206 West Newberry Road, Bloomfield, CT 06002
One Gateway Center, Suite 701, Newton, MA 02458
CT: 860.286.9171 | MA: 617.658.9008 | www.bvhis.com

BUILDING ENVELOPE COMMISSIONING REPORT

Report Date	January 7, 2022
Project Name	Winooski School - Building Envelope Commissioning
Project Number	21-20-162
Date of Visit	January 4, 2022
Purpose	First Instance Tests - ASTM E 1186 (Fog Testing)

Note on Using This Report: In this report, specific items are identified for improvement. The items identified may be representative of trends or patterns in the installation that apply to the project at large, not just to the areas that were inspected. Lessons learned from quality assurance inspections must be applied not only to the inspected areas but to all similar areas in order to be effective.

Location:	Restroom A147
Location Description:	Newly installed curtain wall
Test Type:	Pressurized fog at 60+ pascals of pressure (impingement)
Results: We tested a new curtain wall placed into existing construction and found a small leak through a void in the caulking. Overall the curtain wall performed well. BVH spoke with SAG prior to leaving the job and they will address the void by using additional caulk.	

Curtain wall tested

Small void in caulking at corner of operable window

Location:	Restroom A147
Location Description:	Existing construction around new curtain wall
Test Type:	Pressurized fog at 60+ pascals of pressure (impingement)

Results: We found many leaks in the surrounding existing construction while we were testing the window. The drawings do not appear to call for additional sealant; however, BVH is not always up to date on the latest RFI/SKAs. BVH suggests sealing the leaks in the existing construction while access is still relatively easy. Leaks were found around the granite siding and underneath the sill flashing. We recommend caulk sealing the perimeter of the granite from outside to address these leaks. The head of the granite should seal to the underside of the sill flashing as well to address a large leak described further below. Adjacent to the curtain wall in the existing construction, there is a hole in the wood covering over a concrete column which leaked heavily. How will this be addressed here and at other areas?

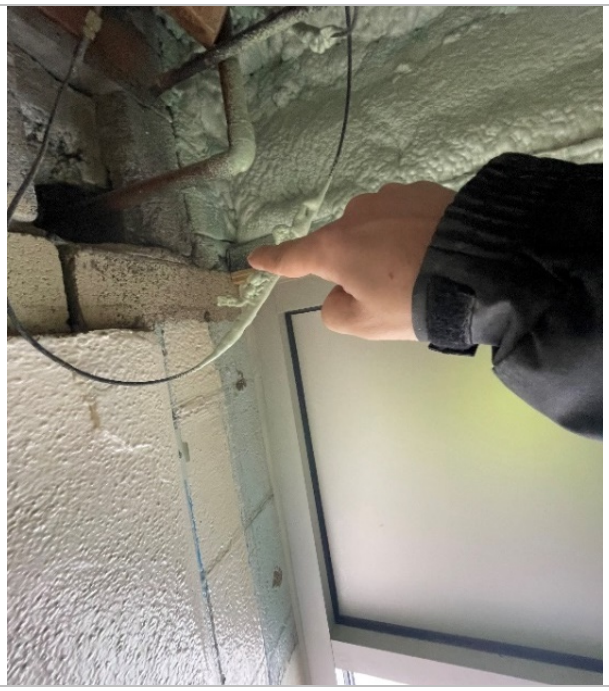
Curtain wall tested

Curtain wall tested

Hole in wood covering over concrete column. What is the plan for addressing this - can foam?

Break in the air seal along the granite transition. This transition leaked heavily.

Fog leaked heavily underneath the sill flashing. The sill flashing is sealed to the wood buck; however, the wood buck does not appear to be sealed to the exterior granite.



