WISHKAH VALLEY SCHOOL
Upper Walls, and Flashing Repairs
4640 Wishkah Road
Aberdeen, Washington 98520

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Vicinity Map

Site Map

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Structural, Foundation
Forensic Engineers
Wishkah Valley School Building
Roofing, Wall, and Flashing Repairs
4640 Wishkah Road
Aberdeen, Washington 98520
SCOPE OF WORK

GENERAL:
The intent of this project is to repair various parts of the exterior building envelope including:


2. Damaged upper wall framing:
   a. Exterior siding and water resistive barrier,
   b. Rigid insulation
   c. Wall sheathing,
   d. Wall insulation,
   e. All damaged stud, and
   f. Sheet rock as required for the wall repair. Expect to replace approximately 70% of all GWB.

3. Remove, store, and replace fixtures, electrical items, signs, etc. clean, at the end of interior work.

4. Prime and paint the upper interior and exterior walls. That is, those parts of the walls that rise above the general roof line of the building to the Gymnasium and in the Library/Intervention area.

5. Final condition is that the areas worked in should be in the same or better condition than before work started. The school superintendent shall be the judge of 'acceptable condition'.

3. Flashing at the top and bottom of the upper walls.

4. Flashing around all wall penetrations.

5. Flashing at all roof top mechanical units, ventilation pipes, and all other roof penetrations. An approximate count is provided in the 'Table 1 - Roof Penetrations' on this sheet.

6. Flashing at the roof ridges on the upper and lower roofs.

7. The sheet metal vent mounted on the south, upper wall, of the gymnasium.

ADDITIONAL EXTRAS:
Provide additional extra for the following:

8. Provide a unit cost based on 100 square feet to remove and replace dry rot damaged wood decking – 2x6 t&g fir decking spanning from beam to beam.


10. Provide a unit cost for the abatement of asbestos ceiling tiles and for abatement of gypsum wall board containing asbestos. Assume 1,000 square foot as a minimum quantity.

11. Provide a unit cost of abatement of lead based paint on the interior of the building. Assume a minimum quantity of 1,000 square feet.

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Roof Penetrations Needs Flashing</th>
</tr>
</thead>
<tbody>
<tr>
<td>AREA</td>
<td>NUMBER</td>
</tr>
<tr>
<td>Dormitory Rooms (East Side of Building)</td>
<td>2</td>
</tr>
<tr>
<td>Dormitory Rooms (West Side)</td>
<td>2</td>
</tr>
<tr>
<td>North Upper Roof</td>
<td>1</td>
</tr>
<tr>
<td>North Lower Roof</td>
<td>2</td>
</tr>
<tr>
<td>South Wing (West Side)</td>
<td>2</td>
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<tr>
<td>South Side of Gymnasium</td>
<td>1</td>
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<tr>
<td>South Side of Gymnasium</td>
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<td>South Side of Gymnasium</td>
<td>1</td>
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</tbody>
</table>
NOTES

GENERAL NOTES:
The intent of this project is to repair a n existing structural system. Other than specifically noted on the drawings and/or calculations, no analysis of the historical existing system or existing structural elements has been made or requested. In addition, to the opinion of the engineer of record, the repairs made have not added any significant weight to the structural system.

These structural notes supplement the drawings. Any discrepancy found amongst the drawings, these notes, and the site conditions shall be reported to the Engineer, who shall correct the discrepancy is writing. Any work done by the Contractor after the discovery of the discrepancy shall be done at the Contractor's risk. The Contractor shall verify and coordinate the dimensions among all drawings prior to proceeding with any work or fabrication. The Contractor is responsible for all shoring and bracing during construction.

The structure has been designed to resist the specified lateral force vertical code required forces after the completion of construction. Stability of the structure shall be performed by the design and the监理 responsibility includes but is not limited to: erection approach, methods and sequence, temporary shoring and bracing, formwork, and the use of equipment and construction procedures.

Construction observation by the structural engineer is for general conformance with the design intent only, it is not a review of the contractor's construction procedures, nor is it to be considered 'inspections' as used in the construction industry.

