Town of Huntsville Staff Report

Meeting Date: September 28, 2022 **To:** Council

Report Number: OPS-2022-32 **Confidential:** No

Author(s): Tarmo Uukkivi, Director of Operations and Protective Services

Subject: Town of Huntsville Operation Centre - Madill - Building Condition Assessment

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Report Highlights

Presentation of the results of Council-approved building condition assessment for the Huntsville Operations Centre located at 169 Madill Church Road (Madill Yard). The building condition assessment report completed by Tulloch Engineering is attached to this report for reference.

Recommendation

For Information only.

Background

The Town of Huntsville owns a large yard and buildings, located at 169 Madill Church Road in Huntsville. The purpose of this facility is to provide an operations centre for the Town's Operations department including Roads, Parks, and Fleet Maintenance. The site provides storage for heavy equipment, operations vehicles, parks equipment, parks vehicles, salt, sand, and materials. The site also houses the offices of the Director, Operations and Protective Services, Manager of Operations, Manager of Parks and Cemeteries, Engineering, Town Fleet Co-ordinator, Roads Foreman and Lead Hands, as well, as Operations administrative support. The facility provides a start of shift point for the roads crews for all Town roads works, including winter snow removal. Mechanical support is provided from this facility by two mechanics with a multi-bay garage.

The Madill Operations Centre is a hub for all Town roads, parks, and cemeteries work that takes place.

<u>Engineering Assessment</u>

Staff engaged Tulloch engineering to conduct a building condition assessment of the Madill Operations Centre(RFP-2021-PW-10).

The inspection was carried out on March 24, 2022 by Tulloch EITs, Kevin Louch and Mack Barber. Tulloch Project number 21-1405 completed in May of 2022

Discussion

Overall Recommendation

Tulloch recommended the building for replacement. This recommendation was made citing the age and poor construction of the building. Tulloch also acknowledged that, at minimum, the service garages need replacing which would mean a full replacement of the roof. Given the extent of the work required, Tulloch recommended against the repairs identified and recommended replacement at an estimated cost of $8,340,000. This cost estimate does not take into consideration current market prices for design, contractors, and materials. This estimate includes only a replacement of the existing footprint with no consideration given to expanded or future service delivery. The replacement also does not consider the addition of other services or departments or additional meeting space for the Town.

It is important to note that Tulloch commented that the repair and deficiencies work would only delay the inevitable need for replacement that would be required in the next 10-15 years after the repair work.

Inspection Results - High Level Summary

The overall rating given to the condition of the building is fair-poor.

The Engineering assessment was divided into categories. Each category inspected was given a collective rating. Photographs were taken to demonstrate the deficiencies and areas of concern and included in the report. Any Significant Occupational Health and Safety concerns have already been addressed as at the time of publishing this report, e.g., tripping hazard identified as a result of the wear of the stairs to the second floor.

The categories and ratings were as follows:

1. Building Exterior - Fair
2. First Floor Offices - Fair
3. Locker Room/Lunchroom - Fair
4. Second Floor Offices - Good-Fair
5. Garage #1 - Fair-Poor
6. Garage #2 - Fair
7. Ontario Building Code - Poor

Cost Estimates based on the Recommendations in the Report

Tulloch provided cost estimates for the remedial work required to address the deficiencies noted in the recommendations section of their report. Costs were divided into two categories. The cost estimates are as follows:

Building Condition Assessment Repair of Existing Structure
Class D Estimate: $ 1,567,000

Ontario Building Code Upgrades
Class D Estimate: $ 546,000

The total estimated cost of repairs is $2,113,000. These costs do not include inflation and current market conditions for materials and contractors. Based on staff experience over the 6-month period preceding this report, these costs would likely be 10 to 20% higher given the current contracts being awarded for construction work. These costs also do not include applicable taxes.

This is simply work to repair the more significant deficiencies of the building and do not reflect what a full renovation and upgrade or what the replacement cost of the building would be.

Options

This report is for Council information only. Staff continue to work on options and recommendations for Council to consider with respect to the Huntsville Town Operation Centre.

Capital

No immediate capital implications if work is not undertaken to repair the deficiencies noted in the Tulloch building assessment report attached. Capital costs will continue to increase as the building continues aging and will need to be budgeted for to keep the building operational. There are no reliable cost estimates for the escalating capital costs other than the fact that these costs will eventually equal the estimated cost of the deficiencies work recommended by Tulloch Engineering ($2,113,000).

Replacement costs exceeding $10,000,000 would be anticipated if building replacement were considered by Council.

The Madill building replacement was included in the 2020 Capital plan presented to Council during the budget process, however, no specific funding plan has yet to be developed for this building.

In the 2021 budget $25,000 per year was included as part of the 5 year capital plan per year to fund general building upkeep and $100,000 for consulting to review needs and any necessary design work related to the Madill building which was funded through the Public Works Capital reserve fund which has generally been used to fund transportation infrastructure.

The capital reserve contribution for transportation is planned to increase annually to address the infrastructure deficit. The plan currently does not include adequate funding for the replacement of the Madill/OPS building. Further funding must be contemplated and included in future budgets if a replacement of the building is approved.

Operational

The impact of not completing the recommended work will likely result in increasing operating costs to maintain the facility in working condition over time. There are no reliable cost estimates for escalating operating costs.

Council Strategic Direction / Relevant Policies / Legislation / Resolutions

2.4 Roads and Infrastructure

2.4.3 Continuous Improvement

a. Goal: RdInf 3.1: Conduct an asset inventory of infrastructure and facilities and prepare a long-term management plan including disposition options where appropriate.

o. Goal: RdInf 3.15: Maintain an up to date facilities inventory and use that info to develop short-term development, reconstruction, and maintenance schedules and to inform long-term capital plans.

Attachments

21-1405 Huntsville Operation Centre BCA - DRAFT 05.03.22

Consultations

Denise Corry, CAO
Kevin Boucock, Operations Manager
Tulloch Engineering

Respectfully Submitted: Tarmo Uukkivi, Director of Operations and Protective Services

Manager Approval (if required): _____

Director Approval: _____

CAO Approval: Denise Corry, Chief Administrative Officer

BUILDING CONDITION ASSESSMENT

169 Madill Church Road, Huntsville Ontario

Huntsville Operation Centre

MAY 2022
TULLOCH Project #: 21-1405

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REPORT SUMMARY

Based on the information gathered on site and through correspondence with the Town of Huntsville, Tulloch Engineering Inc. (TULLOCH) has completed the following building condition assessment for the Huntsville Operation Centre located at 169 Madill Church Road Huntsville, Ontario. Below TULLOCH has summarized the building areas assessed with condition ratings and Class D cost estimates.

Building Areas:	**Condition Rating:**
1. Building Exterior	Fair
2. First Floor Offices	Fair
3. Locker and Lunchroom	Fair
4. Second Floor Offices	Good - Fair
5. Garage No. 1	Fair – Poor
6. Garage No. 2	Fair
7. Ontario Building Code	Poor

Recommendations/Cost Estimates:

Building Condition Assessment Repair of Existing Structure

Class D Estimate: $ 1,567,000

Ontario Building Code Upgrades

Class D Estimate: $ 546,000

1. INTRODUCTION

TULLOCH Engineering (TULLOCH) was engaged by The Town of Huntsville to carry out a visual inspection of the Huntsville Operation Centre building system located at 169 Madill Church Road Huntsville, Ontario.

The scope of work undertaken by TULLOCH included the visual inspection of all major exposed structural systems including but not limited to slabs, foundation walls, columns, beams, joists, and elements such as stairs, ramps, washrooms, etc., as well as performing a brief code compliance review of the building's accessibility. No destructive testing methods were carried out during our inspection. The purpose of the inspection and subsequent report is to provide a comprehensive review, describe the overall condition of the building to determine the maintenance, repairs, or replacements that are required, as well as improvements to bring the building into compliance with current Ontario Building Code requirements.

Note that existing buildings are not required to be brought up to current Building Code standards, however any remedial work performed must be Code compliant, unless remedial work is exempt from compliance by virtue of Part 11 of the Ontario Building Code.

This assessment does not wholly eliminate uncertainty regarding the potential for existing or future costs, hazards, or losses in connection with a property. No site inspections, physical or destructive testing and no design calculations have been performed unless specifically recorded hereon. We can perform further investigation on items of concern if so required.

2. INSPECTION

A visual inspection of the buildings exposed components was carried out by Mr. Kevin Louch, EIT and Mr. Mack Barber, EIT, on March 24, 2022. During the inspection, the building's structural components were visually inspected to identify areas of material deterioration or possible structural distress (movements or deflections). The building layout was measured and inspected to determine their current adequacy for accessibility with respect to the Ontario Building Code. The roof area was not able to be inspected as it was inaccessible during the site visit.

Note that not all areas of the building's foundation or concealed assemblies (walls and ceilings) were reviewed and only a representative sample at areas deemed to be suspect were reviewed.

Each building element has been categorized with one of the four qualitative terms for an overall condition rating; good, fair, poor, and critical. These condition ratings help determine what elements require repair or replacement and assist with determining timing of the work. Table 3 in Appendix A provides an outline on the definition of the four condition ratings.

The inspection of the Huntsville Operation Centre was carried out by TULLOCH in accordance with the requirements of the document "Professional Practice Bulletin – Structural Engineering Assessment of Existing Buildings", prepared by Professional Engineers Ontario, November 2016.

3. BUILDING DESCRIPTION

The building is a two story operational centre for the Town of Huntsville containing offices on the first and second floors, locker and lunchroom, and a service garage with four bays. The building has an approximate footprint of 6,200 ft². The structure has the following overall features of construction.

- Cast-in-place concrete foundation
- Cast-in-place concrete floor slab
- Steel framed interior support
- Concrete block load bearing walls
- Timber roof truss system
- Exterior finishes include steel siding and roofing
- Interior finishes include a combination of drywall ceiling and wall finish, interior of steel siding, and painted concrete block walls

For the purposes of this report, it is assumed that the side which contains the buildings main entrance is the east side of the structure. The building can be broken down into six (6) distinct areas with the following features of construction:

3.1 Building Exterior

- Metal siding
- Sloped metal roof
- Solar panels
- Garage doors
- Man doors
- Windows

3.2 First Floor Offices

- Approximately 800 ft², includes offices, and washrooms
- Typical drywall ceiling throughout
- Typical drywall wall construction
- Building main entrance
- Vinyl plank floor

3.3 Locker and Lunchroom

- Approximately 900 ft², includes a combined locker and lunchroom area, one office, and hallways connecting the garage, First Floor Offices and the Second Floor Offices together
- Painted concrete slab floor
- Vinyl tile floor
- Typical drywall wall construction
- Concrete block wall
- Building side entrance

3.4 Second Floor Offices

- Approximately 900 ft², includes second floor offices above the Locker and Lunchroom area.
- Vinyl tile floor
- Typical drywall wall and ceiling construction
- Attic access

3.5 Garage No. 1

- Approximately 1,100 ft²
- Concrete floor slab
- Concrete block walls
- Typical drywall ceiling
- Plywood partition walls
- Garage door
- Building side entrance
- Engineered timber truss system
- Garage bay 1

3.6 Garage No. 2

- Approximately 3,000 ft²
- Concrete floor slab
- Steel structural frame
- Blanket roof insulation
- Concrete block half walls
- Engineered timber truss system
- Garage bay 2, 3, and 4

Note that access was not available to all areas of the building's structure. Areas that were covered with finishes or were obstructed by stored materials, permanent furnishings or coverings were not inspected.

