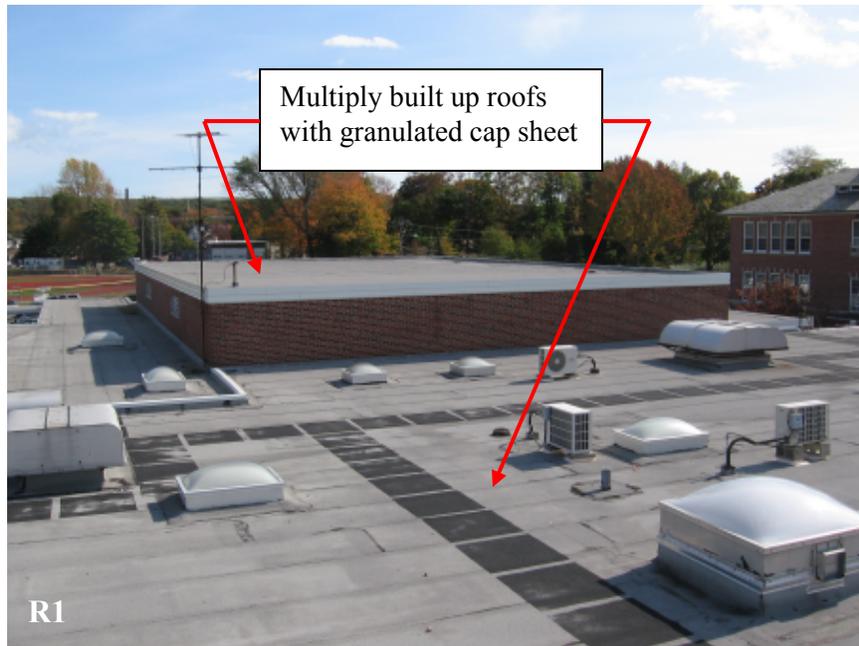


Overview:

The roofs at Flanders Elementary School consist of modified bitumen multi-ply built membranes with a granulated cap sheet. The roofs are relatively flat with a minimum pitch to the drains but no major areas of ponding water were observed. The roofs do not have a system of secondary drains to evacuate the water in case of emergency.

Observations:

The multi-ply built-up roofs appear to be approximately 10 years old and are generally in good condition.



One drain appears clogged with debris creating a pool of water at the sump.

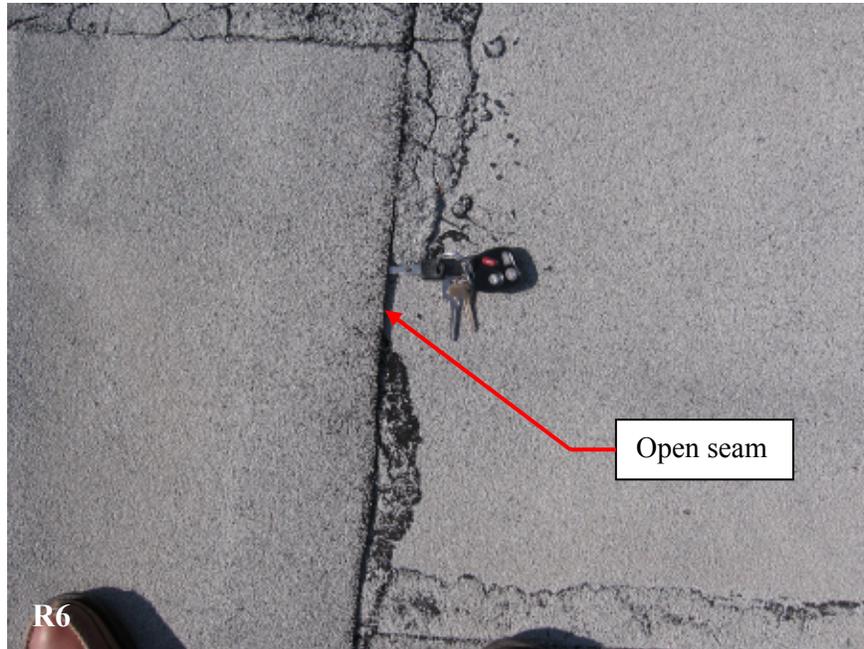


A drain bowl is higher than the surrounding roof creating a pool all around the drain bowl.

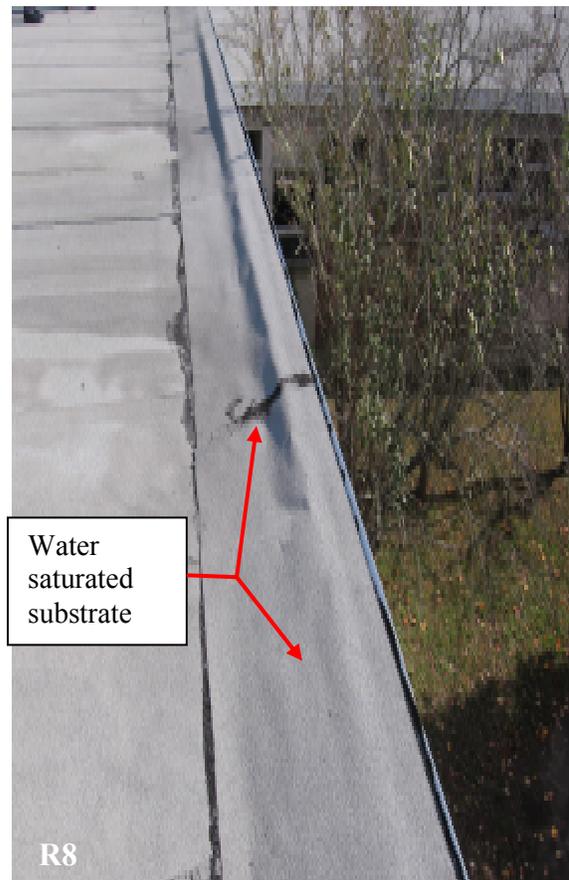


Several lap seams are open allowing water to enter the facility.