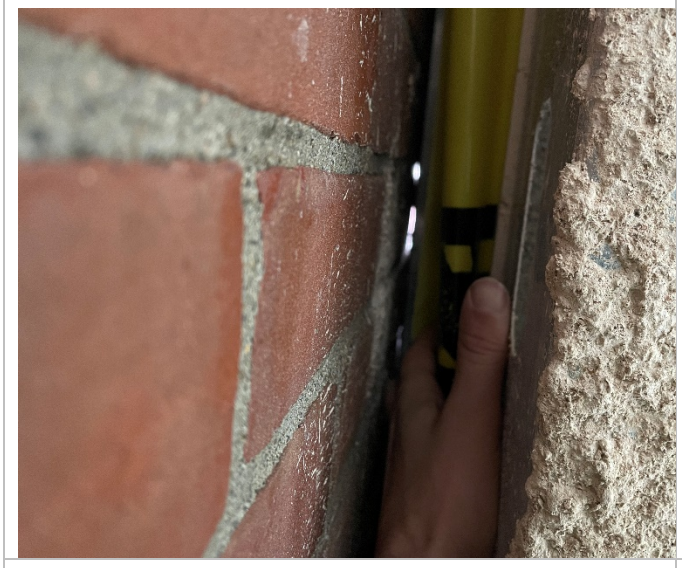
Heavy leakage at top corners of the curtain wall. From the right angle, daylight is visilbe through this. Caulk can be added from inside to the area pointed at above. Same leakage occurred at the opposite side of the head as well.

Location:	Intersection of Column Line A-V and A-42
Location Description:	Expansion joint
Test Type:	Pressurized fog at 60+ pascals of pressure (impingement)

Results: The Stego Wrap on the expansion joint we tested was not sealed to the brick. An exterior cover is blocking from the outside; the only access appears to be from the inside unless the cover is removed. Sealing the Stego Wrap to the brick with caulk/DensDefy Liquid Sealant should address the leaks.

Location of expansion joint tested

Location of expansion joint tested

	
Daylight can be seen shining through where the Stego Wrap is not sealed to the brick.	Fog can be seen leaking out heavily here. The roof-to-wall transition is not sealed yet either, which accounts for some of the air leakage above.

Location:	Area C West Elevation
Location Description:	Wall to foundation
Test Type:	Visual inspection

Results: DensDefy transition membrane is being used to seal the Stego Wrap vapor barrier to the DensElement sheathing. Overall the membrane is applied well, but there are a few un-adhered areas/fish-mouth openings. As construction progresses, ensure the top and bottom seams of the DensDefy transition membrane are sealed with liquid sealant to match the manufacturer's installation instructions. It should be noted that only a small percentage of the wall-to-foundation transition was started. As such, it was likely the plan to add additional sealant. This table is more of a reminder as to why it is important to add the sealant at the top and bottom seams of the transition membrane.

Transition membrane needs additional work as construction continues.

Location of visual inspection

Location:	Area C West Elevation
Location Description:	DensElement seams
Test Type:	Visual inspection

Results: We also looked at sealed joints in the DensElement. The majority are sealed well, but there are a few areas that appear to need additional sealant. The lettering on the DensElement sheathing is visible through some of the sealant, implying that the sealant is thin in some areas. BVH recommends inspecting the joints and adding additional sealant as needed.

DensElement applied thinnly. The arrow points to some lettering visible through the sealant.

Location of visual inspection

Location:	Area C West Elevation
Location Description:	Control joint
Test Type:	Visual inspection

Results: Overall the control joint is being air sealed well with liquid sealant and the transition membrane. BVH did observe one fish-mouth opening in a vertical seam which should have additional sealant added. BVH recommends inspecting the control joints as construction continues, looking for similar issues and address as needed.

Fish-mouth opening in control joint is circled above.

Location of visual inspection

Location:	Area C West Elevation
Location Description:	Window bucks
Test Type:	Visual inspection

Results: Overall the window seals look good; however, the sealant on the underside of the window bucks is thin in some areas. This is likely due to the difficulty of sealing the underside of the window bucks. BVH recommends inspecting the underside of the bucks, and if bare wood is visible, or the sealant is thin, apply additional sealant.

Sealant is thin beneath window bucks

Location of visual inspection

Please review and let me know if there are any questions.

Energetically yours,

BVH Integrated Services, Inc.

Quinn Treadgold

Quinn Treadgold
Building Envelope Services Provider

QT/kac