

## **Building Condition Assessment Update**

### **Building Information**

- **Name:** Norland Fire Hall – Station #17
- **Location:** Norland, Ontario
- **Type:** Fire Hall
- **Year Built:** 1973

### **Overview of Findings**

#### **Exterior Envelope**

- **Key Findings:**
  - Replace all elements of the roof superstructure with Code complying elements, which will eliminate the need for mold abatement/replacement of lower cords in the Fire Hall.
  - The failed vinyl siding must be replaced with stronger metal siding. Insulated metal panels could address both the failed siding and insulation deficiencies.
  - Windows do not need to be replaced.
  - Doors do not need to be replaced.
- **Recommendations:**
  - Replace roof
  - Install flashings
  - Clean and/or replace wood trusses
  - Install vapour barrier
  - Replace vinyl siding

#### **Site Grading and Drainage**

- **Key Findings:**
  - In the spring water floods into the rear classroom and into the Fire Hall.
  - There are reports of large ponds on either side of the building and there are deep depressions in the pavement directly outside the overhead doors.
  - The lack of site drainage was exacerbated when the front of the site, which had been previously gravel, was paved. With the extremes of climate change the flooding of the site is going to increase.
- **Recommendations:**
  - It is strongly recommended that a Storm Water Management Plan is completed before any other work is undertaken because the ramifications of the plan may render improvements to the current structure unfeasible.

#### **Mold Remediation**

- **Key Findings:**
  - A Mold Assessment Report was undertaken by Cambium Inc. in April 2023.

- **Recommendations:**

- Abatement replacement of insulation to be Code compliant resulting in new ridge venting baffles and increase in member depth over exterior wall
- Additional mold sampling should be undertaken in the walk-in fire-suit storage closet off the classroom.

## Cost Estimates

- **Summary of Estimated Costs:**

Complete by 2025

- Roof replacement - \$195,000
- Vinyl siding - \$45,000
- Abatement – TBD

Complete within 5 Years

- Repair cracks in the concrete slab - \$5,000
- Localize block stitching in the wall - \$5,000
- Weather stripping on overhead doors - \$1,000

Complete within 6 – 10 Years

- Vinyl sliders around windows - \$8,000
- Exterior man doors - \$6,000

## Conclusion

The cost of the priority work on the building is estimated to be \$324,000 (site servicing, taxes and professional fees not included), or about 50% of the cost of a new Code compliant building. Abatement costs TBD.

There are additional concerns that the estimated priority work on the Fire Hall would require a minimum of a 9-month shutdown and all fire services will require relocation.

Major alterations trigger OBC code compliance. It is felt the extent of the work required on a priority basis will trigger OBC Code compliance.

Therefore, it is recommended that no decisions about work on this property be undertaken until Storm Water Management and Septic/Sanitary Reports are complete. It is also recommended that once these reports are complete the City undertake a feasibility study to compare improving the current property with the building of a new fire hall on another site potentially owned by the City.

## Building Information

- **Name:** Kinmount Fire Hall – Station #18
- **Location:** Kinmount, Ontario
- **Type:** Fire Hall
- **Year Built:** Not Known

## Overview of Findings

### Exterior Envelope

- **Key Findings:**
  - The metal roofing is three years old and in good condition, having been replaced after the tornado in 2020.
  - The gypsum board ceiling appears to have been replaced or has had major repairs undertaken since the tornado in 2020. It is in very good condition.
  - Windows are past life expectancy but do not show signs of needing immediate replacement.
  - Doors do not need to be replaced.
- **Recommendations:**
  - Replace windows in the next five years.
  - Main entrance doors will need to be replaced in the next ten years.
  - Clean and/or replace wood trusses
  - Install vapour barrier
  - Replace vinyl siding

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  - It is strongly recommended that a Storm Water Management Plan is completed before any other work is undertaken because the ramifications of the plan may render improvements to the current structure unfeasible.