4. OBSERVATIONS

During the visual inspection of the building components a number of defects were observed and noted. Provided in Appendix B is a key plan showing the locations of major structural or building envelope damages observed throughout our inspection. A summary of these observations is listed below:

4.1 Building Exterior

Condition Rating: Fair

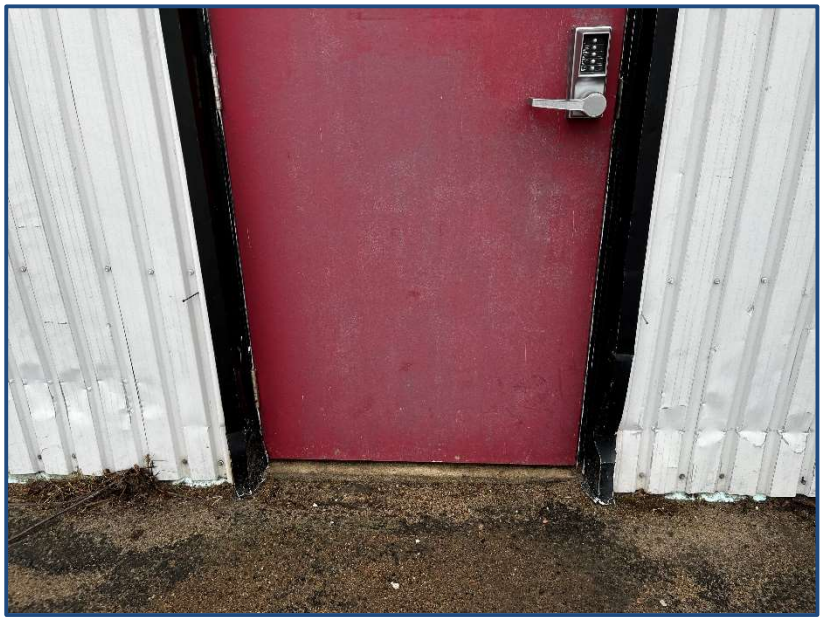
1. Impact damage to the structures metal siding and garage door frames. Areas of exposed and wet insulation at impact damage to siding.

Picture 1: Impact Damage to Siding and Garage Door Frame – Southwest Corner

Picture 2: Impact Damage to Garage Door Frame

Picture 3: Impact Damage to Siding of First Floor Offices

Picture 4: Impact Damage to North Siding of Garage No. 2



Picture 5: Damaged Siding at Main Entrance

2. Roof drain eroding asphalt and gravel beneath the building's south wall. Erosion depth 9" below grade. Northwest eavestrough downspout crushed from tire leaning on it, flow limited.

Picture 6: Roof Drain Eroding Asphalt

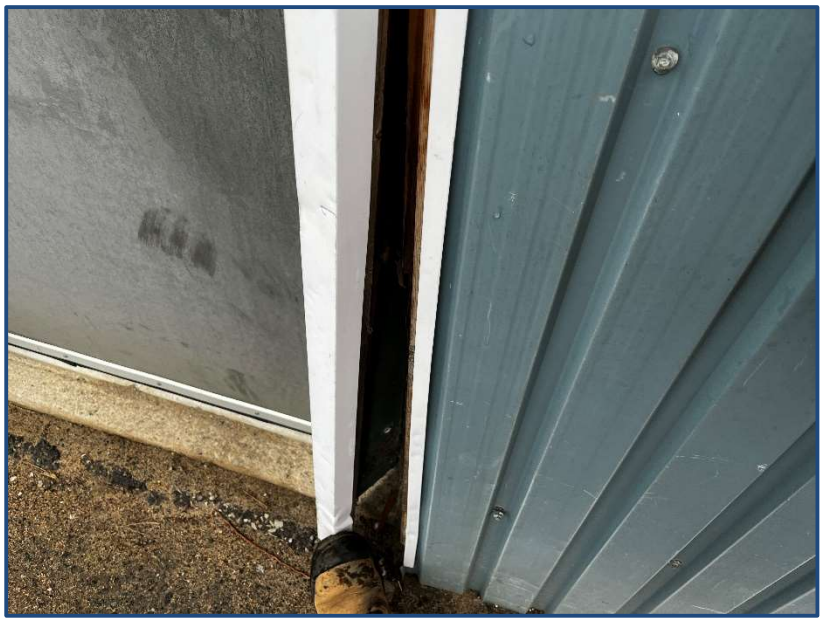
Picture 7: Northwest Crushed Eavestrough Downspout

3. Damaged canopy over the south man door entrance. North side entrance canopy in poor condition. Light corrosion of steel structure, steel connections secured by only tack welds, and canopy to building connections made with only one bolt per connection point.

Picture 8: Damaged South Entrance Canopy

Picture 9: North Garage Side Entrance Canopy

4. Damaged south office man door entrance flashing. Separation of the flashing from the door frame.



Picture 10: South Office Man Door Entrance – Flashing Separation

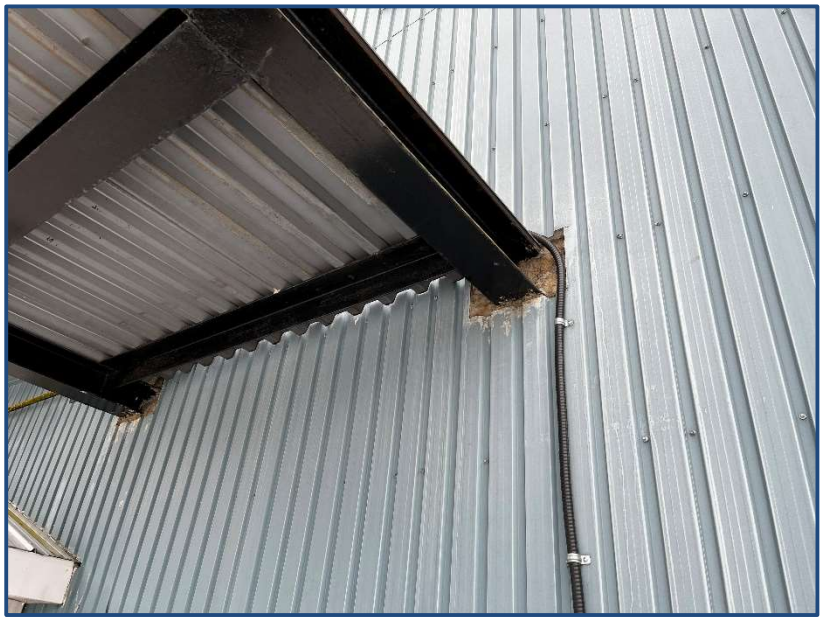
5. First floor office's eavestrough system damaged from ice sliding. Reported by Huntsville operation Centre employee that all eavestrough installed on First Floor Offices get damaged in the same manner.

Picture 11: Damaged Eavestrough on First Floor Offices

6. Failed caulking around window of First Floor Office section.

Picture 12: Failed and Cracked Caulking on First Floor Offices Windows

7. Siding cut out for heating unit steel support beams, insulation exposed and wet.



Picture 13: Metal Siding Cut for Heating Unit's Steel Structure

8. Garage No. 1 north side entrance approximately 1 ft below grade, a Huntsville Operation Centre employee notes that flooding of Garage No. 1 occurs every spring through this door. The parking lot slopes towards building, funneling water towards this side entrance.

Picture 14: North Garage Side Entrance Below Grade – Watering Pooling at Entrance

9. Damage to the garage door frame at Garage No. 2's north garage door.

Picture 15: North Garage Door – Damage to Top Left of the Doors Frame

10. Corrosion on metal roof of Garage No. 2.

Picture 16: Corroded Metal Roof Panels

4.2 First Floor Offices

Condition Rating: Fair

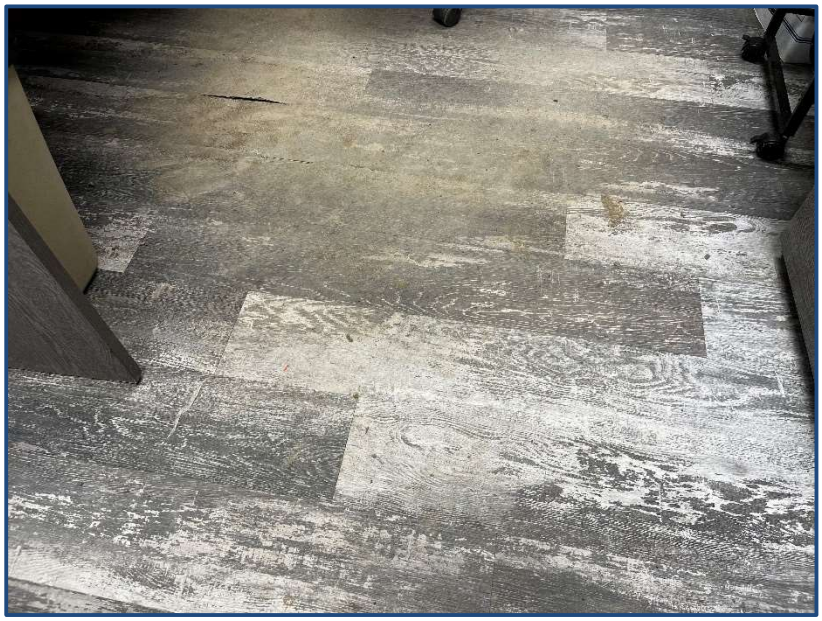
1. Crack in ceiling paint in the men's washroom, likely caused by moisture.

