company. Reporting to work on Operating Company property under the influence of unauthorized drugs or alcohol is strictly prohibited; any person under the influence of unauthorized drugs or alcohol shall not be permitted on the premises of an Operating Company project.
2. When applicable, Contractors must comply with U.S. Department of Transportation Part 199 regulations. The Contractor's written program and documented random sampling program for Drugs and/or Alcohol shall be made available upon request.

I. Electrical Safety (ref: 29 CFR 1926.402-408, 416, 417; 29 CFR 1926, subpart V, and 1910.269)

1. Only authorized and qualified personnel shall work on installation and maintenance of electrical equipment.
2. All equipment used, including extension cords, shall have required approvals and be free from known defects.
3. Electrical equipment or tools (unless specially designed) shall not be operated in wet areas, or where potentially flammable dusts, vapors, or liquids are present.
4. When working on Operating Company-owned equipment and facilities, the Contractor will utilize a lockout/tagout procedure or recognized isolation/tagging procedure, as specified by the Operating Company. GFCI's (ground fault circuit interrupters) shall be used for all electrical tools and equipment [when used outdoors or in wet locations](#).
5. If a circuit breaker or other protective device operates ("trips") to open a circuit, a qualified electrician must determine the cause of the problem before the device is reset.
6. Equipment, boxes, switchgear, cabinets, or electrical rooms with exposed energized parts shall be attended or secured at all times.
7. All non-qualified Contractor employees and equipment shall stay a minimum of 10 feet away from overhead, energized lines. Non-qualified Contractor employees are not permitted to enter an energized substation unless qualified personnel accompany them.
8. Mobile radio antennas shall be lowered prior to taking any vehicles inside a substation.
9. No metal measuring tapes or tapes containing a metal wrap shall be used near energized circuits, equipment, poles or substation structures.
10. Metal tools utilizing cable slings, winch cable, chains, loose sections and ends of conductors, or other similar objects, shall be kept under control by the worker to prevent contact with energized conductors or equipment and the worker's body.

J. Excavations (ref: 29 CFR 1926.650-652, 1926.800, and 1926.956)

The general requirements of the OSHA Excavation Standard , 29 CFR 1926 Subpart P, including the provision for a competent person, shall be understood and followed by all Contractor employees. All excavations that workers may enter that are 5 feet or more in depth, or a depth where there is danger of cave-in shall be protected by a shoring or shielding system, or by an appropriate benching or sloping system. Materials shall not be stored closer than two (2) feet from the edge of a trench or excavation, and mobile equipment shall not be operated in close proximity to the edge unless extra precautions are taken to shore or slope the walls back to a stable slope. Additional requirements include but are not limited to the following items:

- Contractor must submit excavation plans to the Operating Company Project Monitor prior to any excavation work.
- Provide adequate barriers/barricades around excavations and machinery, including special considerations for securing excavations left overnight.
- In areas exposed to vehicular traffic, the Contractor must conform with OSHA paragraph 1926.651(d) and also make appropriate arrangements with local authorities for traffic control/detour.
- Perform air monitoring where there is a potential for a hazardous atmosphere.
- Make advance notification to Underground Facilities Protective Organization (e.g. Dig Safe).
- Provide adequate access and egress, and signage necessary to direct vehicular and pedestrian traffic safely around the work area.
- Perform routine inspections of all excavation equipment, including lights and safety features such as back-up warning devices.
- Hand dig when within two feet of any underground facility until the facility is exposed; then hand dig within four inches of the underground facility
- Notify Operating Company Project Monitor to obtain environmental assistance if it becomes necessary to perform dewatering.
- The Contractor shall promptly notify appropriate utilities of any damage done, prior to backfilling the trench.

K. Fire Regulations (ref: 29 CFR 1926.150, 152, 1910.38, 1910.39, 1910.157)

1. Contractors shall provide fire extinguishers, sealed, fire service ready, inspected and in good working order and properly maintained at all times when live gas work is being done. At least one 20-pound dry chemical fire extinguisher shall be on the ground near the edge of the excavation.
2. Contractors shall provide a trained fire watch as dictated by the job hazard assessment.
3. When required, hot work permits shall be obtained from the Operating Company Project Monitor for such activities as welding, cutting, burning, anything that causes a spark, uses an open flame, or involves temperatures high enough to ignite combustible materials.
4. All acetylene and oxygen cylinders shall be stored and used in accordance with OSHA regulations (ref: 29 CFR 1926.350), and transported per DOT

specifications. Flashback arresters shall be installed at the welding tip and at the regulator.

5. Open flames, sparks or smoking shall be prohibited in areas so marked or designated, and where a recognized combustible/flammable hazard exists.
6. Fire detection and/or suppression systems shall not be disabled or blocked without notifying the Operating Company Project Monitor and obtaining his/her consent.
7. Flammable/combustible material shall be stored in approved containers and locations. Quantities in excess of one day's use shall be reported to the Operating Company Project Monitor.

L. Hazard Communication (ref: 29 CFR 1926.59 and 1910.1200)

1. The Contractor must have a written program that complies with OSHA's Hazard Communication standard.
2. Before commencing work, all affected Contractor employees must be trained in accordance with the requirements of the standard.
3. Contractors shall provide to the Operating Company Project Monitor a list of chemicals and Material Safety Data Sheets (MSDS) for each chemical that they will bring on Operating Company property or use on an Operating Company project.
4. Contractor chemical containers shall be properly labeled and stored.
5. All unused chemicals, which Contractors bring onto Operating Company property or use for a project, shall be the responsibility of the Contractor to properly dispose of and/or remove.
6. The Operating Company Project Monitor shall make Contractors aware of the Operating Company's Hazard Communication Program, notify them of any chemicals that they may be exposed to while working on Operating Company property, and provide access to the applicable MSDS.
7. The use of any hazardous material by a Contractor in occupied buildings must be approved by the Operating Company Project Monitor.

M. PCB fluids (Polychlorinated Biphenyl Fluids) (40 CFR 761)

PCB fluids were formerly used as an electrical insulating fluid (transformers, regulators, capacitors, PTs, CTs), and also can occasionally be found in the gas distribution system in gas pipe, distribution equipment, (filters, separators, drips, meters, and regulators) and gas condensate/pipeline liquids. All liquids recovered from gas pipelines must be assumed to contain PCBs until proven otherwise by approved testing methods. When these materials are encountered and could potentially be disturbed by the work being performed, work shall immediately be stopped. The Contractor shall immediately notify the Operating Company Project Monitor in writing.

N. Hazardous Waste (ref: 40 CFR 260)

Requirements of the U.S. DOT and U.S. EPA must be observed for all aspects of hazardous waste handling, storage and transportation. Contractor is responsible for the removal and proper disposal of all hazardous waste they generate, including completion of documentation such as waste profiles, waste analytical samples, and hazardous waste manifests. As a minimum, the Contractor shall perform proper labeling, adequate secondary containment, segregation of incompatible materials, and routine inspection of storage areas as required by all U.S. EPA, state and local regulations. In addition, all hazardous waste containers must be properly constructed and in sound condition, and shall be kept securely closed. Contractor employees must be properly trained in hazardous waste procedures in accordance with regulatory requirements. The Contractor shall notify the Operating Company Project Monitor in writing before making any arrangements for shipping and disposal of hazardous waste.

O. Housekeeping (ref: 29 CFR 1926.25)

1. Good housekeeping practices shall be strictly adhered to daily. The work site shall be kept clean and orderly.
2. Trash shall be promptly removed from the work site and from the customer's property.
3. Boards with protruding nails shall not be left lying around. All nails shall be withdrawn or hammered down.
4. Contractors shall not block means of access or egress, or safety equipment.

P. Ladders and Scaffolding (ref: 29 CFR 1926.451, 1050-1053, 1060, 1910.27)

1. Contractors shall not use Operating Company ladders without permission from the Operating Company Project Monitor, or where an exception is included in contract documents.
2. Contractors are required to furnish their own ladders and equipment free of defects.
3. All straight and extension ladders shall be properly maintained and equipped with approved safety feet.
4. No work shall be performed until the ladder is properly secured.
5. Barricades should be placed to direct pedestrian traffic away from ladders.
6. Ladders must be inspected for defects on a regular basis, and immediately removed from service when deemed unsafe
7. The areas at the top and bottom of a ladder shall be kept clear of debris and equipment.
8. Ladders made of conductive materials shall not be used while working in proximity to energized electrical facilities.
9. All ladders shall be removed at the end of the work shift to prevent unauthorized use, or access to elevated surfaces.
10. All scaffolding erection and use shall be in compliance with OSHA standards. A licensed Professional Engineer's approval of scaffolding plan(s) shall be submitted as required.

Q. Lead (ref: 29 CFR 1926.62 and 1910.1025)

Contractors shall not disturb known or suspected lead-based paint and other lead-containing materials. When these materials are encountered and could potentially be disturbed by the work being performed, work shall be stopped immediately. The Contractor shall immediately notify the Operating Company Project Monitor in writing.

R. Medical Services (ref: 29 CFR 1926.50)

1. When a medical facility is not reasonably accessible (i.e., within 15 minutes) for the treatment of injured employees, personnel trained to render first aid and CPR shall be available at the worksite. The personnel designated to provide CPR and first aid must have current certifications and must carry evidence of their training while on site.
2. First aid supplies approved by a consulting physician shall be readily available at the worksite.

