

ROOF ASSESSMENT REPORT

INDIAN HEAD ELEMENTARY SCHOOL

NOVEMBER 08, 2010

PREPARED FOR:

FACILITIES DEPARTMENT

WHITMAN HANSON REGIONAL SCHOOL DISTRICT

1. Purpose

This Roofing Assessment Report provides a summary of the inspections performed at the Indian Head Elementary School located in the Town of Hanson, MA.

Roofing inspections were conducted with the intent of assessing general roofing systems, their condition, and identifying any significant related concerns that may warrant immediate corrective action. This report includes a summary of these inspections, including specific concerns, recommendations for repairs or maintenance, and associated budgetary costs. A description of the inspections is given below.

Roof Inspection

Roof inspections at the Elementary School were performed by Evan Warner on October 12th, 2010. Inspections involved an assessment of the current roof conditions, specific observations, photographs, short term recommendations, and long term recommendations for the current problematic conditions.

2. Description

The Elementary School Building consists of a combination of sloped and flat roof areas. The surface area is predominantly multi-level, flat 60 mil single ply EPDM membrane, fully adhered and sloped to internal roof drains with areas of sloped asphalt shingle and slate roofing to pre-formed metal gutters and down-spouts. Mechanical equipment is located on portions of the flat roof areas. The roofs are approximately ten years old and mostly in good condition except for the slate roof area of original construction approximately eighty years old which requires replacement.

3. Observations

The High School Building has a number of items that require attention and/or ongoing monitoring. The majority of recommendations in this report involve repairs to improve long term serviceability. While there are no leaks reported at the slate roof area over the main entry, fasteners have deteriorated beyond their useful life, evident by falling slate shingles. The perimeter areas directly below the slate has been cordoned off to prohibit access to areas subjected to falling debris/slate. For safety reason, replacement of slate roofing is needed ASAP. Facilities are in the process of contracting for roofing replacement of this area.

Observation No. 1

Copper counter flashing in fair to poor condition, no leaks reported, upper EPDM flat roof,

coordinate E5, , intermediate EPDM flat roof, coordinate C4. Typical condition.



Short Term Recommendations

Review periodically for evidence of leaks below.

Long Term Recommendations

Inventory locations and consider systematic replacement during future roof replacement projects.

Observation No. 2

Open gutter seam, upper EPDM flat roof, coordinate F6.



Short Term Recommendations

Apply gutter seal at open seams.

Long Term Recommendations-NA.

Observation No. 3

Open seams at counter flashing to masonry wall juncture, no leaks reported, intermediate EPDM flat roof, coordinate G5. Typical through-out.



Short Term Recommendations

Rake/clean joint, apply compatible sealant.

Long Term Recommendations-NA

Observation No. 4

Open seams at lap splices, no leaks reported, approx. 70 LF +/-, intermediate EPDM flat roof, coordinate F7.



Short Term Recommendations

Clean; apply compatible roofing cement/sealant.

Long Term Recommendations

Inspect problematic areas yearly for evidence of leaks. Apply EPDM patch.

Observation No. 5

Bent/damaged gutter profile, 15 LF +/-, intermediate EPDM flat roof, coordinate D5,D6.



Short Term Recommendation

Check bracket fastener seal, watch for leaks.

Long Term Recommendations

Repair or replace damaged gutter sections, prohibit use as a ladder rung.

Observation No. 6

Slice/open corner seams at counter flashing and gutter, intermediate EPDM flat roof, coordinate D5.



Short Term Recommendations

Remove roofing cement/sealant. Seal edges with compatible sealant, set copper corner flashing cover in roofing cement/sealant.

Long Term Recommendations

Consider staged replacement of copper through-wall/counter flashing at original building details, during future roof replacement projects.

Observation No. 7

Missing downspout, intermediate EPDM flat roof, coordinate C4.



Short Term Recommendations

Clean debris, install new roof drain baskets. Consider metal baskets, properly fastened.

Long Term Recommendations-NA

Observation No. 8

Missing termination bar, intermediate EDPM flat roof, coordinate B4.