Picture 17: Crack in Men's Washroom Ceiling Paint

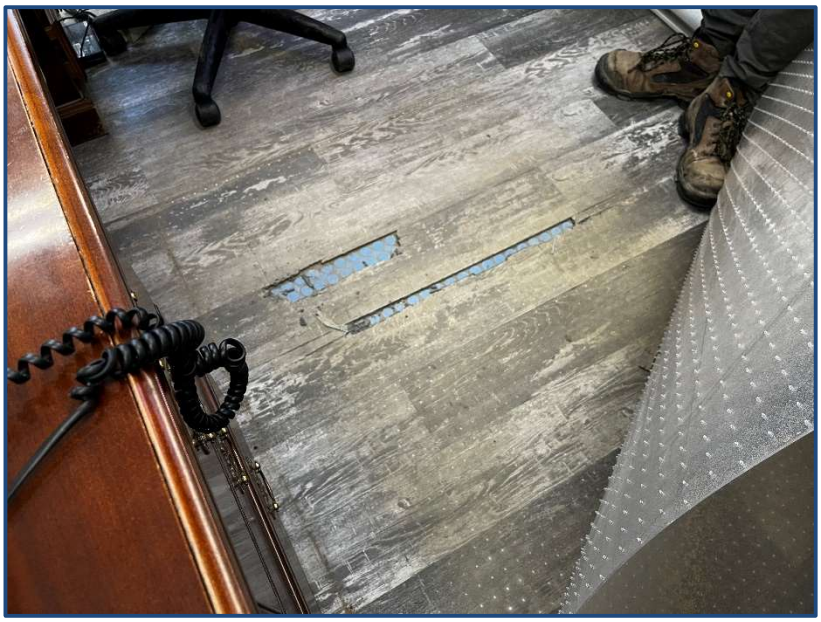
2. Paint bubbling above heater in northeast office, likely caused by moisture.

Picture 18: Paint Bubbling above Heater

3. Vinyl plank flooring damaged in offices beneath desk areas.



Picture 19: Damaged Vinyl Plank Flooring – Southeast Office



Picture 20: Damaged Vinyl Plank Flooring – Northeast Office

4. Moisture staining on timber truss above office area. The attic has poor insulation spread of batt insulation. Limited inspection of attic space.

Picture 21: Moisture Staining on First Floor Office Trusses

Picture 22: Poor Insulation Spread in First Floor Office Attic

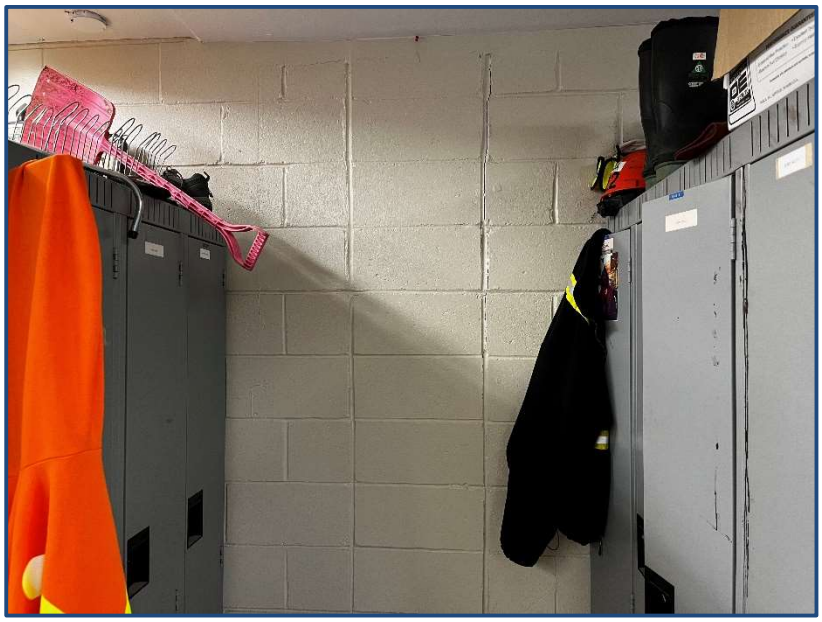
4.3 Locker and Lunchroom

Condition Rating: Fair

1. Jack post located in the lunchroom supporting the Second Floor Offices. The jack post is believed by the employees to be original to the structure.

Picture 23: Jack Post in Centre of Lunchroom

2. Separation of the concrete block wall and column along the west wall of the lunchroom. Step cracking above window in the north wall of the lunchroom. Indicates movement of structure.



Picture 24: Separation of Concrete Block Wall and Column

Picture 25: Step Cracking in North Concrete Block Wall

3. Cracking in drywall above interior door frame in northeast corner of the lunchroom. Water damage at base of drywall by the south man door side entrance. Indicates movement of structure.

Picture 26: Cracking of Drywall above Interior Door Frame

Picture 27: Water Damage at Drywall Base – South Man Door Entrance

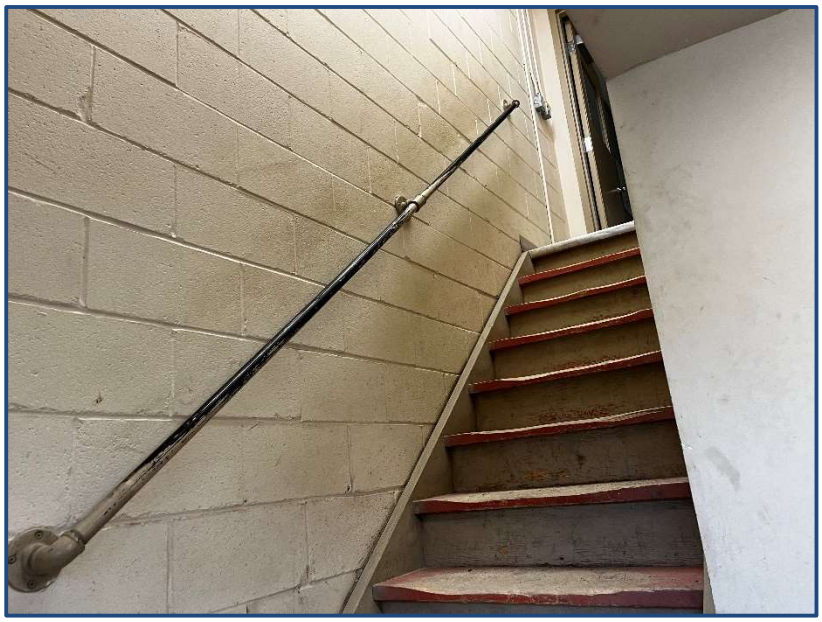
4. Non covered air vent present in Lunchroom ceiling.

Picture 28: Air Vent Missing Cover – Lunchroom

5. Minor drywall cracking above exit sign. Door closer is broken, causing the door to slam shut upon release.

Picture 29: Minor Drywall Cracking and Broken Door Closer

6. The staircase from the first floor to the Second Floor Offices has severe wear and rutting on the travel path. The wear is posing a significant tripping hazard on the staircase.



Picture 30: Severe Wear of the Stair Treads

4.4 Second Floor Offices

Condition Rating: Good – Fair

1. Wear of vinyl tiles at stairwell to the offices on the second floor.

Picture 31: Wear of Vinyl Floor Tiles

2. Water damage to ceiling adjacent to light, near staircase.

Picture 32: Water Damage to Ceiling

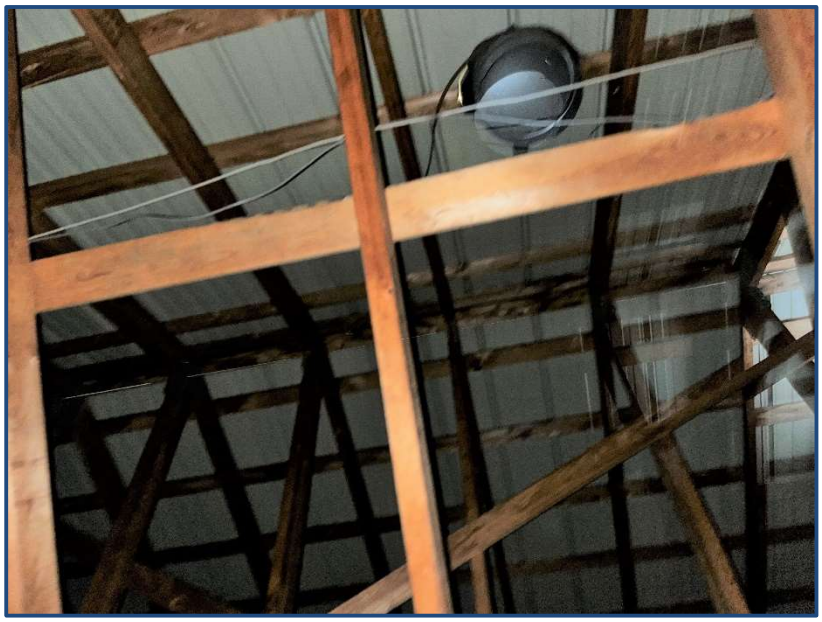
3. Window on north wall of the Second Floor Offices is cracked.

Picture 33: Cracked Window on North Wall of Second Floor Office

4. Narrow step cracking in east concrete block wall of the Second Floor Offices.

Picture 34: Narrow Step Cracking in Concrete Block Wall – East Wall

5. Localized water staining on roof trusses in the attic of the Second Floor Offices. Limited inspection of attic area.



Picture 35: Localized Water Staining in Second Floor Attic

6. The hallway has an area that has settled approximately 1” with respect to the flooring surrounding. The employees say that this area use to be a stairwell and has since been covered. Likely infill framing is insufficiently constructed.

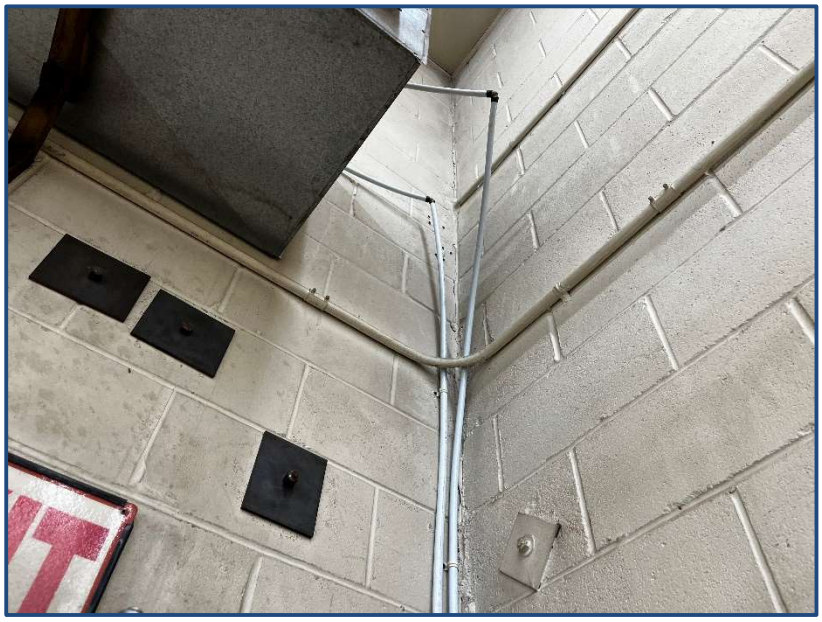
7. The HVAC duct from the exterior heating unit that enters the building in the second floor southeast office has been punctured by the employees of the Huntsville Operation Centre to provide heating to this area of the building.