S. Motor Vehicles (ref: 29 CFR 1926.600-02)

1. Contractors shall not use Operating Company vehicles without permission. Contractors shall transport employees in a safe manner (e.g., riding in the back of a pick-up and in places other than the operator's seat, (i.e., a backhoe bucket or fender) is prohibited).
2. Contractor employees shall possess the necessary license classification for vehicle(s) being driven.

T. Overhead Work (ref: 29 CFR 1926.500-503)

1. Personnel shall be protected from falling tools, equipment and material.
2. All girders, beams and overhead surfaces shall be kept free of loose material.

U. Personal Safety Equipment (ref: 29 CFR 1926.28, 52, 95, 100-103, 353, 500-503; 1910 Subpart I)

1. Eye and Face Protection - Approved and appropriate eye and/or face protection shall be worn at the worksite. Personnel involved in welding operations shall wear eye protection with filter lenses or plates of the proper shade number. The eye and face protection must meet the requirements of ANSI Z87.1-2003.
2. Head Protection – OSHA approved hard hats meeting the requirements of ANSI Z89.1-2003 shall be worn at work sites where there is potential for head injury. Bump caps, metal hard hats, and metal hard caps are prohibited.
3. Clothing – Contractors employees shall be properly clothed at all times. Appropriate flame retardant clothing is required while working on energized gas pipelines, energized electrical equipment and whenever a flame hazard exists.

4. Gloves – Suitable gloves will be worn when there is a potential for hand injury.
5. Foot Protection – Safety shoes and boots that meet the guidelines of ANSI Z41-1991 must be worn whenever exposed to crushing hazards.
6. Hearing Protection – All personnel subjected to sound exceeding the OSHA permissible 90 decibel level shall have available and wear appropriate hearing protection. Hearing protection training and medical monitoring are required by OSHA for contractor employees working in areas exceeding the OSHA 85 decibel action level.
7. Respirators - The contractor shall provide respirators based on the hazard encountered. Contractor respirator use will be in compliance with OSHA requirements.
8. Fall protection - Whenever work site conditions involve a potential for a fall hazard of 4 feet or more, the contractor shall use appropriate fall protection meeting the requirements of OSHA 29 CFR Subpart M – Fall Protection.

V. Radiation (ref: 29 CFR 1926.53, 1910.96, 1910.97, 1910.1096, 10 CFR 19,20,32-36,39)

1. The Contractor may utilize equipment containing an ionizing radiation source only when appropriately licensed to do so. A copy of their license must be available on-site.
2. The Operating Company Project Monitor will inform the Contractor when work is necessary near an Operating Company ionizing radiation source.
3. If work is required in the proximity of an ionizing radiation source, the Contractor shall comply with all applicable regulations.

W. Tools (ref: 29 CFR 1926.300-305, 1910.242)

1. Contractors shall not use Operating Company tools without permission.
2. Tools shall be kept defect free and if defects are found, immediately taken out of service.
3. Tools shall be maintained as per manufacturer's specifications and governing regulations.
4. Tools shall not be retrofitted or modified.

X. Water Safety (ref: 29 CFR 1926.106)

When Contractors work over or near water and where the danger of drowning exists, the contractor must comply with all provisions of OSHA (i.e., training, Coast Guard approved life jackets, ring buoys, skiffs, fall protection etc.).

Y. Work Zone Protection (1926.201)

1. Contractors shall use adequate work area protection. All work area protection shall be in accordance with the Federal/State Manual of Uniform Traffic Control Devices.
2. All contractors working in the road right-of-way:
 - a. Shall wear ANSI 107 Class 2 or 3 compliant clothing .
 - b. Shall wear ANSI 107 Class 2 or 3 compliant traffic vests for flagging and night work.
 - c. Must comply with the provisions of any state permits issued to the Operating Company.

5. SPECIFIC REQUIREMENTS FOR ELECTRIC AND GAS WORK

Electric Power Generation, Transmission and Distribution Work (ref: 29 CFR 1910.269)

Contractor shall comply with all OSHA requirements for operation and maintenance of electric power generation, transmission and distribution lines and equipment including:

- Job briefing requirements
- Line clearance tree- trimming operations including brush chippers and chain saw use.
- Specific training including skills and techniques necessary to perform this work
- Hazardous energy control (lockout/ tag out) procedures
- Enclosed spaces
- Fall protection
- Tools and equipment including live-line tools
- Working on or near exposed energized parts
- Minimum approach distance
- Grounding for the protection of employees
- Work involving overhead lines including installing and removing lines
- Substation work activities including entry and job briefings

Tree contractors working for Operating Companies will be required to work in accordance with the latest American National Standard Institute (ANSI) safety requirements for tree care operations involving pruning, trimming, repairing, maintaining and removing trees and cutting brush.

Helicopter Regulations (ref: 29 CFR 1926.551, 1910.183)

Contracted helicopters shall comply with any applicable regulations of the Federal Aviation Administration.

- Briefing: Prior to each day's operation a briefing shall be conducted. This briefing shall set forth the plan of operation for the pilot and ground personnel.

- Personal protective equipment for employees shall consist of complete eye protection and hard hats secured by chinstraps.
- Loose fitting clothing likely to flap in the downwash, shall not be worn.
- Every practical precaution shall be taken to provide for the protection of the employees from flying objects in the rotor downwash. All loose material within 100 feet shall be secured or removed.
- No unauthorized person shall be allowed to approach within 50 feet of the helicopter when the rotor blades are turning.
- Whenever approaching or leaving a helicopter with blades rotating, all personnel shall remain in full view of the pilot and keep in a crouched position. Personnel shall avoid the area from the cockpit or cabin rearward unless authorized by the helicopter operator to work there.
- There shall be constant reliable communication between the pilot, and a designated person of the ground crew who acts as a signalman. This signalman shall be distinctly recognizable from other ground personnel.

Gas Distribution Operations and Personal Protective Equipment in Potentially Hazardous Atmospheres

All gas Contractors must comply with applicable OSHA requirements, as well as the requirements of the U.S. Department of Transportation (DOT), including drug and alcohol misuse testing. Worker protection is a key requirement on all gas projects. A copy of the Operating Company's procedures will be provided if the work involves encountering a potentially hazardous atmosphere requiring the use of personal protective equipment. This will include a copy of the Operating Company's task-specific Personal Protective Equipment Matrix (see Attachment B). This procedure describes specific requirements for working in an atmosphere which may be hazardous due to the presence of natural gas or oxygen deficiency (asphyxiation hazard). This procedure is applicable to all phases of operation, maintenance and construction of the gas system.

Attachment B

(OPERATING COMPANY COMPANY NAME)

PERSONAL PROTECTIVE EQUIPMENT MATRIX

(INCLUDE WHERE APPLICABLE)

APPENDIX B
ASBESTOS TESTING RESULTS

**Asbestos Identification Laboratory**

165U New Boston St., Ste 271

Woburn, MA 01801

Bulk Asbestos Analysis by Polarized Light Microscopy

EPA Method: 600/R-93/116



G & E Roofing Co., Inc.
669 Riverside Drive
Augusta, ME 04330
Suite/Apt

Batch 1384

Dear Douglas Wellman,

The following correspondence contains two communications:

1. Results of Asbestos project CMP - Peaks Island (Roofs 2&3)
2. Billing Invoice.

The information and analysis contained in this report have been generated using the EPA 600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Bulk samples of non-friable organically bound materials (NOB) were analyzed using PLM NOB-EPA 600/R-93/116 gravimetric preparation method. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration# PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number LB-0078(Bulk) LA-0087(Air)



Asbestos Identification Laboratory
165U New Boston St., Ste 271
Woburn, MA. 01801
Bulk Asbestos Analysis by Polarized Light Microscopy
EPA Method: 600/R-93/116



*****INVOICE*****

Invoices emailed from Asbestos Identification Laboratory are your official copy and will not be followed up with paper copies. Please pay from this invoice.

CLIENT: G & E Roofing Co., Inc. PROJECT: CMP - Peaks Island (Roots 2&3) RECORDED AS
BATCH# 1384 INVOICE DATE: 8/8/2011 8:24:08 AM

Please remit Payment for the following service net 30-days

Samples Analyzed = 7 of 7

Service = 7 @ \$25.00 each

Total Due = \$175.00

Thank you Douglas Wellman for your business,

Michael Manning (Owner/Director)
(781)932-9600



Asbestos Identification Laboratory
 165U New Boston St, Ste 271
 Woburn, MA 01801
 Bulk Asbestos Analysis by Polarized Light Microscopy
 EPA Method: 600/R-93/116

NVLAP[®]
 Lab Code: 200919-01

Results for Client Project: CMP - Peaks Island (Roofs 2&3), Batch# 1384

Work Received: 8/4/2011 Date Sampled: 8/1/2011 Results Sent: 8/8/2011 8:24:08 AM

Field ID: 1 Material: Edge flashing Color: Black Location: Roof 2 Sample# 20248 CEL=050 NON=050 None Detected

Field ID: 2 Material: Field of roof Color: Black Location: Roof 2 Sample# 20249 CEL=040 NON=060 None Detected

Field ID: 3 Material: Curb flashing Color: Black Location: Roof 2 Sample# 20250FBG=020 NON=069 ASBESTOS DETECTED CHR=011

Field ID: 4 Material: Wall flashing Color: Black Location: Roof 3 Sample# 20251FBG=020 NON=072 ASBESTOS DETECTED CHR=008