All construction shall, at a minimum, conform to the applicable portions of the latest edition of the International Building Code and the Washington State Building Codes and all other referenced codes.

Before proceeding with any excavation or pile driving locate all utilities using both public ("Call before you dig") and private utility location services.

DESIGN CRITERIA:
Live Load: 25 PSF Ground Snow Load
Dead Load: 35 PCF for Wood
Self weight for other materials.

Wind and Seismic Loads: This project is for repairs to damaged materials to repair flashing. Damaged materials will be replaced in kind.

Carpeting:
1. Provide minimum nailing per IBC Table 2304.9.1 or more, as otherwise shown or noted on the drawings and details. Provide cut washers where bolt heads, nuts, and lag screws head bear on wood. Do not notch or drill structural members, except as approved by the structural engineer. Where existing items are removed and replaced, replace in kind as to size, material, nail spacing, etc. corners.

2. All framing lumber used shall be #1 Fir, #1 SPF, or #2 Douglas Fir-Larch.

3. Furring strips shall be 1/4 or 1/2 pressure treated, #2 or better, Hem Fir. See details.

4. Lumber shall not have a moisture content exceeding 9% at the time of installation.

5. All plywood or wood structural panels shall bear the trademark of the American Plywood Association. All panels shall be APA performance rated panels. Plywood shall be nailed at 6” on center edges and 8” in the field unless noted otherwise on the drawings.

Wall sheathing shall be 5/8” or 19/32”, APA Span Rated 40/20, exterior rated plywood.

6. All nails shall be common nails unless noted otherwise. All nails shall be from American or Canadian Manufacturers only. Size and spacing at all sheathing edges shall be as per the sheaf wall schedule or as noted on the drawings.

7. Nail shank diameter of installed nails must be specified as below.

<table>
<thead>
<tr>
<th>Nail Type</th>
<th>Shank</th>
<th>Diameter</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>8d-box</td>
<td>0.113&quot;</td>
<td>2.5&quot;</td>
<td>10d</td>
</tr>
<tr>
<td></td>
<td>.148&quot;</td>
<td>3&quot;</td>
<td>16d</td>
</tr>
<tr>
<td></td>
<td>.162&quot;</td>
<td>3.5&quot;</td>
<td>18d</td>
</tr>
</tbody>
</table>

8. Contractor to field verify all conditions and elevations.

Carpentry hardware:
All connection hardware shall be Simpson “Stowing Tie” unless noted otherwise. Provide maximum size and quantity of nails or bolts per manufacturer, except as noted. Use one nail or bolt or screw in each appropriate hole. The connection hardware disposed to the wood or soil shall be hot dip galvanized and shall be nailed with galvanized nails or other metal connectors using hot dip galvanized connectors.

Pressure treated material requires that fasteners and connectors must be “post” hot dip galvanized. Galvanizing shall be per ASTM A123 for connectors and ASTM A153 for fasteners. Simpson “Zimex” is an acceptable equal per ASTM A653. Stainless steel fasteners and connectors are also acceptable for pressure treated wood. When using stainless steel or hot-dipped galvanized connectors, the contractors and fasteners must be made of the same material. When using galvanized connectors, use galvanized nails.

Miscellaneous Items:
1. The existing roof covering is AEP Space “Space-Rock 10” 16” wide, 2” standing seams, central existing gauge.

2. Vent Boots – Flash all pipe penetrations with Deko-Premium, EDPM Metal Roof Pipe Flashing aluminized to match roof penetration pipe size. Install in strict accordance with the manufacturer’s instructions and recommendations. To the extent possible, match existing flashing for roof penetration of pipes and pipe type items.

a. Locate and count all roof penetrations. Report any discrepancies between the contractor’s count and the information given in the vent and penetration table on page S.10.

b. Flashing metal: 24 gauge or heavier.

c. Flashing: After all flashings have been installed, verify the flashing is in place and tight.

3. Flashing is not acceptable until it has been shown to be water proof.

4. Flashing:
   a. Provide all flashings to be installed by the contractor.
   b. Where the assembly is not water tight repair or replaced and renot.