4.5 Garage No. 1

Condition Rating: Fair – Poor

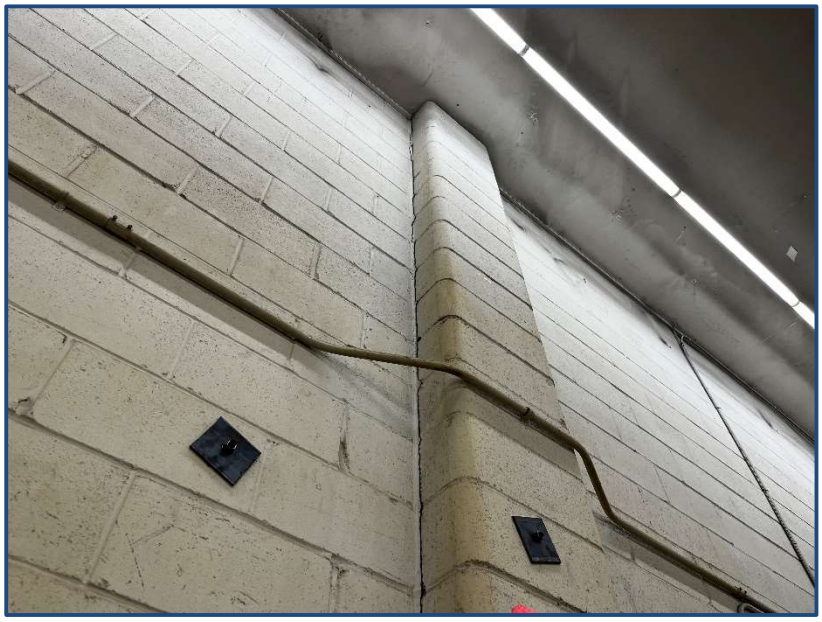
1. Narrow step cracking above the door between Garage No. 1 and No. 2. Medium to wide cracking in block wall directly south of doorway. The concrete block wall has a full height medium to wide crack at the northeast and southeast corners. Wide separation of the concrete block wall and block column along the east wall of the Garage No. 1. Step cracking in the block wall above two interior man doors along the east wall. Wide man-made cuts in the southeast corner of the concrete block wall, the purpose for the cuts is unknown.

Picture 36: Cracking in Block Wall between Garage No. 1 and No. 2



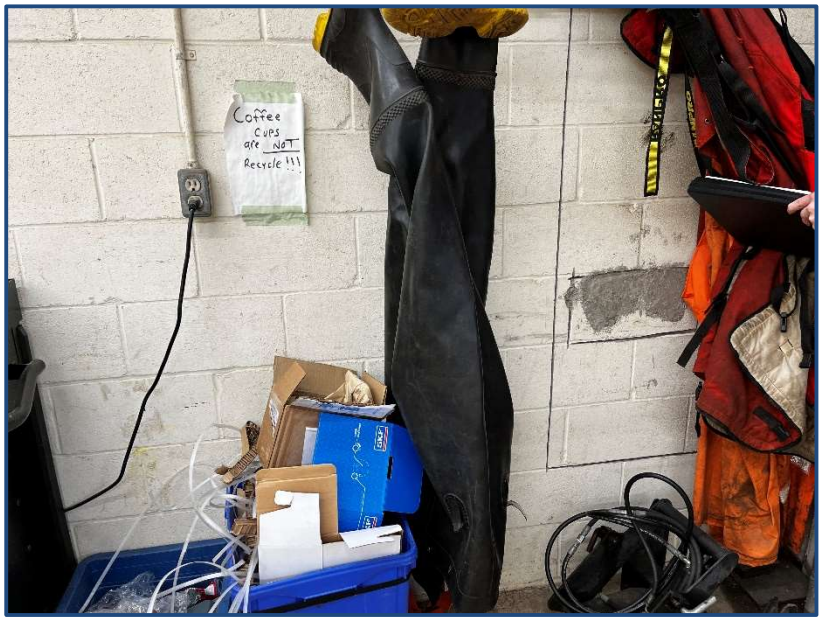
Picture 37: Cracking at Northeast Corner of Garage Block Wall

Picture 38: Cracking at Southeast Corner of Garage Block Wall



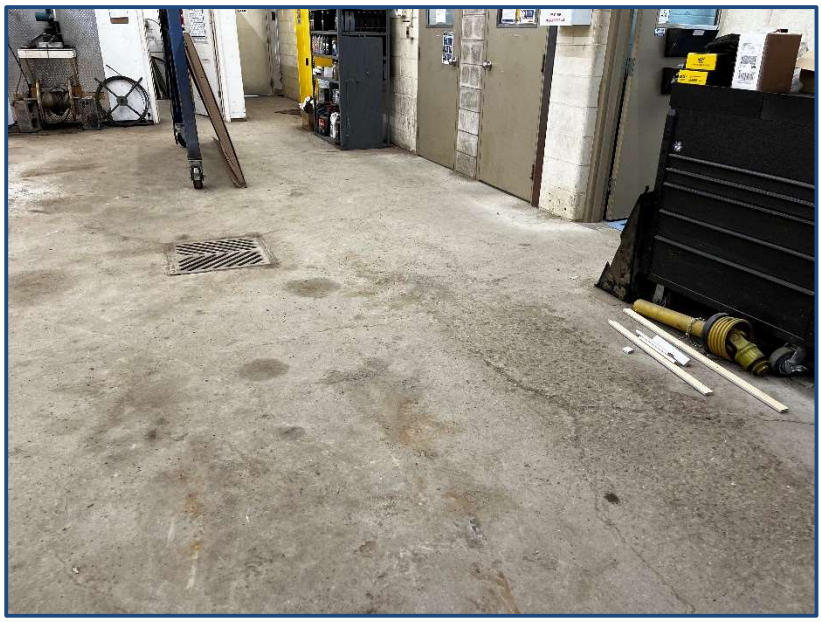
Picture 39: Full Height Wide Separation of Block Wall and Column

Picture 40: Step Cracking Above the Man Doors on the East Wall



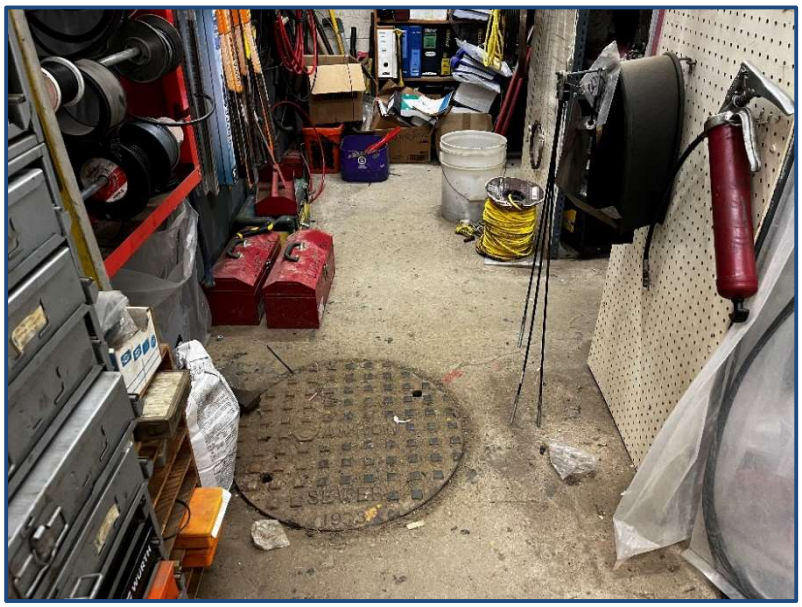
Picture 41: Wide Cuts in the Southeast Corner of Garage No. 1

2. Map cracking and general wear damage in the concrete floor slab noted throughout. Areas of increase slab deterioration from wear located at the garage door entrance.



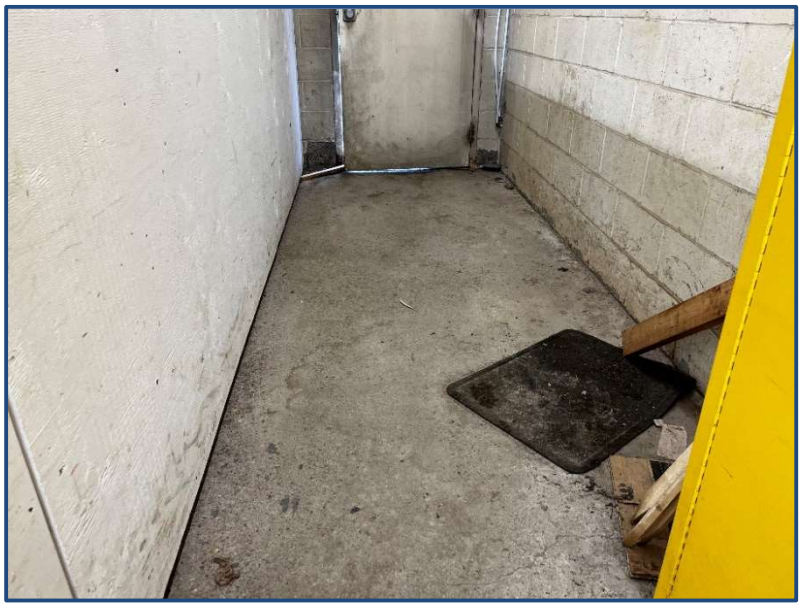
Picture 42: Garage No. 1 Concrete Slab – Map Cracking and Wear by Garage Door

3. Odour of sewage in garage bay, originating from two sanitary sewer access point located within garage floor slab. Health and Safety Concern.



Picture 43: Sanitary Sewer Access Point within Garage No. 1

4. Significant water damage noted at base of concrete block and plywood walls in north section. Employees of the Huntsville Operation Centre have noted that the garage bay floods annually during the spring thaw or after heavy rainfall events. The water entering through the north exterior man door and flooding the entire bay, with the drainage system in the floor being inadequate to remove the water.