Field ID: 5 Material: Field of roof Color: Black Location: Roof 3 Sample# 20252 CEL=060 NON=040 None Detected

Field ID: 6 Material: Curb flashing Color: Black Location: Roof 3 Sample# 20253FBG=010 NON=069 ASBESTOS DETECTED CHR=021

Field ID: 7 Material: Edge flashing Color: Black Location: Roof 3 Sample# 20254 CEL=055 NON=045 None Detected

****End of Report****

Legend (All sample results represent percentages EX: 001 = 1%) TR(Trace) = < 1%
 Asbestos Minerals: Chrysotile=CHR, Amosite=AMO, Crocidolite=CRO, Actinolite=ACT, Tremolite=TRE, Anthophyllite=ANT
 Fibrous Materials: Fiberglass=FBG, Mineral Wool=MNW, Cellulose=CEL, Hair=HAR, Synthetic=SYN, Other=OTH, Non-Fibrous=NON



Asbestos Identification Laboratory
165U New Boston St., Ste 271
Woburn, MA 01801
Bulk Asbestos Analysis by Polarized Light Microscopy
EPA Method: 600/R-92/116

NVLAP[®]
Lab Code: 200918-01

Results Table

Sample ID	Lab ID	Material	Sample Location	Analytical Results
1	20248	Edge flashing	Roof 2	No Asbestos Detected
2	20249	Field of roof	Roof 2	No Asbestos Detected
3	20250	Curb flashing	Roof 2	Chrysotile=11%
4	20251	Wall flashing	Roof 3	Chrysotile=8%
5	20252	Field of roof	Roof 3	No Asbestos Detected
6	20253	Curb flashing	Roof 3	Chrysotile=21%
7	20254	Edge flashing	Roof 3	No Asbestos Detected

APPENDIX C
SKETCHES

LOWER ROOF REPAIRS
SKETCHES PLR 1-4

CMA PEAK 5 ISLAND
LOWER ROOF REPAIRS

SKETCH PLR 2 OF 4

34'-6" ±

7'-6" ±

14'-3"

11'-3 1/2" ±

13'-9 1/2" ±

13'-11" ±

13'-4"

7'-0"

No. 037 01 12
Engineer's Consultation Pad

STAEUTLER

REMOVE ROOFING & ROOF PLANK
INSTALL NEW #2 2x10x9'5" SPF

SISTER JOIST
2x10 ROOF JOIST

W/2 x P.T. NAILER
W10x

UPPER ROOF

W/2 x P.T. NAILER
W10x

REMOVE ROOFING & ROOF PLANK
CALL EXISTING JOISTS
INSTALL NEW 2x10 SPF #2 @ 16" o/c x 16'0" LONG OVERLAP & NAIL TO EXIST JOIST EITHER SIDE PROVIDE FULL BRACING @ CENTRAL

2 NEW 4" Ø ROOF DRAINS

REMOVE ROOFING & ROOF PLANK & ALL EXISTING ROOF JOIST
INSTALL NEW 2x10 SPF #2 @ 16" o/c x 14'0" LONG OVERLAP & NAIL TO EXIST JOIST EITHER SIDE PROVIDE FULL BRACING @ CENTRAL

INSTALL 2 NEW 2x10x16' @ OPENING LOCATION

W10x

17'-1" ±

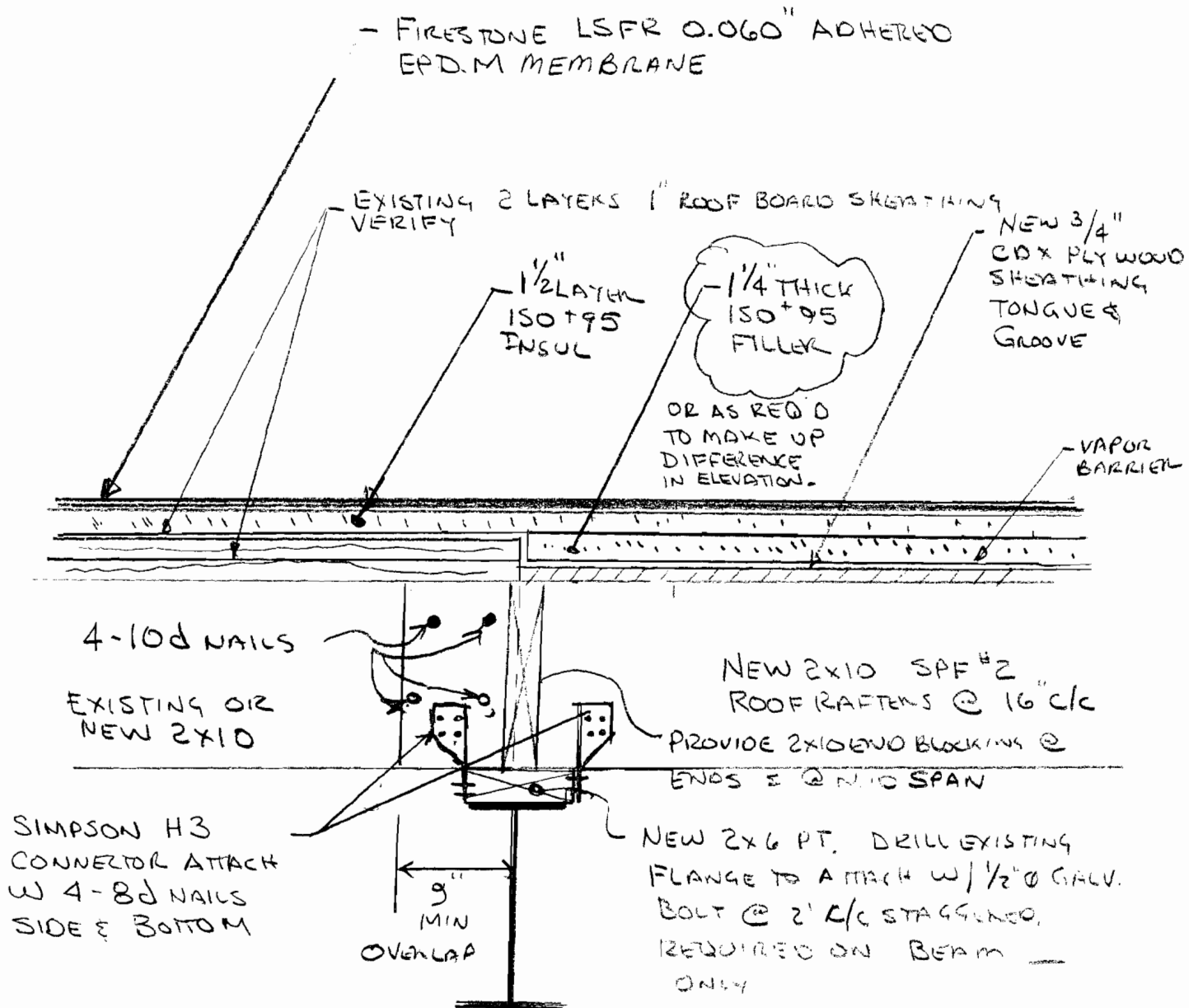
16'-11" ±

OFFICE ROOF

LOWER ROOF PLAN
SCALE: 1/8" = 1'-0"