Areas of perimeter flashing are dried and cracked allowing water to migrate below the membrane creating blisters and bubbles. The trapped moisture will eventually compromise the insulation as well as the roof deck.

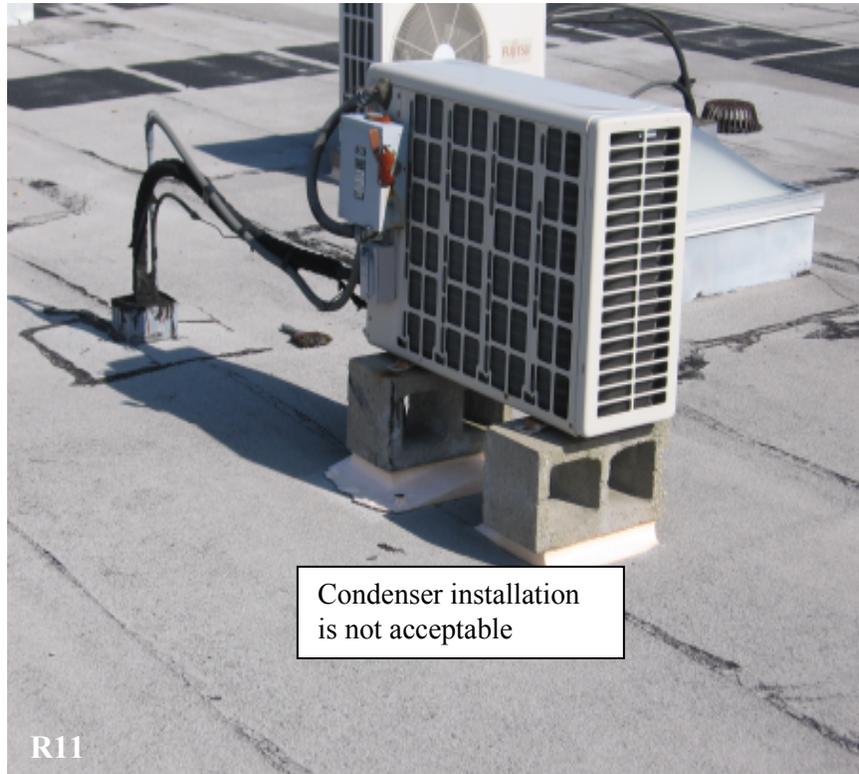




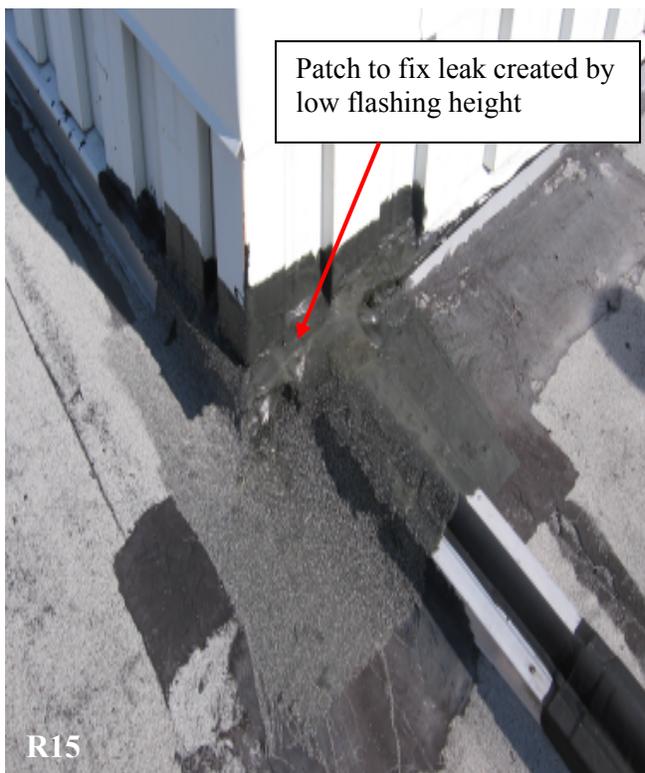
The leaves from low tree branches that rest directly on the roof clog drains and storm drain pipes.



Condenser units sit unsecured on concrete blocks . The units can easily be blown over in a high wind event and the installation violates the mechanical code.



Several roofs have rising wall flashing conditions that do not have the industry's required 8" of flashing height. The purpose of this 8" guideline is to help prevent water from melting ice and snow to leak into the wall system. In one location the membrane flashing has sagged away from the vertical plane allowing water to enter unhindered into the wall assembly. The current roof warranty most likely excludes these low flashing height conditions from the agreement.



Recommendations:

Immediate

Periodically snake and clean out all drains and storm drain leaders.

Reseal all open lap seams.

Reseal all deteriorated perimeter flashings.

Cut back tree limbs that overhang onto the roofs.

Lag bolt the condenser units onto 4x4 pressure treated wood sleepers that sit perpendicular to the orientation of the condenser units for greater stability.

Some manufacturers offer a product to coat all the lap seams with a liquid flashing membrane that will extend the warranty an additional 5 years. This would be a good low cost upgrade to insure the ability of the roof to extend its protection from the elements.

Recommendations:

Long Term

Remove the roof in its entirety down to deck and replace with a new 20 year single ply membrane on 1/2" tapered insulation to increase water flow to the drains per Connecticut State law. Install a secondary drainage system per the current plumbing code. Provide 8" flashing heights at all roof to rising wall conditions to insure that the warranty includes all conditions on the job.