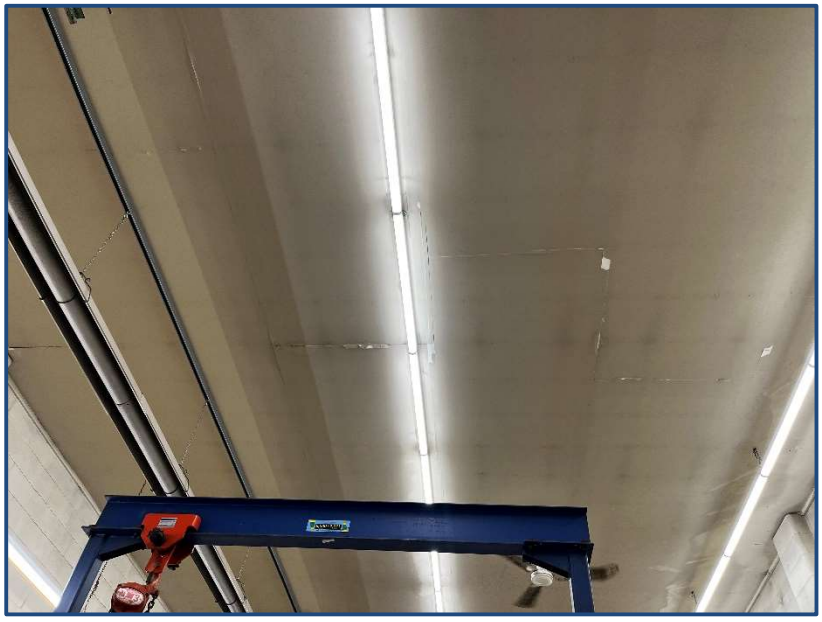


Picture 44: Water Damaged Wall Section in Garage No. 1

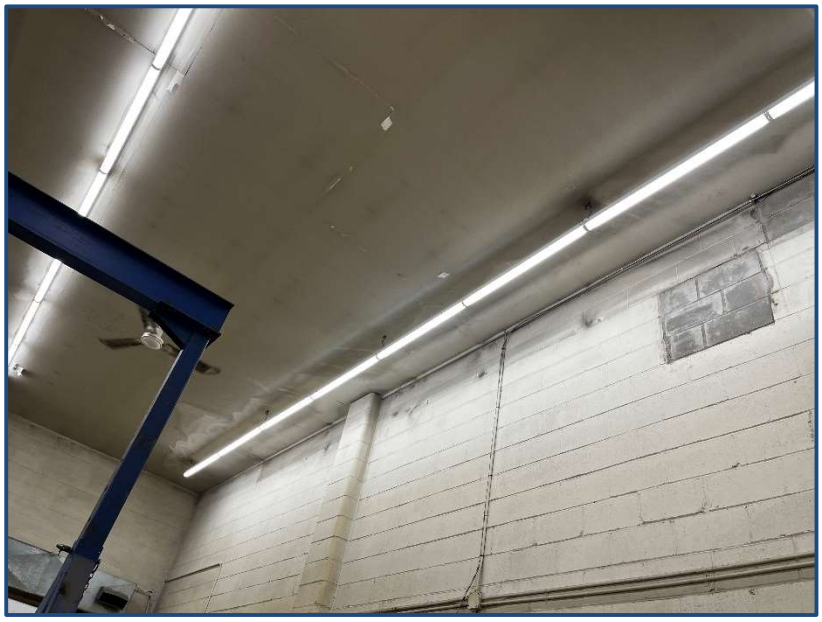
5. The bottom 6 inches of the North exterior man door is corroded.

Picture 45: Corroded Steel Door Frame of North Man Door

6. Water damage of drywall ceiling and top of the concrete block wall. Ceiling was recently replaced with new drywall and has new water damage. East concrete block wall has most significant water damage at its top two courses.



Picture 46: Water Damaged Drywall Ceiling

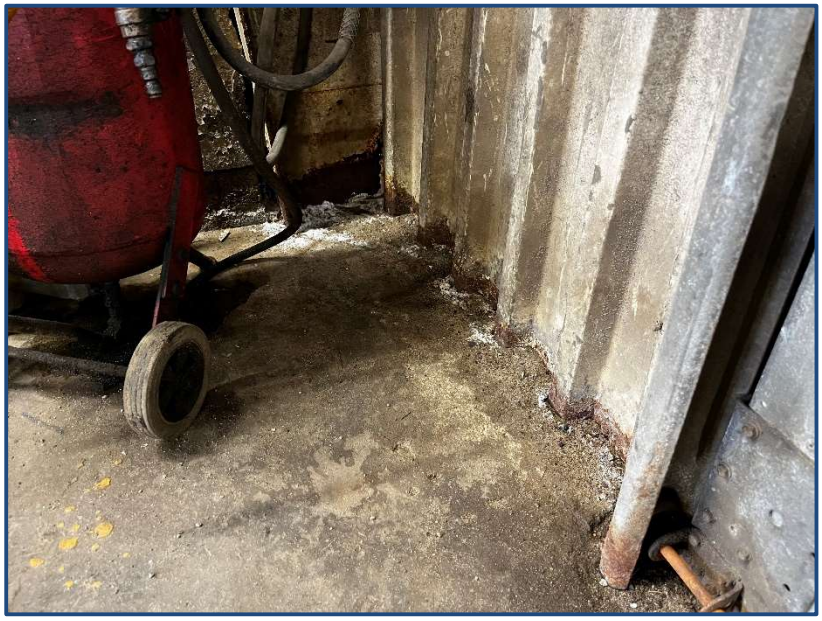


Picture 47: Water Damage at the Top of the East Concrete Block Wall

4.6 Garage No. 2

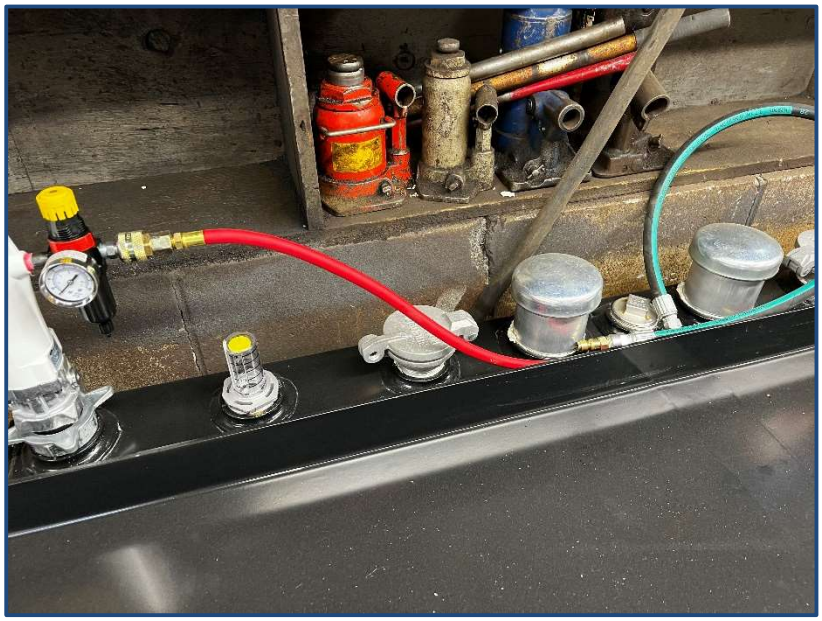
Condition Rating: Fair

1. Corrosion at base of exposed metal siding.

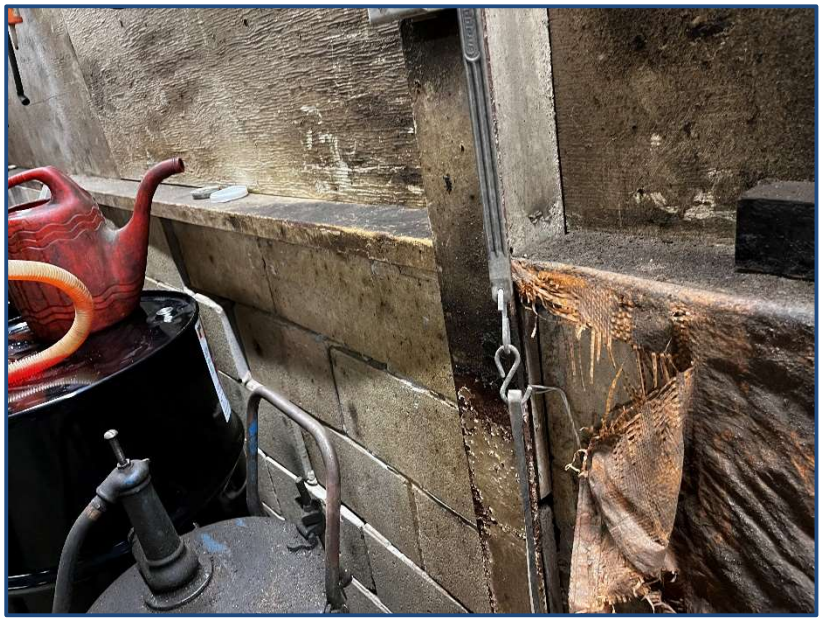


Picture 48: Corroded Metal Siding – Interior of Garage No. 2

2. Crack in concrete block half wall along garage's north wall. Impact damage to concrete block wall and step cracking of the walls mortar. Painting peeling and light corrosion of steel column.

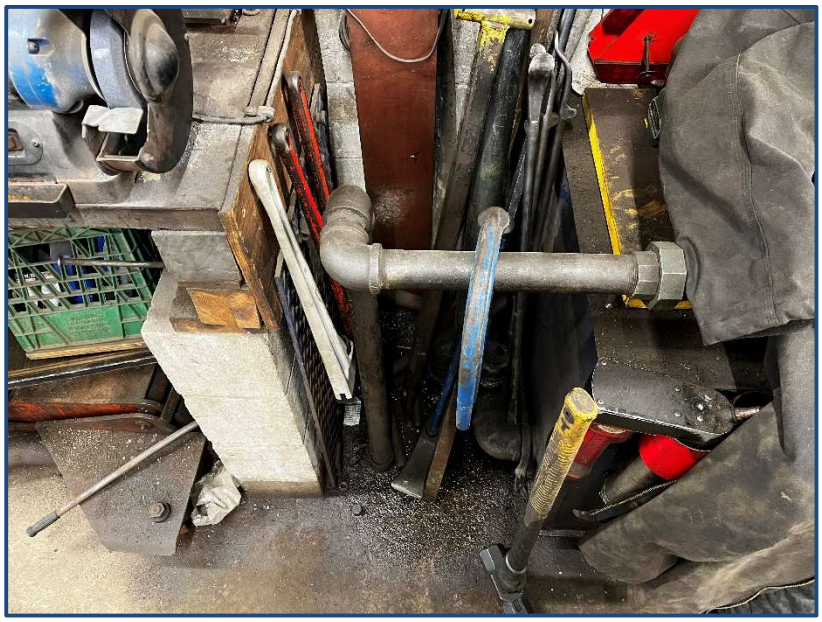


Picture 49: Crack in Concrete Block Half Wall behind Oil Storage Container



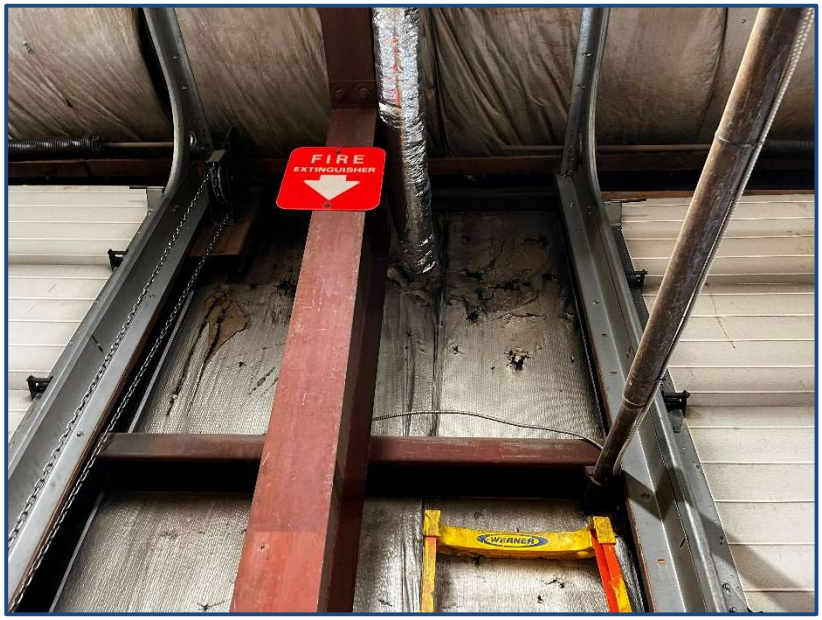
Picture 50: Impact Damage to Concrete Block Wall and Corrosion of Steel Column