5. Vegetation control:
   a. Roof vegetation control: Use fiberglass using a Specialized System or an approved alternate.
   b. Exterior Wall Insulation use 2” of Polystyrene (polyisocyanurate) panels installed per the manufacturer’s instructions and recommendations in accordance with the drawings.

6. Gypsum wall board:
   a. Manufacturer: US Gypsum or an approved US or Canadian Manufacturer.
   b. Material: 1/4” thick, type x, provide as a total costs for impact resistant sheet rock.


8. Siding:
   a. Manufacturer: James Hardie or an approved alternate.
   b. Material: HardiePlank bevel siding 0.312” thickness x 8.25” width.
   c. Finish to be chosen by the owner from the full width of the manufacturer options.
   d. Paint - own choice of a paint grade finish. If so, delete exterior painting.
   e. Siding nails are recommended by the owner for the selected siding material. Nails intended to be nailed to 0.15” pressure treated material.
   f. Install in strict accordance with the manufacturer’s recommendations and instructions in conformance with James Hardie’s “Best Practices.”

9. Structural Sheathing:
   a. Steep joints between rows of siding at least 32” where possible.
   b. Back side but joints with 6” maximum joint to 0.5” long fastening material. Lap flashing 1” at least piece below. Do not use butt joints. See page 13 of Hardie’s “Best Practices Manual.”

Weather resistor barber pole and flashing:
   b. Install in strict accordance with the manufacturer’s instructions for installation over exterior insulation. Lap edges 6” minimum and 3” maximum at vertices. (Ceiling) or for the purpose.
   c. Joint flashing to by 6” wide 22 gauge galvanized or bonded cell shock or piece of HardiWrap WRB.

10. fastening:
   a. Pressure treated Hem Fir 1 x 6 nominal in field areas and 1 x 6 Pressure treated Hem Fir at exterior corners. See sheet S.33.

11. Paint:
   a. Exterior Paint:
      i. Sidewalks as recommended by the siding manufacturer and paint manufacturer.
      ii. Attic primer and two coats.
      iii. Manufacturers – Sherwin-Williams or an approved alternate.
   b. Interior Paint:
      i. General:
         1. Steal and interior sheet cover the roll colorcoat to match existing and as required by paint manufacturer.
         2. Replace interior graphics in kind to match existing.
         3. Paint interior by owner from the manufacturer’s full range of colors and finishes.
      ii. Manufacturers – Sherwin-Williams or an approved alternate.

12. All other materials:
   a. Before starting work photograph and verify all existing conditions.
   b. Where existing materials and finishes are removed, replace with new or existing where acceptable to the owner, and restore to the existing conditions.
NOTE:
THIS ROOF PLAN IS FROM THE ORIGINAL REROOFING PROJECT.
IT IS PROVIDED FOR INFORMATION PURPOSES ONLY. VENTS, HVAC EQUIPMENT, AND OTHER ROOF PENETRATIONS ARE SHOWN.
Sheet Notes:
1. All work is limited to the main building upper and lower roof and the walls from the upper to lower roof levels.
2. Covered walkway roofs have been omitted for clarity.
3. All dimensions are approximate. Field verify before starting work.

Symbols
\[ \begin{array}{l}
v \quad \text{Roof vents -- verify locations & count} \\
e \quad \text{Roof mounted equipment, curb -- verify locations & count} \\
c \quad \text{Boiler room chimney} \\
\end{array} \]

Ridge Line -- Typical

Ridge Line -- Typical

Ridge Line -- Typical

Ridge Line -- Typical

Ridge Line -- Typical

Ridge Line -- Typical

Ridge Line -- Typical

Ridge Line -- Typical

Ridge Line -- Typical

Roof Plan -- Field Verify Dimensions

Approximate Scale: \( \frac{1}{16}'' : 1' \)
Locate, remove, and replace all wall penetrations and attachments. Flash in accordance with James Hardie's Best practices manual. Extend all down spout discharges to 10' from the upper walls.

