

# **ROOF ASSESSMENT REPORT**

**DUVAL 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 Duval Elementary School located in the Town of Whitman, 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 1<sup>st</sup>, 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. Review the lower sloped and flat roof areas of the 2000 addition to the North occurred in the summer of 2010. Previously identified issues in these areas are being addressed in a contract for roofing and siding modifications- work is scheduled to start in December, 2010.

# 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 PVC membrane, fully adhered and sloped to internal roof drains with minor areas of sloped asphalt shingle 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.

# 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.

### **Observation No. 1**

Loose PVC membrane at transition slope, main PVC flat roof, coordinate C9.



#### **Short Term Recommendations**

Review periodically for evidence of leaks below.

#### **Long Term Recommendations**

Remove/replace or re-adhere PVC roofing.

### **Observation No. 2**

Ponding water, main PVC flat roof, coordinates C10-I10.



#### **Short Term Recommendations**

Remove debris and organic growth, clean impacted roof areas.

#### **Long Term Recommendations**

Inspect problematic areas yearly for evidence of leaks. Coordinate installation of crickets/tapered insulation (to positively drain water to internal roof drains) at time of future roof replacement.

### **Observation No. 3**

No roof protection or fasteners at exposed conduit, main PVC flat roof, coordinate C16.



### **Short Term Recommendations**

Remove abandoned conduit or install PVC protection pads and fasten to masonry wall construction (not flashing).

### **Long Term Recommendations-NA**

### **Observation No. 4**

Debris and organic growth at mechanical unit, intermediate PVC flat roof, coordinate A9.



### **Short Term Recommendations**

Remove debris and organic growth, clean impacted roof area.

### **Long Term Recommendations**

Inspect problematic areas yearly for evidence of leaks. Coordinate installation of crickets/tapered insulation (to positively drain water to internal roof drains) at time of future roof replacement.

**Observation No. 5**

Missing ring clamp at penetration, main PVC flat roof, coordinate E14.



**Short Term Recommendation**

Remove sealant/debris, clean and apply compatible sealant- set into/install ring clamp.

**Long Term Recommendations**

Inspect details with sealant yearly and replace as part of ongoing maintenance plan.

**Observation No. 6**

Open flashing corner/ seam, excessive sealant-possible past leaks, intermediate upper PVC flat roof, coordinate C20. Indicative of detail at original counter flashing.



### **Short Term Recommendations**

Inspect yearly for evidence of leaks below. Apply sealant and copper flashing patches/covers.

### **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 roof drain baskets (6), upper PVC flat roof, coordinate A12, main PVC flat roof, coordinate B11, C11, D14, D15, D21.



### **Short Term Recommendations**

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

### **Long Term Recommendations-NA**

### **Observation No. 8**

Missing/sliced membrane, exposed plywood enclosure, not flashed to main roof membrane, upper PVC flat roof, coordinate D3.



### **Short Term Recommendations**

Install compatible EPDM patch, inspect yearly.

### **Long Term Recommendations**

Remove and rebuild/fasten enclosure onto PT curbing, properly flash to main roof membrane at the time of future roof replacement.

**Observation No. 9**

Standing water/debris in gutter, upper asphalt shingle roof, coordinates E4-F4, E5-E8



**Short Term Recommendations**

Clean gutters, remove debris.

**Long Term Recommendations**

Inspect, clean gutters yearly as part of ongoing maintenance plan.

**Observation No. 10**

Similar condition to that identified as problematic at lower elevation. Transition vent detail sloped-to-flat roof, high sloped asphalt shingle roof perimeter, photo at coordinate E2.



**Short Term Recommendations**

Inspect yearly for evidence of leaks below. Varied adjacent conditions at transition vents below are likely reason for leaks at below condition, but not at upper condition.

**Long Term Recommendations-NA.**

**Observation No. 11**

Debris/organic matter in gutter, upper asphalt shingle roof, coordinate G4.



**Short Term Recommendations**

Clean gutters, remove debris.

**Long Term Recommendations**

Inspect, clean gutters yearly as part of ongoing maintenance plan.

**Observation No. 12**

Loose PVC roofing at perimeter gravel stop edge condition, approx. five feet deep PVC flat roof throughout. Billowing PVC under strong wind conditions, PVC roofing terminations @ vertical fascia not sealed/allowing wind and possible driven rain infiltration. No Photo.

**Short Term Recommendations**

Remove/replace or re-adhere PVC roofing. Remove alum. Fascia and gravel stop assembly and seal/properly terminate PVC roofing edges (approx. 125 linear feet).

**Long Term Recommendations -NA**