3. Moisture and water leakage at base of north column. Water leakage suspected to be occurring through wall.



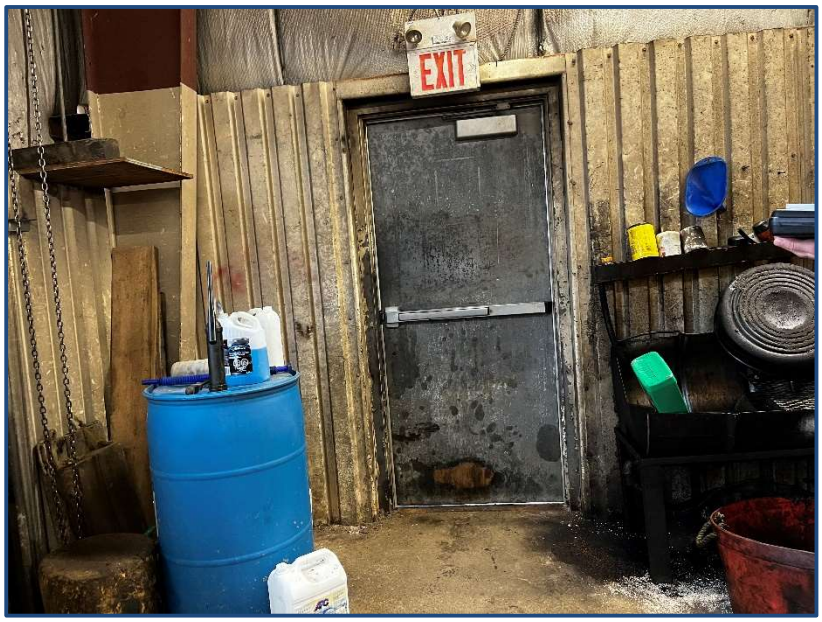
Picture 51: Water Leakage through Garage North Wall

4. Damage to the wall insulation blanket along the south wall of Garage No. 2 at ventilation duct.



Picture 52: Torn Insulation along South Wall of Garage No. 2

5. Paint flaking and peeling on door and surrounding flashing and siding.

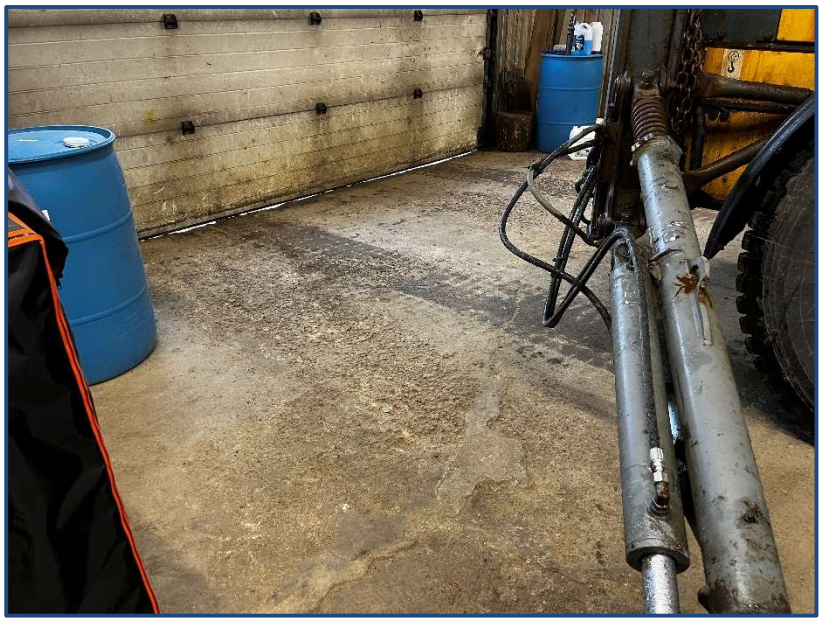


Picture 53: Outdated Emergency Exit Signage at Garage Rear Entrance

6. The bottom two concrete block courses of the west half wall have severe degradation of the concrete. Paint peeling along the base of the wall.

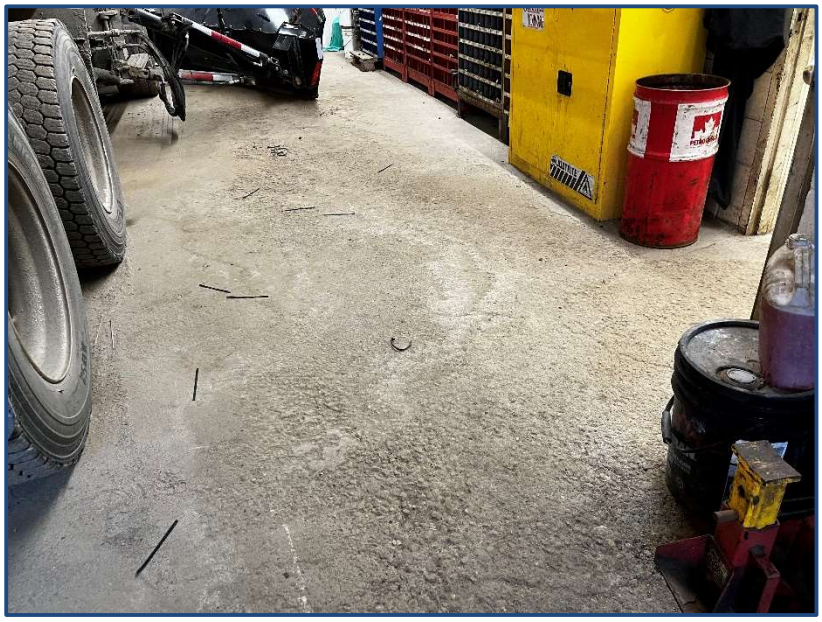
Picture 54: Degradation of the Concrete Block Wall

7. General wear of the concrete slab throughout, increased wear at the garage door entrances.



Picture 55: Wearing of Concrete Slab in Garage No. 2 by Garage Door 4

Picture 56: Wearing of Concrete Slab in Garage No. 2 by Garage Door 3

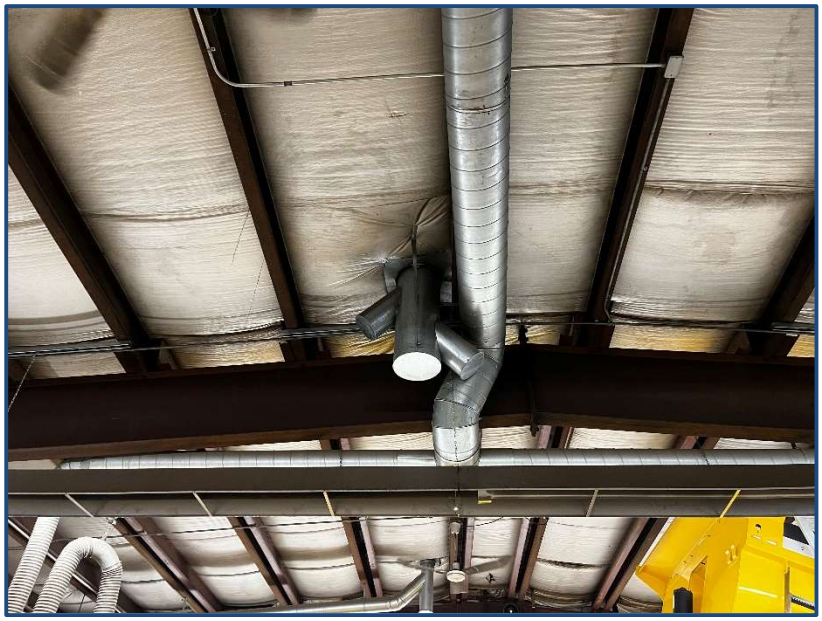


Picture 57: Concrete Slab Degradation at East Wall of Garage No. 2

8. The timber strapping along the north wall of Garage No. 2 has rotted. The insulation blankets on the north side of the garage are sagging, demonstrating that they are currently or have in the past held weight, this is most commonly associated with water leakage through the roof.

Picture 58: Rotting Timber 1x4 Plank and Sagging Insulation

9. The roof above the centre of bay 3 in Garage No. 2 is known by employees of the Huntsville Operation Centre to have severe leaks during rain events or spring melt. Steel roof beam noted to have light corrosion in leakage area designated by the employees. Old ventilation connection within the area suspected to have poor seal with exterior roof causing the leakage.



Picture 59: Area of Severe Roof Leakage in Garage No. 2

10. Paint flaking and pealing on the western wall steel columns. West columns have light corrosion noted throughout.

Picture 60: Light Corrosion of West Wall Column

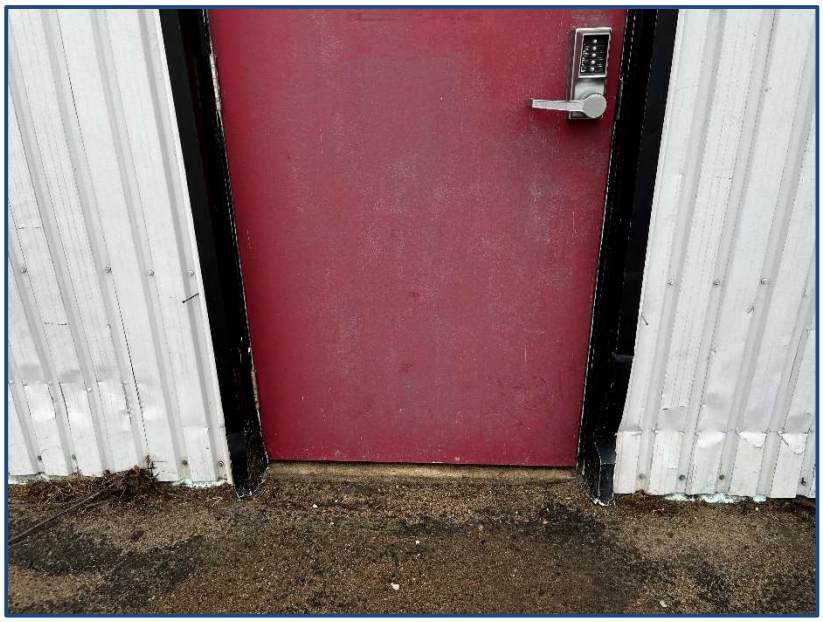
11. Rotation of the roof beam at the beam-column connection in the southwest corner of the Huntsville Operation Centre. Structural capacity assessment has not been completed on the remaining capacity of the beam.