West Gymnasium Wall Elevation
Scale 1/4" : 1' 0"

East Gymnasium Wall Elevation
Scale 1/4" : 1' 0"

Typical:
Existing GLBs & Cols
Remove & Replace rotted wood.
Locate, remove, and replace all wall penetrations and attachments. Flash in accordance with James Hardie’s Best practices manual. Extend all down spout discharges to 10’ from the upper walls.

South Gymnasium Wall Elevation
Scale ¼” : 1’ 0”

Note:
Reflash bottom of end wall vent to prevent the accumulation of water and to drain to the exterior of the building.

North Gymnasium Wall Elevation
Scale ¼” : 1’ 0”
Locate, remove, and replace all wall penetrations and attachments. Flash in accordance with James Hardie’s Best practices manual. Extend all down spout discharges to 10’ from the upper walls.

East & West Library/Intervention Room Wall Elevation
Scale 1\(\frac{1}{4}\)" : 1' 0"

North Library/Intervention Room Wall Elevation
Scale 1\(\frac{1}{4}\)" : 1' 0"
**Typical Wall Section**

**Detail**

**Scale:** 1" : 1' 0"

- WRB over insulation
- Simpson SDWS screws 0.22" dia x 6" @ 12" oc

**Verify corner conditions**

- Bevel siding corners
- 6"x6" flashing metal under siding at corners.

**Wall Nails**

- Sheet Rock -- sheet rock screws @ 8" edges & 12" field
- Plywood -- 8dx1.5" @ 4" edges & 12" field.
- 2x framing -- 10dx3" at 12" oc
- Furring Strips -- Simpson SDWS 0.22x6" @ 12" oc

**Sheet Rock -- sheet rock screws @ 8" edges & 12" field**

**Plywood -- 8dx1.5" @ 4" edges & 12" field.**

**2x framing -- 10dx3" at 12" oc**

**Furring Strips -- Simpson SDWS 0.22x6" @ 12" oc**

**Typical Interior Corner Wall Section**

**Detail**

**Scale:** 1" : 1' 0"

**Wall Nails**

- Sheet Rock -- sheet rock screws @ 8" edges & 12" field
- Plywood -- 8dx1.5" @ 4" edges & 12" field.
- 2x framing -- 10dx3" at 12" oc
- Furring Strips -- Simpson SDWS 0.22x6" @ 12" oc

**Typical Exterior Wall Corner Section**

**Detail**

**Scale:** 1" : 1' 0"

- Wrap corner, under siding, with Ice & Water Shield extending
- 0.75" min 1.5" max
- 2x6 on side & 2x8 on face.

**Notes:**

See wall notes located at bottom right of this page.

**Verify corner conditions**

- Bevel siding corners
- 6"x6" flashing metal under siding at corners.

**Wall Nails**

- Sheet Rock -- sheet rock screws @ 8" edges & 12" field
- Plywood -- 8dx1.5" @ 4" edges & 12" field.
- 2x framing -- 10dx3" at 12" oc
- Furring Strips -- Simpson SDWS 0.22x6" @ 12" oc

**Wrap corner, under siding, with Ice & Water Shield extending**

- 0.75" min 1.5" max
- 2x6 on side & 2x8 on face.

**Wall Notes**

**Typical Wall Notes**

**Scale:** 1" : 1' 0"
Existing roofing
2x roof decking
GLB at N & S walls -- verify
Flash top, leave 0.25" to 0.5" gap
Cover opening with bug screen.
0.125" max opening.

Existing Roofing
WRB over insulation over
WRB over wood decking to remain.
Existing wall & framing

Existing flashing and roofing
WRB over insulation over
WRB over wood decking to remain.

Notes:
See wall notes located at bottom right of Page S3.0

Typical Wall Section
Scale: 1" : 1'0"
Notes:
See wall notes located at bottom right of this page.

Ridge Flashing Repair
Detail 5
Not to Scale

Conceptual Flashing Sketch
Scale: 1" : 1' 0"
Details 5 6

Ridge Flashing Repair
Detail 5
Not to Scale

Conceptual Flashing Sketch
Scale: 1" : 1' 0"
Details 5 6