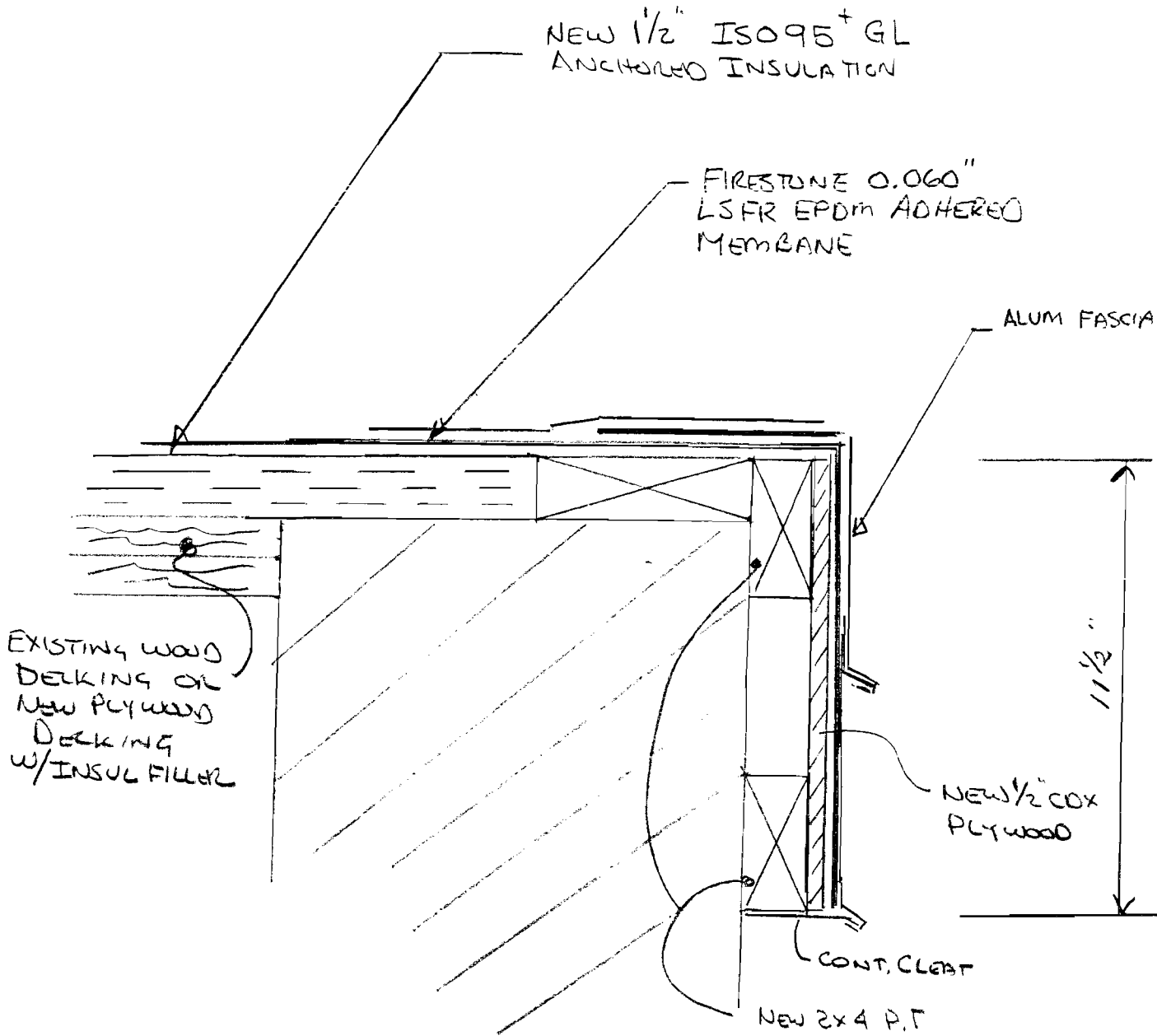
CMP PEAK'S ISLAND
 LOWER ROOF REPAIRS
 SKETCH PLR 3 OF 4

NOTE FASTEN PLYWOOD TO RAFTERS W/ 3d COMMON NAILS
 @ 6" c/c AT ENDS AND 12" c/c @ INTERMEDIATE RAFTERS



NEW ROOF RAFTER ATTACHMENT DETAIL
 SCALE: 1/2" = 1'-0"

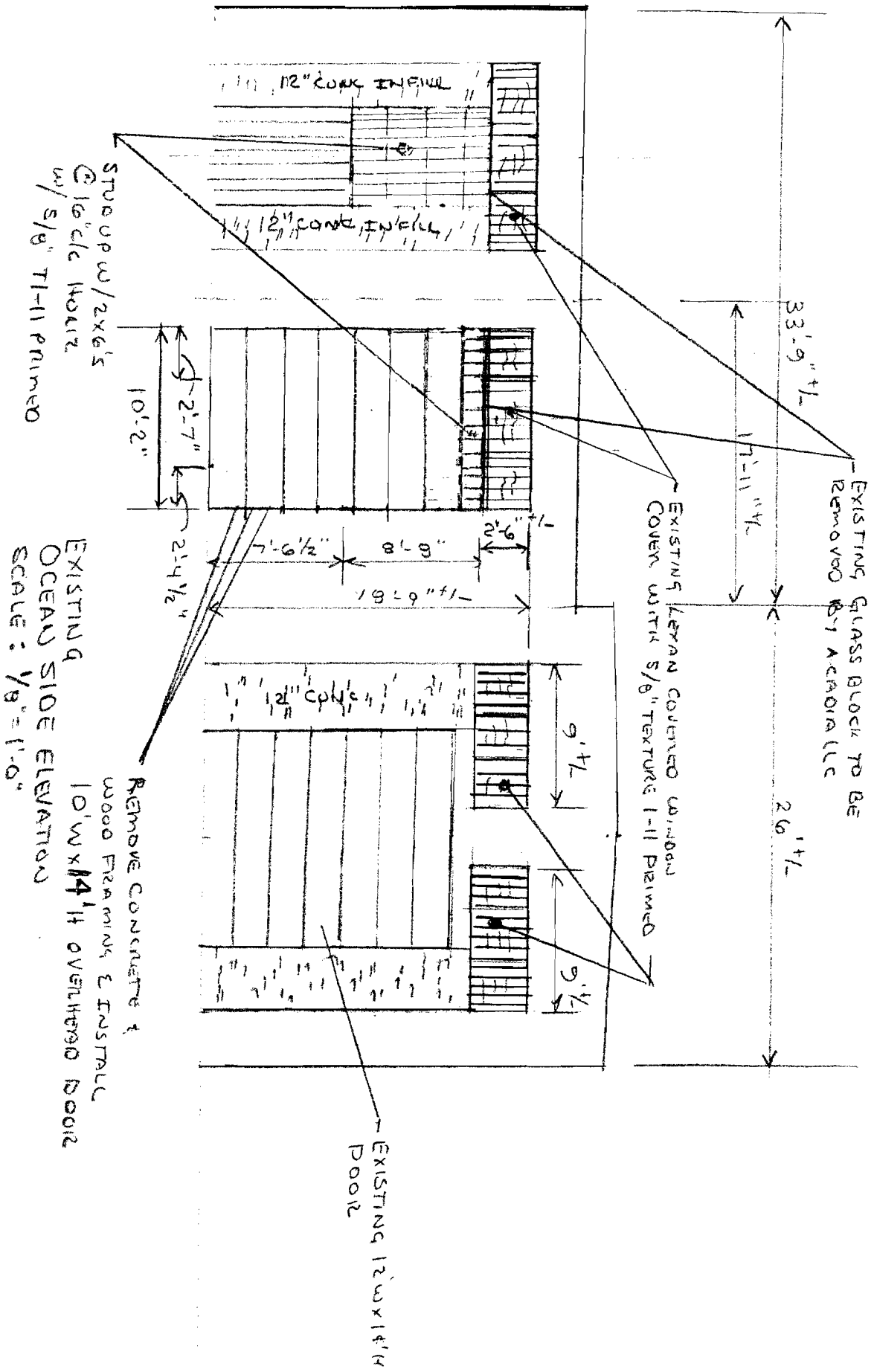
CMP PEAK'S ISLAND
LOWER ROOF REPAIRS
SKETCH PLR 4 OF 4



NEW BUILDING FASCIA DETAIL
TYPICAL 3 FACES
SCALE: 3" = 1'-0"

OCEAN WALL REPAIRS/NEW OVEHEAD DOOR
SKETCHES POHD 1-8

CMP PEAK'S ISLAND
 OCEAN WALL REPAIRS/04000
 SKETCH PHOTO 2 OF 8



STUCCO W/2x6's
 @ 1/8" c/c HOLES
 W/ 5/8" T-11 PRIMED

EXISTING
 OCEAN SIDE ELEVATION
 SCALE: 1/8" = 1'-0"