Picture 61: Rotated Steel Beam at Southwest Corner of Huntsville Operations Centre

4.7 Ontario Building Code

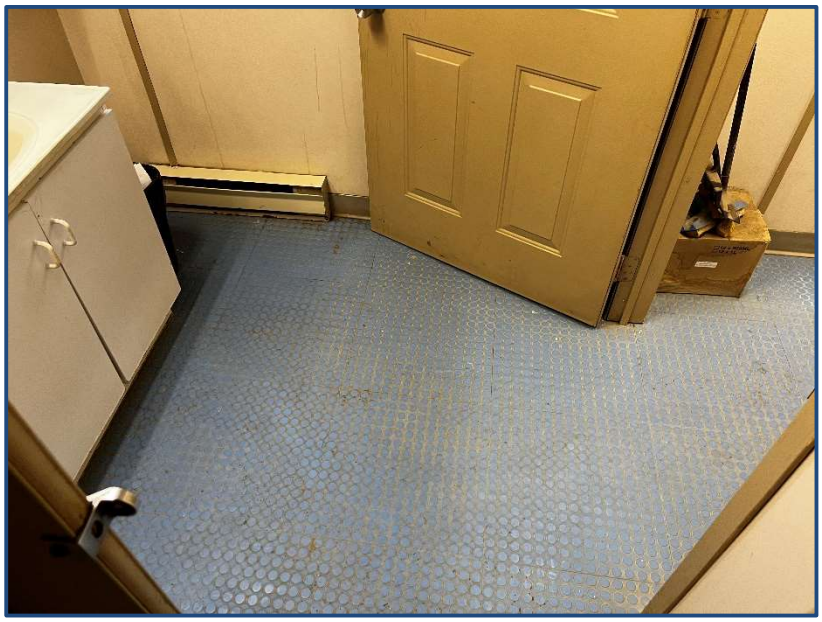
Condition Rating: Poor

1. No wheelchair access at public entrance to the Huntsville Operation Centre, 2” concrete step grade and no automatic door opener.

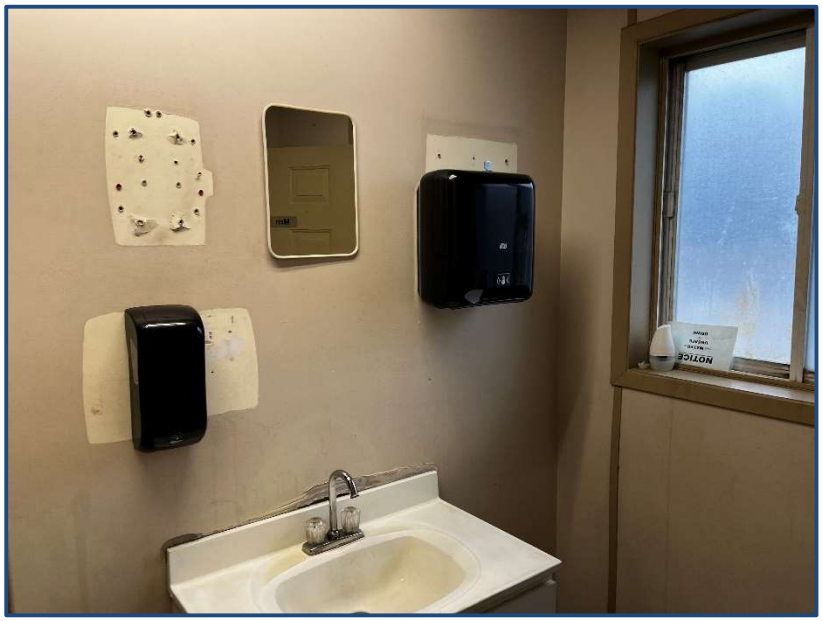


Picture 62: Concrete Step and No Automatic Door Opener at Main Entrance

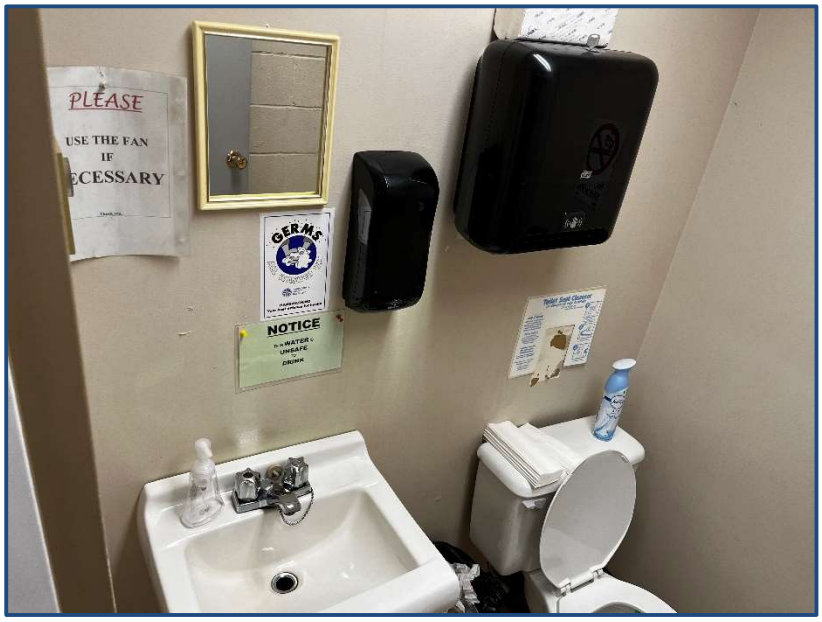
2. Men's and Women's washrooms lack accessibility. Neither have sufficient turning radius, accessible soap or paper towel dispensers, accessible washbasin, grab bars, or automatic door openers.



Picture 63: Insufficient Turning Radius in Men's Washroom



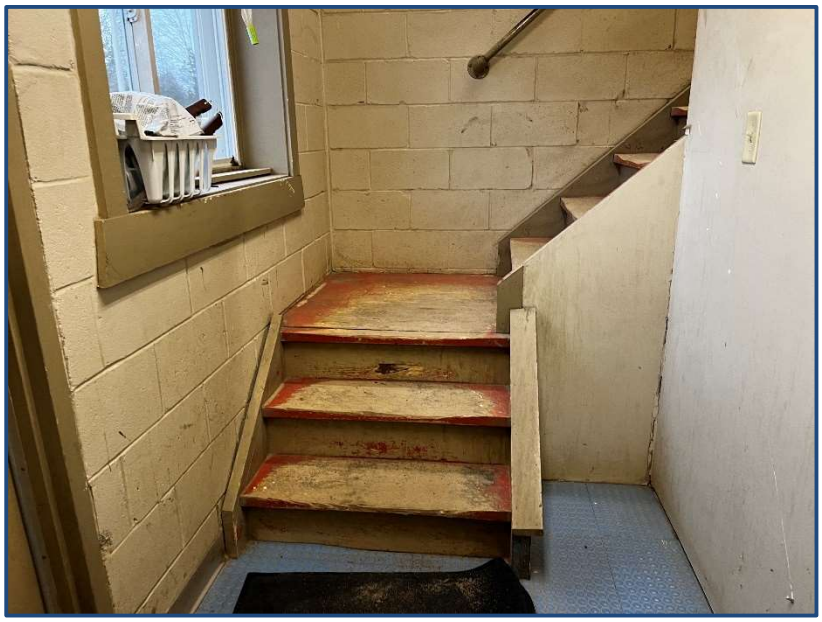
Picture 64: Inaccessible Soap and Paper Towel Dispensers in Men's Washroom



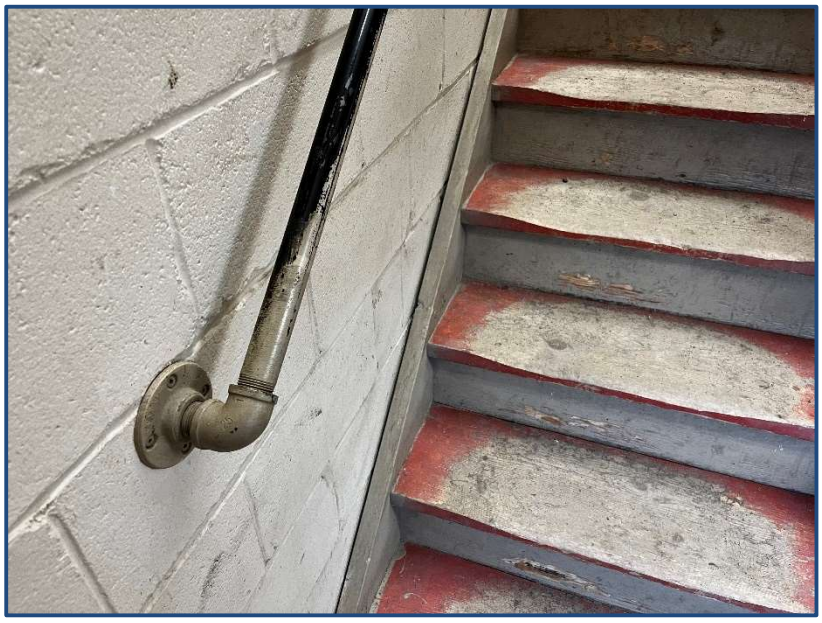
Picture 65: Inaccessible Soap and Paper Towel Dispensers in Women's Washroom

Picture 66: Lack of Toilet Grab Bar Women's Washroom

3. Handrail provided does not run full length of the stairwell, starting at the top of the first landing. The handrail is connected to the wall in a manner that prevents the railing from being graspable along its entire length, as is required by the current Ontario Building Code.