### Mold Remediation

- **Key Findings:**
  - A Mold Assessment Report was undertaken by Cambium Inc. in April 2023.
- **Recommendations:**

- Abatement replacement of insulation to be Code compliant resulting in new ridge venting baffles and increase in member depth over exterior wall
- Additional mold sampling should be undertaken in the walk-in fire-suit storage closet off the classroom.

## Cost Estimates

- **Summary of Estimated Costs:**

### Complete by 2025

- Replace downspout - \$2,000
- Investigating roof venting - \$10,000
- Investigating flashing - \$16,000
- Seal flashings - \$3,000

### Complete within 5 Years

- Install code compliant venting in the attic - \$20,000
- Install flashing and counter flashing on exterior walls - \$20,000
- Replace Hall windows and flashing - \$20,000

### Complete within 6 – 10 Years

- Replace Classroom windows - \$30,000

## Conclusion

The cost of the priority work on the building is estimated to be \$31,000. Storm Water Management Plan should be completed before any other site work is completed.

## Building Information

- **Name:** Lindsay Old Jail Museum
- **Location:** Lindsay, Ontario
- **Type:**
- **Year Built:** 1863

## Overview of Findings

### Water Ingress

- **Key Findings:**
  - Water has been able to enter the building both through the basement foundations and openings, and penetrated localized areas of the building envelope in the upper floors.
  - For the basement ingress, the most significant causes are deficiencies in the site grading and storm management.
  - The water penetrations at the upper levels appear to be the result of multiple causes: failing sealants and poor flashing details at parapets, chimneys, and roof joints and failed mortar joints.
- **Recommendations:**
  - Revise/modify grading and storm drainage.
  - Install sealant at failed locations at the roof and parapet.

### Exterior Walls and Foundation

- **Key Findings:**
  - The stone of the exterior walls are in fair to good condition but the mortar joints are showing various amounts of deterioration and failure.
  - All limestone windowsills are systematically failing.
  - The open masonry joints and localized missing stones have allowed bats and rodents to enter the wall cavities and interior of the building.
- **Recommendations:**
  - Infill depressions in landscape and regrade to ensure positive water drainage away from the foundation wall.
  - Reroute or add RWL extensions.
  - Investigate existence of drain at North Cell Block Basement Door Stairwell, or if it is blocked by debris. Unblock existing drain or provide new drainage system.

### Roofs and Flashing

- **Key Findings:**
  - The sloped roofing of the Old Gaol, South Wing and North Wing are all in good condition.
  - The flat roof of the Old Gaol is also in fair condition.

- The assumed cause of much of the water ingress issues is the installation detail of step flashing/counter flashing where these roof systems meet the adjacent masonry walls and chimney.
- The flat roof of the North Cellblock and Portico do not correspond to the other roof details but are prone to biological/vegetative growth due to their northern and sheltered locations.
- **Recommendations:**
  - Install temporary sealant at counterflashing for all roof masonry junctions to prevent water infiltration into the building.
  - Remove debris and vegetative growth from flat roofs.
  - Replace all sloped roof counter flashing with new.
  - Replacement of flat roofing system at Old Gaol
  - Replace flat roof systems for North Cell Block, Vestibule, and South Wing entry.

## Entry Portico and Stairs

- **Key Findings:**
  - The former wood portico was demolished and the associated concrete entry stair and landing are in very poor condition.
  - The wall and plinth coping/caps are significantly cracked.
  - The landing is in very poor condition.
- **Recommendations:**
  - Remove existing stair and landing and rebuild to match original finishing details.
  - Repoint 100% of the stone arch.
  - Complete stone Dutchmen repair at former portico beam locations.
  - Repair all anchor locations unless required for reconstruction of the portico.