REMOVE CONCRETE &
 WOOD FRAMING & INSTALL
 10'0" X 14'4" OVERHEAD DOOR

EXISTING 12'0" X 14'4" DOOR

EXISTING LEXAN COVERED WINDOW
 COVER WITH 5/8" TEXTURE T-11 PRIMED

EXISTING GLASS BLOCK TO BE
 REMOVED BY ACADEMIA LLC

PROJECT NO. 04000
 DATE 10/10/04
 REVISIONS

CMP PEAK'S ISLAND
OCEAN WALL REPAIRS/OTDR
SKETCH POHD 3 OF 8
DES REV 0 10/6/11

EXISTING WINDOWS
COVERED W/ PLEXIGLASS

3'-3" ¹/₂

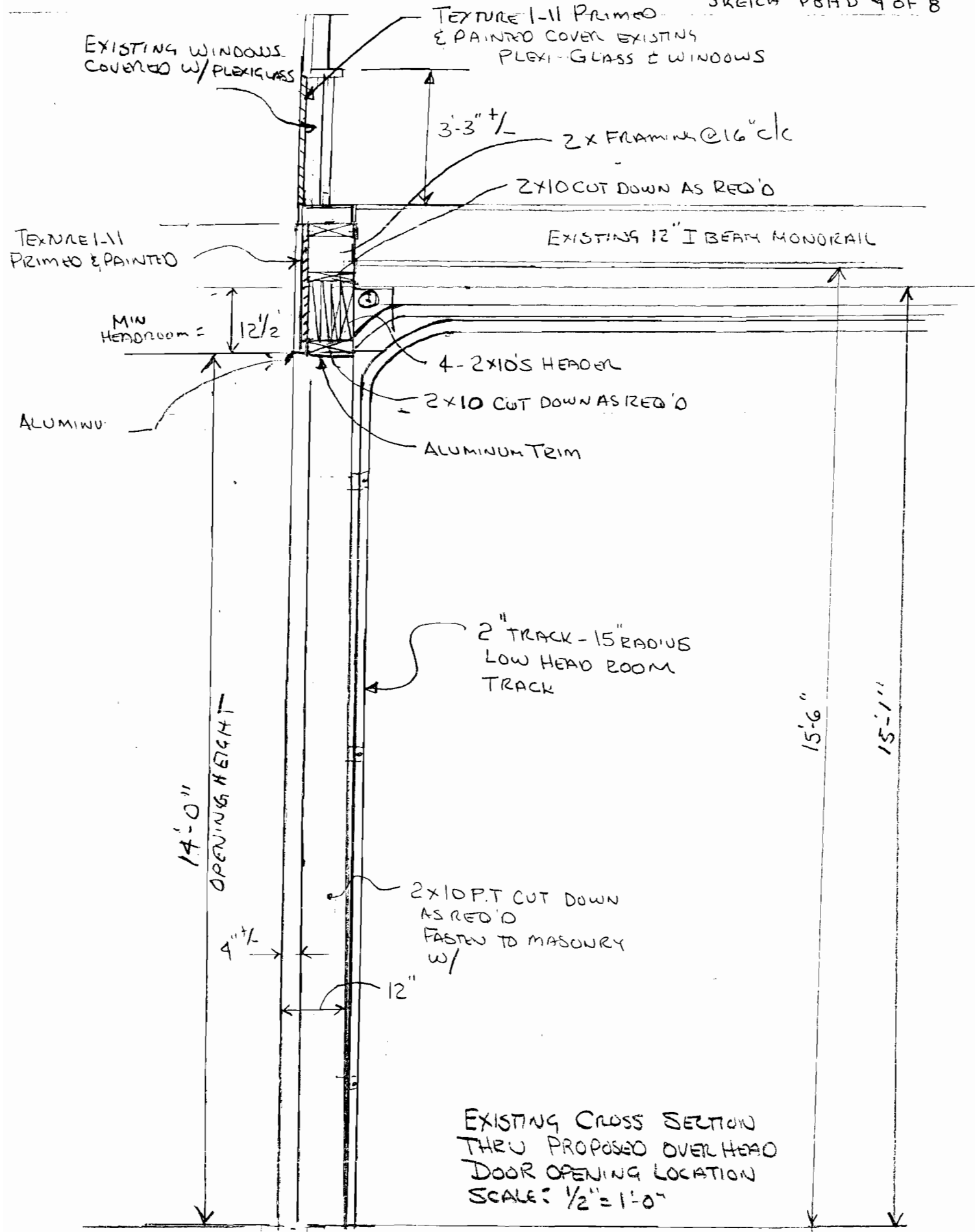
EXISTING 12" I BEAM MONORAIL

8'-8" ¹/₂
GLASS BLOCK w/ ASBESTOS CONTAINING
GROUT REMOVED BY ACAOIA CONTRACTORS
L.L.C. & FRAMED IN w/ 2x FRAMING
& PLYWOOD

7'-6" ¹/₂"
STUDDING & PLYWOOD WALL
TO BE REMOVED

15'-6"

EXISTING CROSS SECTION
THRU PROPOSED OVERHEAD
DOOR OPENING LOCATION
SCALE: 1/2" = 1'-0"



EXISTING WINDOWS
COVERED W/ PLEXIGLASS

TEXTURE 1-11 PRIMED
& PAINTED COVER EXISTING
PLEXI-GLASS & WINDOWS

3'-3" +/-
2x FRAMING @ 16" CLC

2x10 CUT DOWN AS REQ'D

TEXTURE 1-11
PRIMED & PAINTED

EXISTING 12" I BEAM MONORAIL

MIN
HEADROOM = 12 1/2"

ALUMINUM

4- 2x10'S HEAD R/L

2x10 CUT DOWN AS REQ'D

ALUMINUM TRIM

2" TRACK - 15" RADIUS
LOW HEAD ROOM
TRACK

14'-0"
OPENING HEIGHT

15'-6"

15'-11"

2x10 P.T CUT DOWN
AS REQ'D
FASTEN TO MASONRY
W/

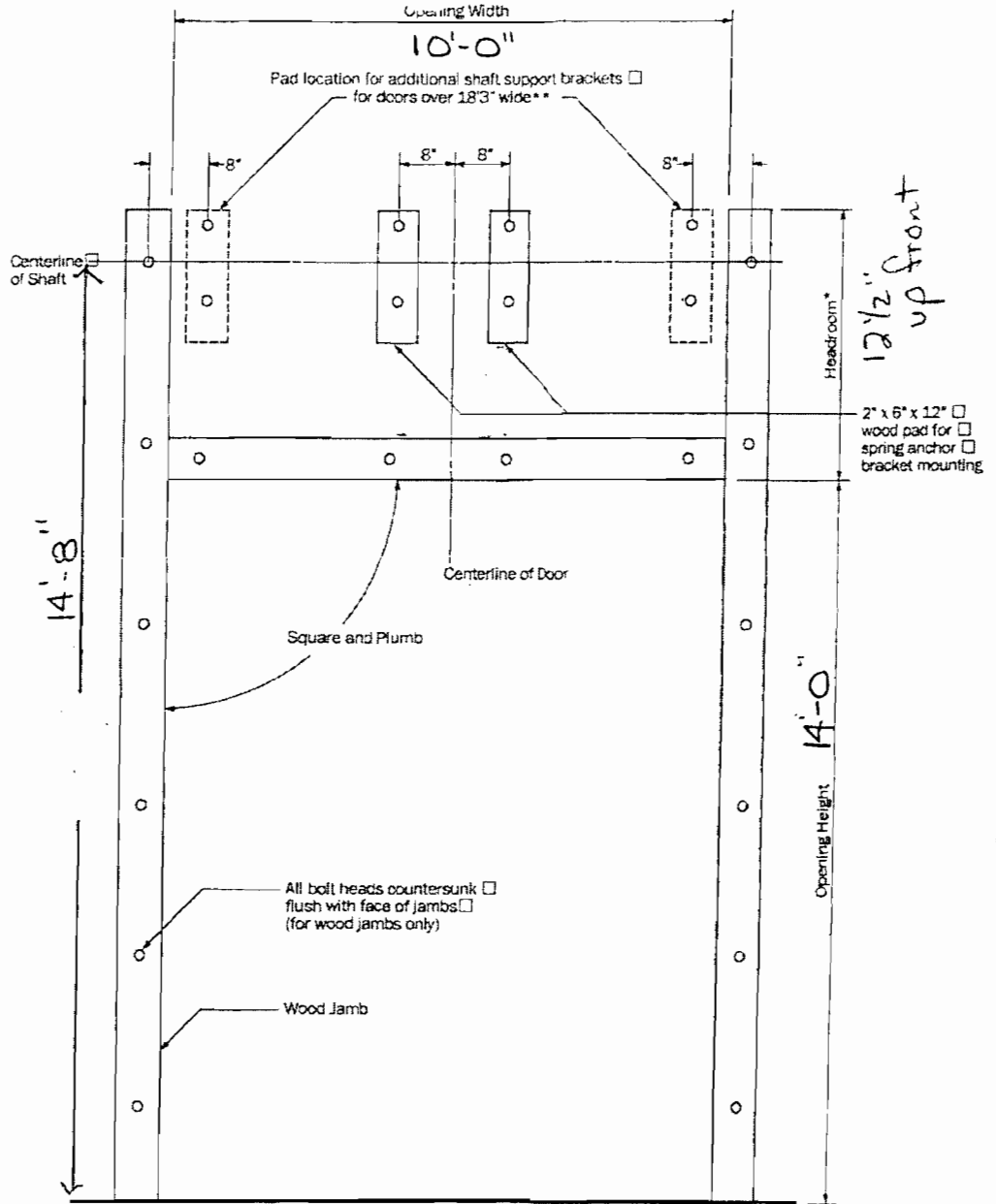
4 1/2"

12"

EXISTING CROSS SECTION
THRU PROPOSED OVERHEAD
DOOR OPENING LOCATION
SCALE: 1/2" = 1'-0"

Sectional Doors

Framing & Pads
 Wood Jamb



Track & Framing Wood Jamb

*See track detail for headroom clearance dimensions.