Short Term Recommendations

Install termination bar set in water-cut-off mastic/compatible sealant.

Long Term Recommendations-NA

Observation No. 9

Delaminating flashing patch, intermediate EPDM flat roof, coordinate B4.



Short Term Recommendations

Clean, apply compatible seam sealant.

Long Term Recommendations

Apply EPDM patch.

Observation No. 10

Missing shingles/tabs, intermediate asphalt shingle roof area, coordinate A4.



Short Term Recommendations

Replace damaged/missing shingles.

Long Term Recommendations-NA.

Observation No. 11

Cracking shingle tabs, typical through-out, intermediate asphalt shingle roof, coordinates A3-A5.



Short Term Recommendations

Inspect yearly for torn/missing shingles and leaks below.

Long Term Recommendations

Replace with 40 year shingles, minimum, at time of roof replacement.

Observation No. 12

Failing seam sealant, delaminating corner flashing, ponding water, main EPDM flat roof area, coordinates B6, B7.



Short Term Recommendations

Clean, apply EPDM patches.

Long Term Recommendations

Coordinate installation of crickets/tapered insulation (to drain water to roof drains) at time of future roof replacement.

Observation No. 13

Open seam/puncture North-East corner flashing at skylight, failing seam sealant, delaminating corner flashing, reported leaks, stains at wood blocking, main EPDM flat roof area, coordinate B7.



Short Term Recommendations

Clean, apply EPDM patches.

Long Term Recommendations-NA

Observation No. 14

Failing seam sealant, delaminating cracked seam at flashing, main EPDM flat roof area, coordinates C10.



Short Term Recommendations

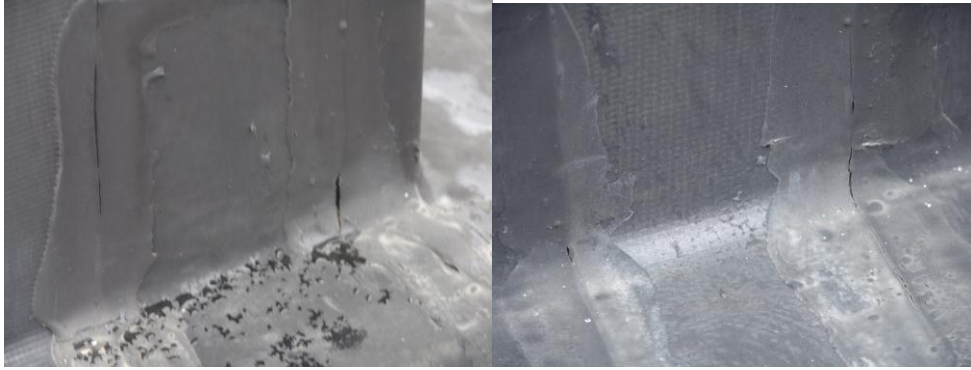
Install roof drain strainer/basket.

Long Term Recommendations-NA

Observation No. 15

Failing splice seam sealant, delaminating cracked seams at flashing at EF-6, RI-1,EF-7,EF-8, main EPDM flat roof area, coordinates C8, B9, D9, C10.





Short Term Recommendations

Clean, apply compatible seam sealant.

Long Term Recommendations

Clean, apply EPDM patches.

Observation No. 16

Open crack at expansion joint roof edge, main EPDM flat roof area, coordinate E9.



Short Term Recommendations

Apply compatible sealant.

Long Term Recommendations-NA

Observation No. 17

Failing seam sealant, delaminating corner flashing/patches, approx. 100 LF +/-, main EPDM flat roof area, coordinates E10,E11- L10,L11.



Short Term Recommendations

Clean, apply compatible sealant.

Long Term Recommendations

Clean, apply EPDM patches.

Observation No. 18

Delaminating EPDM patch, missing roof drain strainer/basket, main EPDM flat roof area, coordinate F11.



Short Term Recommendations

Clean, apply compatible sealant. Install roof drain basket.

Long Term Recommendations

Clean, apply EPDM patch.