## Windows

- **Key Findings:**
  - Old Gaol has three wooden windows that are in poor condition
  - Old Gaol windows at grade should be conserved as they may be original.
  - North Cellblock windows are functioning as intended but are in poor condition.
  - South Wing windows appear to be in good condition but weather stripping is stretched and out of shape.
- **Recommendations:**
  - Repaint exterior face of windows, replace deteriorating putty, undertake localized wood repairs.
  - Provide vented storm windows.
  - Replace perimeter sealant.
  - Replace North Cellblock windows with non-security windows.

## Parapets and Chimneys

- **Key Findings:**
  - The stone and mortar of the parapet is beginning to deteriorate due to its high exposure location.

- The step flashing/counter flashing at the roof connections is not inserted into a reglet but finished to the rusticated stone with sealant. This sealant is failing, allowing water ingress.
- Chimney 1 and 2 have deteriorating masonry units.
- Chimneys 1, 2, and 4 have failing parging.
- South Wing windows appear to be in good condition but weather stripping is stretched and out of shape.
- **Recommendations:**
  - Replace all flashing sealant.
  - Repoint all parapets in conjunction with the masonry wall conservation.
  - Install new counter flashing in reglet detail at all parapet/roof connections.
  - Install chimney flue protection to prevent access to birds and rodents.
  - Rebuild chimneys 1 and 2 and replace deteriorating masonry units.
  - Replace concrete parging on caps of Chimney 3 and 4.

## Site Drainage and Grading

- **Key Findings:**
  - Site drainage and grading appear to be the largest contributing factor to the water infiltration in the basement.
  - The landscape around the building is level or has a negative slope towards the building.
  - Surrounding concrete walkways or parking contribute to the surface water remaining at grade and migration back towards the building.
- **Recommendations:**
  - Investigate drainage at the bottom of the North Cell Block exterior stairs
  - Redirect water from rainwater leaders away from the foundation with splash pads and/or extensions.
  - Improve asphalt grading below the wood entry stair and ramp.
  - Clean out window wells to ensure proper drainage.
  - Undertake grading of site to ensure a positive slope away from the building.

## Interior Walls

- **Key Findings:**
  - In 'Display Room 204' there is significant damage to the existing plaster wall.
  - Wall finishes on ground floor display area range from good to poor condition.
  - The majority of the plaster has been removed from the east wall.
  - The gypsum wall board throughout the building is in fair condition.
  - The east wall of Day Room (6) 316 on the third floor is in very poor condition with water infiltration causing significant paint failure and brick deterioration.
- **Recommendations:**
  - Undertake localized repair at areas of plaster/paint deterioration.
  - Scrape/remove damaged paint of masonry surfaces.
  - Undertake repairs to basement finishes.

## Cost Estimates

- **Summary of Estimated Costs:**

Urgent Work - \$152,800

Work Completed within 2 Years - \$2,612,511

Work Completed within 5 Years - \$579,413

Work Completed with 10 Years - \$710,913

## Conclusion

The guiding principal for the work and the 3 Phases of Restoration/Renovation Projects to completed is derived from review of the Building Condition Assessment report completed for Building and Property by Stephen Burgess Architects Ltd. In 2021.

Building and Property also met with staff and completed their own internal review and measured findings on site in comparison with the BCA to help guide what work was priority and come up with a plan for getting the projects done to meet the approved budget and timeline.

<b>Phases of the Work</b>	<b>Expected Timeline</b>
Phase 1, Building Envelope Restoration, this includes Design Consultants work for preparation of Construction/Contract documents for the work in Phase 1	Start Q4 of 2023, substantial completion of construction by Q4 of 2025
Phase 2, HVAC and Mech. Renovation, this includes Design Consultants work for preparation of Construction/Contract documents for the work in Phase 1	Start Q2 of 2026, substantial completion of construction by Q4 of 2029
Phase 3, Electrical and Interior Renovation, this includes Design Consultants work for preparation of Construction/Contract documents for the work in Phase 1	Start Q2 of 2029, substantial completion of construction by Q4 of 2032