**Additional pads may be required on larger doors.

C M P PEAKS ISLAND
 OCEAN WALL REPAIRS/OHD
 SKETCH POINT 6 OF 8

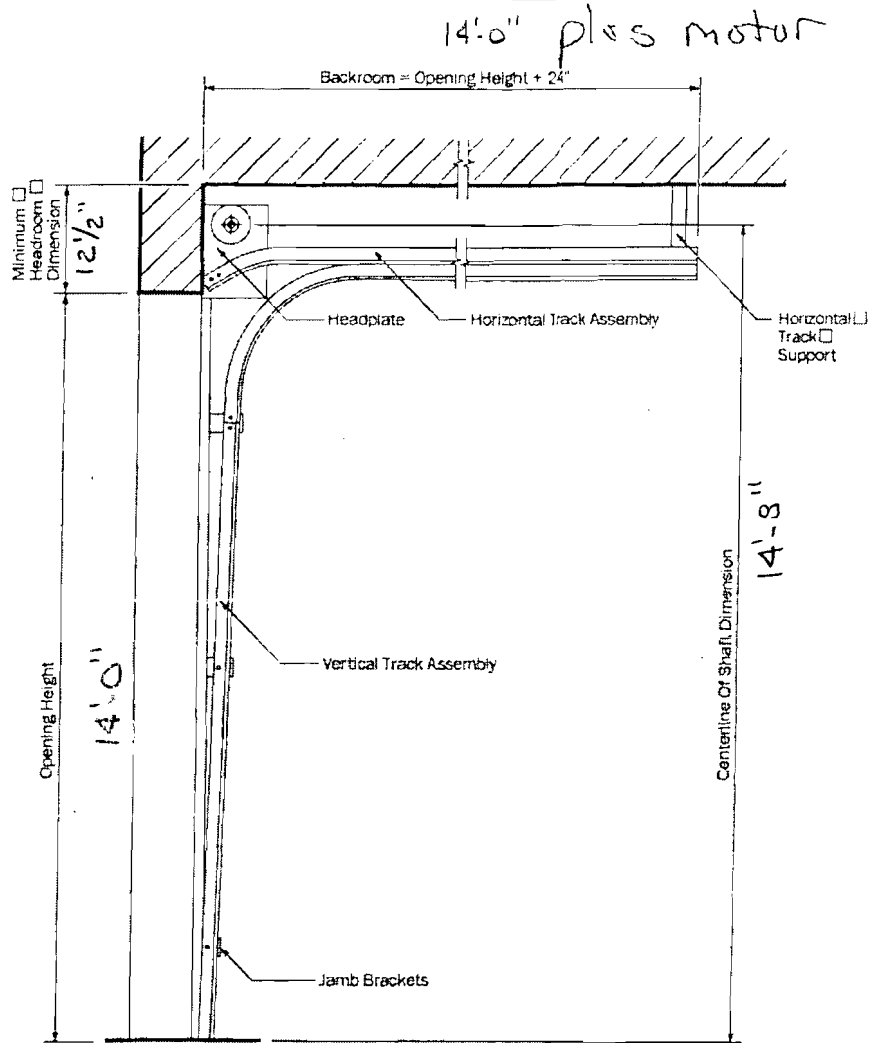
Sectional Doors



Track

Headroom and Backroom Clearance

Low Headroom Track
 Springs to Front



Sectional Doors

Track & Framing

Headroom Clearance Dimensions

2" Track
 15" Radius

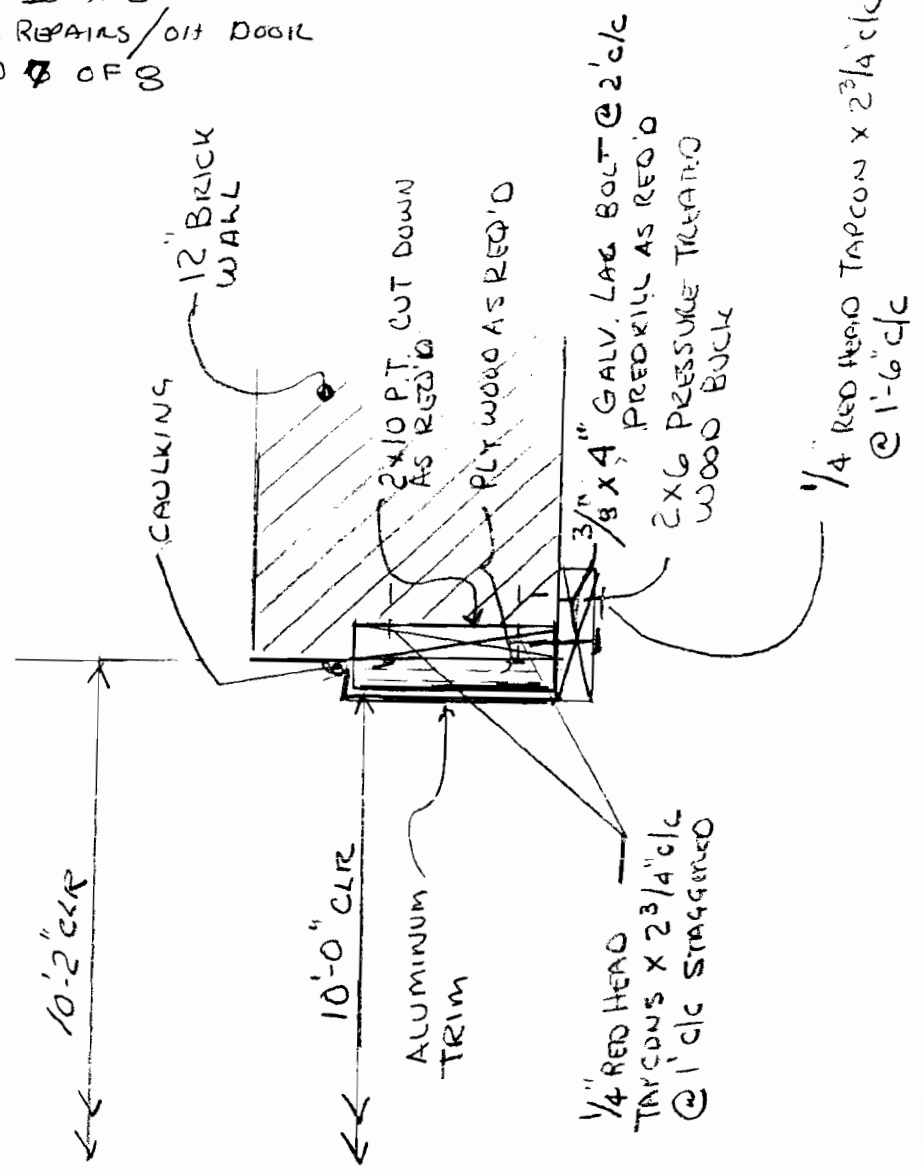
Door Height	Centerline of Shaft	Minimum Headroom
Thru 12'0"	D.H. + 8"	12 3/4"
Thru 16'0"	D.H. + 8"	12 1/2"

D.H. = Door Height

3" Track
 15" Radius

Door Height	Centerline of Shaft	Minimum Headroom
Thru 12'0"	D.H. + 9"	13"
Thru 16'0"	D.H. + 9"	13 3/4"

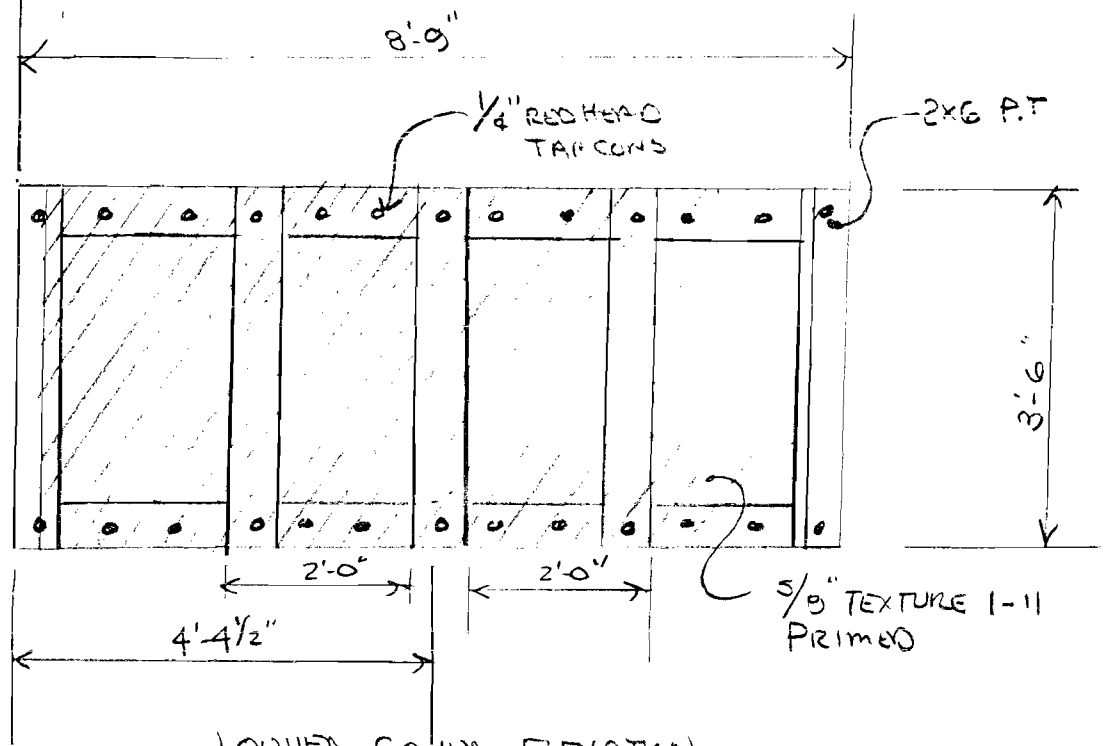
CMP PEAK 3 ISLAND
 OCEAN WALL REPAIRS / OIT DOOR
 SKETCH PHOTO 4 OF 8



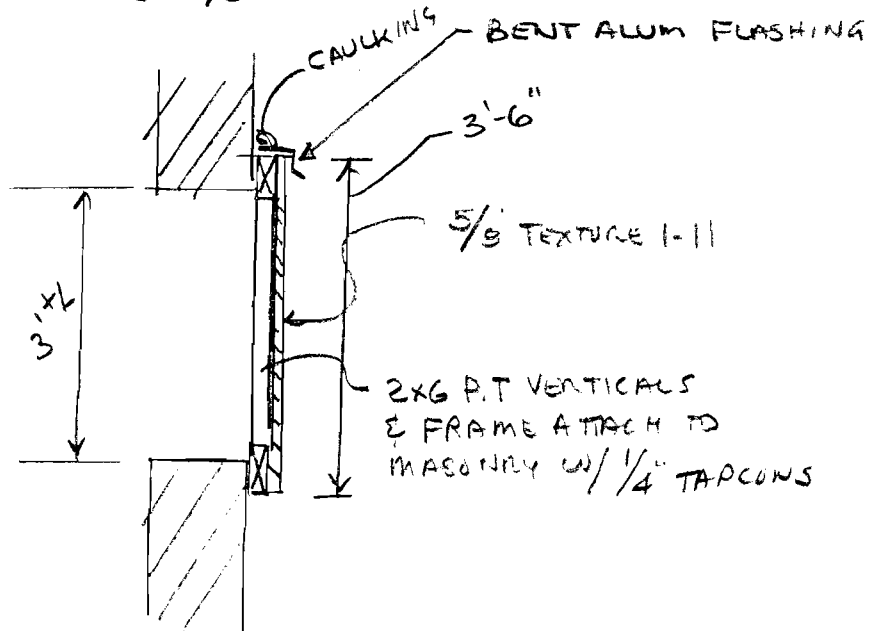
OVERHEAD DOOR JAMB DETAIL
 SCALE: 1/2" = 1'-0"