Observation No. 19

Tree branches encroaching on roof, main EPDM flat roof area, coordinate G9.



Short Term Recommendations

Prune/trim tree branches.

Long Term Recommendations-NA

Observation No. 20

Disintegrated splash blocks, main EPDM flat roof area, coordinates L10, L11.



Short Term Recommendations

Remove debris and replace splash blocks.

Long Term Recommendations-NA

Observation No. 21

Missing/damaged asphalt shingles and cap shingles, South sloped asphalt shingle roof area, coordinates L11, M12.



Short Term Recommendations

Replace damaged/missing shingles.

Long Term Recommendations-NA

Observation No. 22

Cracking shingle tabs, typical through-out, intermediate asphalt shingle roof, coordinates N9-N12, M9-M12.



Short Term Recommendations

Inspect yearly for torn/missing shingles and leaks below.

Long Term Recommendations

Replace with 40 year shingles, minimum, at time of roof replacement.

Observation No. 23

Missing/damaged asphalt shingles and cap shingles, South sloped asphalt shingle roof area, coordinate N9.



Short Term Recommendations

Replace damaged/missing shingles.

Long Term Recommendations-NA

Observation No. 24

Tree branches encroaching on roof, organic matter/fungus growing on shingles, debris in gutter, south sloped asphalt shingle roof area, coordinate N9.



Short Term Recommendations

Clean, shingles of organic matter/fungus and apply fungicide.

Long Term Recommendations

Remove/prune tree.

Observation No. 25

Leaks roof repairs this area, no apparent roof issues; mortar deterioration is suspect, main EPDM flat roof area, coordinate G7. Window head steel lintels rusting.



Short Term Recommendations

Survey lintel condition/integrity, treat or replace as required and repoint masonry.

Long Term Recommendations-NA

Observation No. 26

Debris, clogged scupper and downspout, lower EPDM flat roof area, coordinate C2.



Short Term Recommendations

Clean; remove debris at scupper and downspout.

Long Term Recommendations-NA

Observation No. 27

Poor counter flashing, missing termination bar, lower EPDM flat roof area, coordinate C1.



Short Term Recommendations

Install termination bar set in water-cut-off mastic/compatible sealant.

Long Term Recommendations

Inventory locations and consider systematic replacement of counter flashing during future roof replacement projects.

Observation No. 28

Malfunctioning downspout system, prolonged water damage at masonry, front entry, coordinate D1.



Short Term Recommendations

Inspect and clean gutter and downspout.

Long Term Recommendations

Clean masonry, repoint as required.

Observation No. 29

Previous water staining at masonry/ downspout system, plant growth at lower section, front entry, coordinate F1.



Short Term Recommendations

Inspect and clean gutter and downspout, remove plant/vine growth.

Long Term Recommendations

Inspect yearly.

Observation No. 30

Poor counter flashing, missing termination bar, lower EPDM flat roof area, coordinates G1, G2.



Short Term Recommendations

Install termination bar set in water-cut-off mastic/compatible sealant.

Long Term Recommendations

Inventory locations and consider systematic replacement of counter flashing during future roof replacement projects.

Observation No. 31

Poor counter flashing, excessive sealant, possible previous leaks, lower EPDM flat roof area, coordinates G2 G3.



Short Term Recommendations

Remove and reapply sealant at cracks/gaps.

Long Term Recommendations

Inventory locations and consider systematic replacement of counter flashing during future roof replacement projects.

Observation No. 32

Broken/missing slate shingles, fasteners have deteriorated beyond their useful life, evident by falling slate shingles below, slate roof area, coordinate F2.



Short Term Recommendations

Continue to maintain barricade below for safety, replace roofing with 40 year plus asphalt or composite/slate shingles.

Long Term Recommendations-NA

Observation No. 33

Opening gaps at deteriorating gutter, previous patches, slate roof area, coordinate G2, G3. Typical condition.



Short Term Recommendations

Survey and apply patches/gutter seal.

Long Term Recommendations

Consider replacement or refurbishment at time of roof replacement.