WALL LOUVER COVER
SKETCHES PWL 1

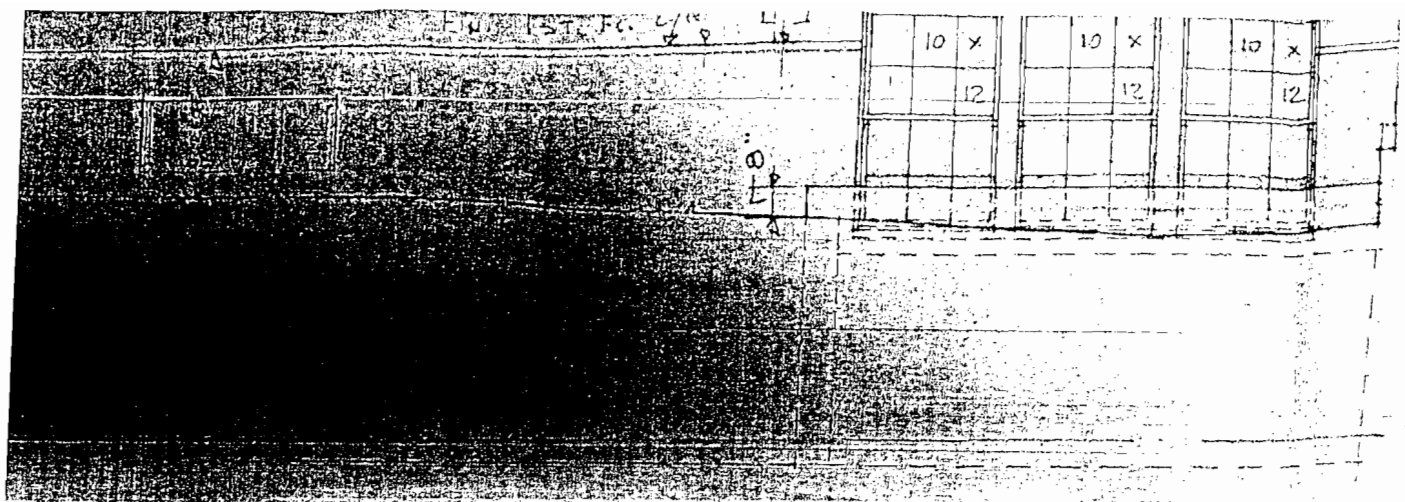
CMP PEAKS ISLAND
 WALL LOUVER COVER
 SKETCH PWL 1 OF 1
 REV 0 10/7/11



LOUVER COVER ELEVATION
 SCALE: 1/2" = 1'-0"

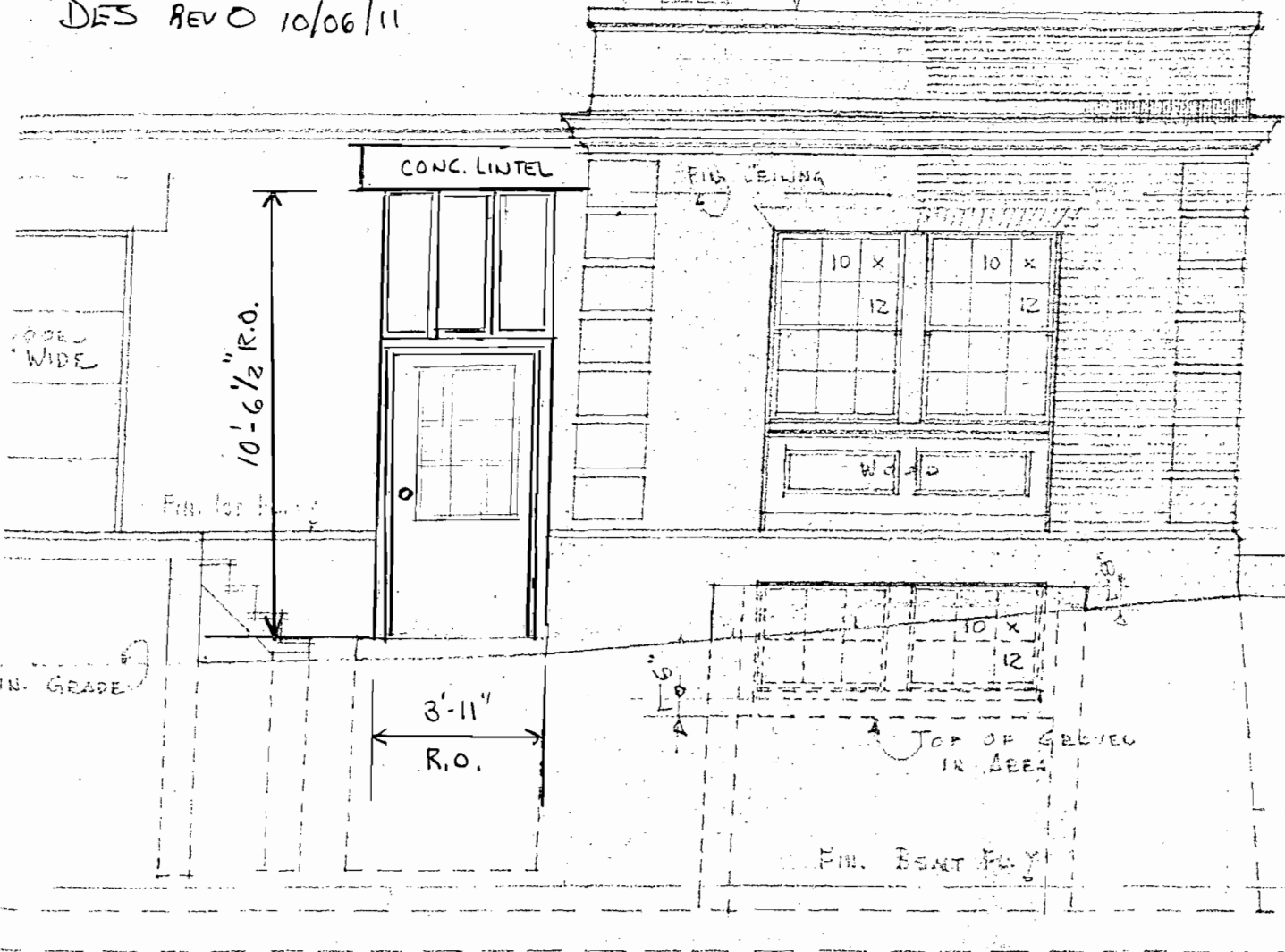
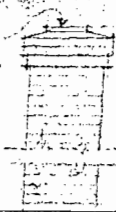


OFFICE DOOR REPLACEMENT SKETCHES
SKETCHES PIOD 1-4



ELEVATION
 CMP-PEAKS ISLAND
 OFFICE DOOR REPLACEMENT
 SKETCH P1001 OF 4
 DES REV 10/06/11

PLANE TIE TO PROJECT



DOOR WIDE

10'-6 1/2" R.O.

CONC. LINTEL

FIN. LINTELING

10 x 12

10 x 12

FIN. GRADE

3'-11" R.O.

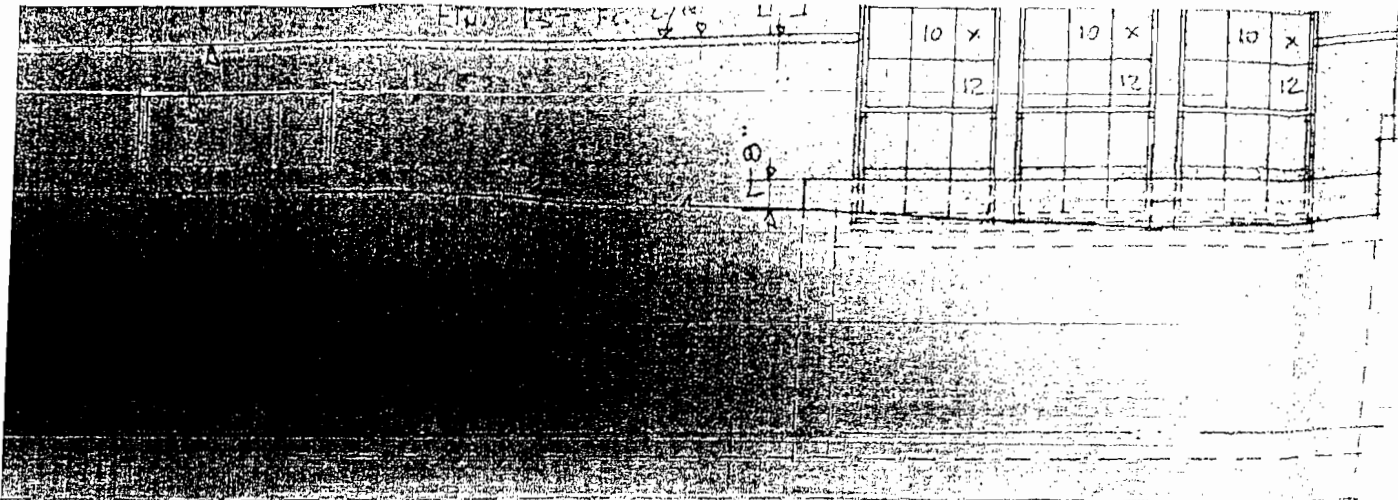
10 x 12

TOP OF GRAVEL IN AREA

FIN. BASE FLOOR

ELEVATION

EXISTING OFFICE DOOR ELEVATION
 SCALE: 1/4" = 1'-0"



ELEVATION
 CMP PEAKS ISLAND
 OFFICE DOOR REPLACEMENT
 SKETCH P1002 OF 4

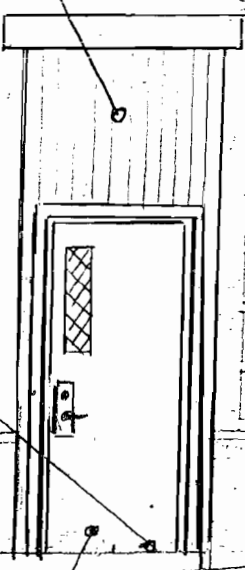
PLUG TOP
 TO PROJECT

2x6 FRAMING, PRIMER &
 PAINTED TEXTURE I-II
 SIDING
 R19 FIBERGLASS INSUL
 INTERIOR 1/2" PLYWOOD,
 PRIMER & PAINTED

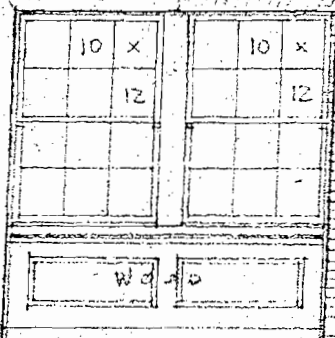


300L
 WIDE

NEW NATIONAL
 GUARD 5/8"x5"
 525
 SADDLE
 THRESHOLD
 FIG. 1001



FIN. CEILING



IN. GRADE

NEW 3'-0" x 7'-0"
 INSULATED STEEL DOOR
 W/ 4" x 25" WIRE MESH
 VIEWING PANEL

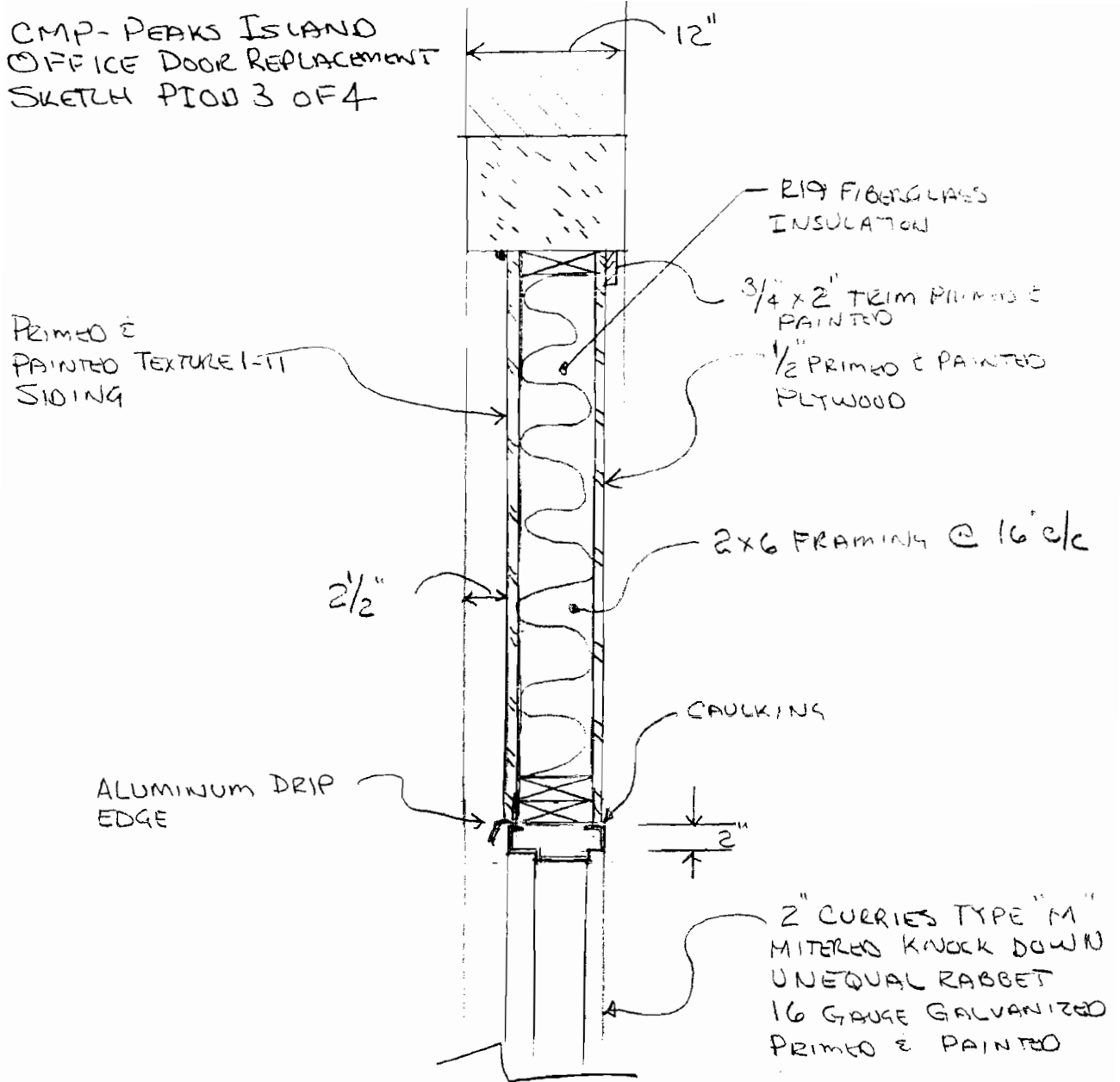
TOP OF GROOVE
 IN AREA

FIN. BASE PLATE

ELEVATION

NEW OFFICE DOOR ELEVATION
 SCALE: 1/4" = 1'-0"

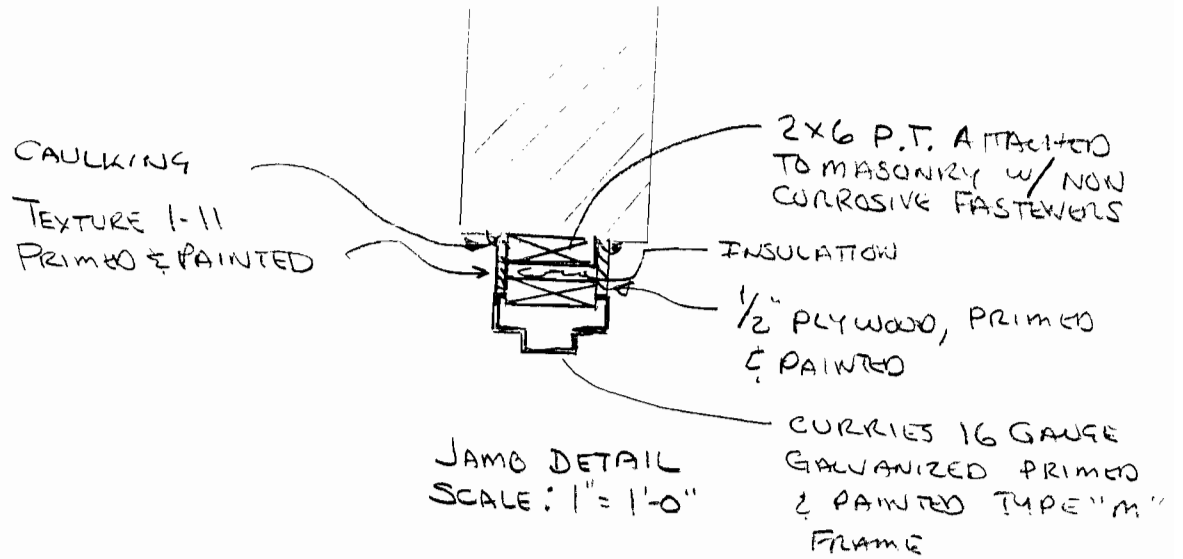
CMP- PEAKS ISLAND
OFFICE DOOR REPLACEMENT
SKETCH P100 3 OF 4



NOTE: ALL 2x FRAMING IN CONTACT W/MASONRY OR CONCRETE SHALL BE PRESSURE TREATED

NEW DOOR HEADER DETAIL
SCALE: 1" = 1'-0"

CMP - PEAKS ISLAND
OFFICE DOOR REPLACEMENT
SKETCH P10D 4 OF 4



APPENDIX D

PHOTOS



Peaks Island Building. South Elevation. Office in foreground, High roof (bay) to rear left and low roof (bay) to rear right. Office door to be replaced is behind the person in red.



Peaks Island: Lower roof to be reroofed to the right.



Peaks Island Building. Lower roof to be reroofed. All penetrations to be removed.



Peaks Island Building. Lower roof to be reroofed. All penetrations to be removed. One of the existing two (2) roof drains that will be replaced.



Peaks Island Low roof north portion penetration to be removed and roof requiring reframing.



Peaks Island Low roof west portion to require reframing.



Peaks Island Low roof portion requiring reroofing framing and new decking.