Picture 67: Staircase Base and Landing – Termination of Handrail

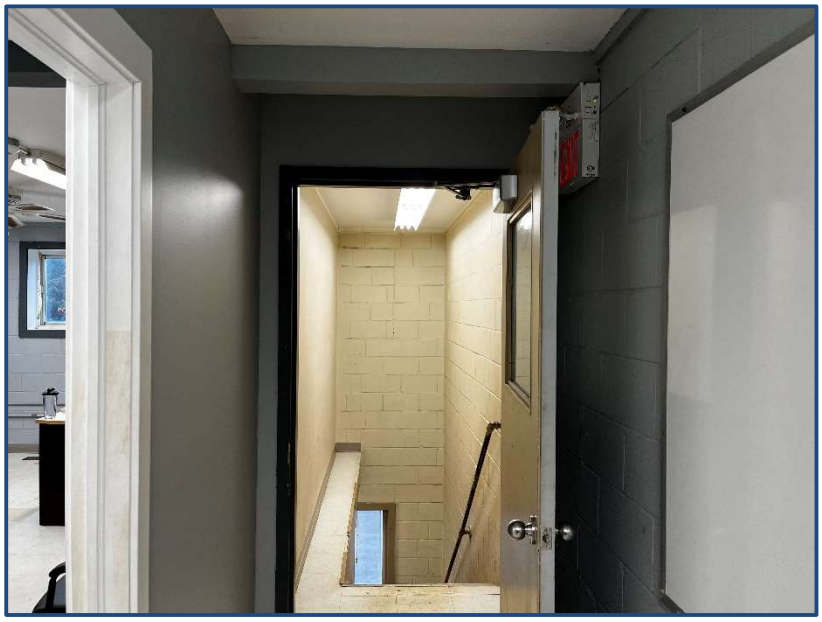


Picture 68: Handrail Connection to Wall

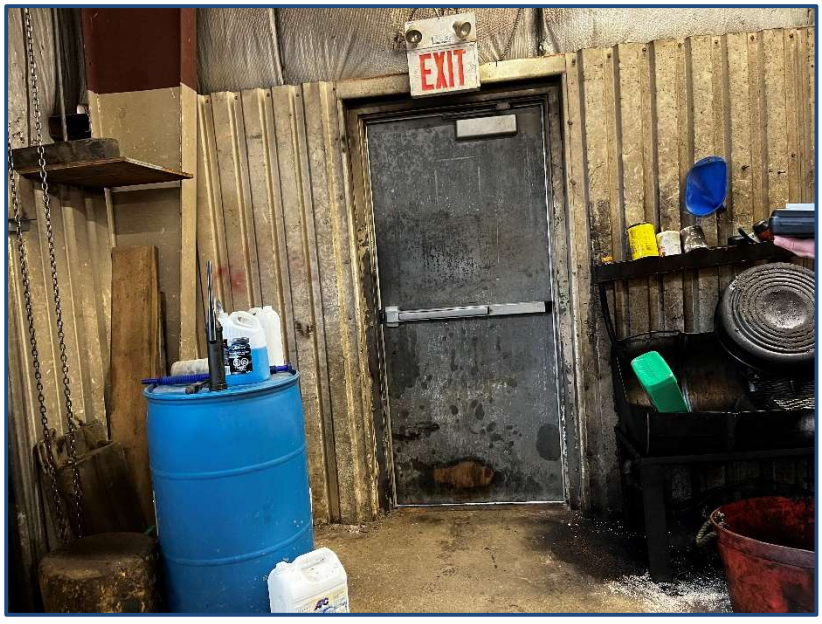
4. The emergency signage for the building is outdated with respect to the current Ontario Building Code. The signage and lights are concealed in the Second Floor Offices behind a door.

Picture 69: Outdated Emergency Exit Signage – Huntsville Operation Centre Main Entrance

Picture 70: Outdated Emergency Exit Signage – Locker and Lunchroom South Entrance



Picture 71: Concealed and Outdated Emergency Exit Signage – Second Floor Offices



Picture 72: Outdated Emergency Exit Signage – Garage No. 2 Rear Entrance

5. Garage No. 1's north man door exit opens inwards. Buildings of this type are required to have the exterior entrances/exits that open outwards.

Picture 73: Garage No. 1 North Exit Opening Inwards

6. The garage roof is constructed of engineered timber trusses. The Ontario building code requires these sections to be constructed with non-combustible materials.

5. DISCUSSION

Based on the visual inspection of the building components it was determined that the Huntsville Operation Centre is overall in Fair – Poor Condition. However, there were numerous instances of violations of the Ontario Building Code with regards to the building's accessibility.

The Building Exterior has many areas of impact damage in the metal siding and garage doors. These pose no structural concern, however, in many places the insulation is exposed and wet. The building envelope has significant drainage issues, as water is gathering along the north wall of the structure and has flooded the garage areas in the past. As noted by the employees, there are significant leaks occurring in the roof above Garage No. 2. This represent failure of the roofing system, which is likely leading to increased degradation of insulation and the timber truss system located above the steel roofing structure.

The First Floor Offices had cosmetic repairs, replacing interior finishes, completed in 2019. The employees have reported that the building has a rodent infestation, with the majority being noted within the first floor office's washroom. There has been reports that the wall insulation is either not present or insufficient, as the wind seems to blow right through the walls. The vinyl plank flooring beneath the office chairs have significant damage and have been covered by office chair floor mats. The washrooms within the office have significant accessibility issues with respect to the Ontario Building Code. Neither of the washrooms have sufficient turning radius, accessible

soap or paper towel dispensers, accessible washbasins, toilet grab bars, or automatic door openers. Furthermore, the buildings main entrance lacks accessibility, having a 2" rise from the exterior grade at the door, lacking automatic door opener, and having a service counter level too high to be inclusive.

The Locker and Lunchroom areas are in fair condition, with the lunchroom area being in good condition, but the stairwell to the Second Floor Offices in poor condition. The stairwell poses significant health and safety concern as it is not constructed to the Ontario Building Code requirements. It has severe wear and rutting on the travel path along the stairs, the handrail does not run full length of the stairwell, and the handrail is connected to the wall in a manner that prevents the railing from being graspable along its entire length.

The Second Floor Offices are in functioning condition with minor structural and cosmetic deficiencies. Most notably there is an area of settlement in the flooring system above an old stairwell that has been framed over.

Garage No. 1 has significant water damage and deficiencies in the concrete block wall. The garage bay is prone to flooding in the spring snow melt and during heavy rains due to the water buildup along the structure's exterior north wall, this water is funneled into Garage No. 1 via the exterior man door entrance to the garage. The floor drainage system is inadequate to remove the additional water as it enters the garage, leading to pooling. The concrete block walls contain a series of cracks and separations. The most notable is the wide separation of the concrete block wall and the masonry column along the east wall and the wide cut made into the wall at the southeast corner. The garage has an engineered timber truss system located on top of the steel roofing structure. The ceiling and top of the eastern concrete block wall have water damaged, indicating failure of the roofing system as leaks are occurring. The north exterior exit opens inwards with the Ontario Building Code requiring it to open outwards.

Garage No. 2 contains three (3) garage bays, with light corrosion of its steel members and cracking of the concrete floor slab noted throughout. The steel structural is in fair condition, the western most beam at its south connection with the column is slightly rotated. No structural assessment has been performed to determine the adequacy of the current member. The garage has an engineered timber truss system located on top of the steel roofing structure. There is a major leak in the roofing system at the centre of the garage between bay 2 and 3. This leak has created an area of increased corrosion along the steel beam and has damaged the insulation. Additionally, another roof leak is suspected to be occurring in the northeast quadrant of the garage, as the insulation appears to be carrying weight (water absorbed into insulation) and the north timber edge board is damp and rotting.

The entire garage is classified as Group F Division (Storage Garages up to 22 m High) and therefore are required to be built of non-combustible materials. As the roof system of the garages are engineered timber trusses, it does not meet the requirements and therefore if replaced the structure is to be updated to meet the requirements of the current Ontario Building Code.

The Huntsville Operation Centre has a series of overarching deficiencies that are present in all areas of the building with respect to updating it to the current Ontario Building Code. The emergency exit signage is out of date, with some being partially obscured by other finishes. Accessibility into and within the building is limited, the majority of the exterior entrances either have a lip or stairs preventing wheelchair access, and none of the internal or external doors have automatic openers.

Table 1: Repair Recommendations and Class D Cost Estimation

Observation	Condition Rating	Conclusion	Recommendation	Cost Estimation
4.1 Building Exterior 1. Exterior Impacted Damage 7. Cut Siding	3 – Fair	Damage cause by vehicle or other impact	Replace siding and flashing	$100,000
4.1 Building Exterior 2. Roof Drainage Deficiencies 5. Damaged Eaves	3 – Fair	Downspouts are damaged and are draining directly beside building causing erosion, damaged eavestrough on first floor office	Replace damaged downspouts and install downspout extension, install ice guards, and replace damaged eavestrough	$25,000
4.1 Building Exterior 3. Damaged Entrance Canopies	2 – Poor	Canopies are damaged and poorly secured	Replace damaged canopies	$25,000
4.1 Building Exterior 4. Damage to Door Flashing	2 – Poor	Flashing around south side door is damaged and separating from door frame.	Replace damaged flashing	$5,000
4.1 Building Exterior 6. Failed Caulking	3 - Fair	The caulking around office window has failed	Replace all caulking	$15,000
4.1 Building Exterior 8. North Entrance Below Grade	2 – Poor	Water from parking lot runs into the building during rain and snow melt	Regrade the parking lot to drain away from the building	$150,000
4.1 Building Exterior 9. Damage to Garage Door Frame	4 – Good	Upper corner of north garage door has been damaged	Replace damaged section	$5,000

4.1 Building Exterior 10. Corroded Metal Roof Panels	3 – Fair	Corrosion of roof panels	Replace roof	$150,000
4.2 First Floor Offices 1. Ceiling Paint Crack 2. Paint Bubbling above Heater	4 – Good	Crack in the men's washroom ceiling paint, bubbling of paint above heater	Repaint	$10,000
4.2 First Floor Offices 3. Damaged Vinyl Plank Flooring	2 – Poor	Plank flooring damaged by office chairs	Replace flooring and provide office chair wear pads	$25,000
4.2 First Floor Offices 4. Moisture Staining on Truss	3 – Fair	Moisture staining on the truss system, no rot noted	Investigate source of roof leak and patch it	N/A
4.3 Locker and Lunchroom 1. Jack Post	4 – Good	Jack post original to the building	No action necessary	N/A
4.3 Locker and Lunchroom 2. Separation and Cracking of Concrete Block Wall	3 – Fair	Concrete block wall step cracking above window and separation at the masonry column	Repair deficient areas of the concrete block wall	$25,000
4.3 Locker and Lunchroom 3. Damaged Drywall	4 – Good	Cracking of the drywall above door frame and water damage at south man door entrance	Repair damaged areas of drywall	$5,000
4.3 Locker and Lunchroom 4. Missing Air Vent Cover	4 – Good	Air vent in the lunchroom is missing vent cover	Install vent cover	$1,000
4.3 Locker and Lunchroom 5. Broken Door Closer	3 – Fair	South entrance door closer is broken, causing the door to slam shut	Replace door closer	$5,000
4.3 Locker and Lunchroom 6. Severely Damaged Stairwell	2 – Poor	Stairwell has severe wear causing a tripping hazard	Replace the staircase	$25,000
4.4 Second Floor Offices 1. Wear of Tiles	4 – Good	The vinyl floor tiles near stairwell are exhibiting signs of wear	Monitor for future replacement, no action necessary	N/A

4.4 Second Floor Offices 2. Water Damaged Ceiling	2 – Poor	The ceiling has water damage adjacent to light fixture	Investigate and patch leak in roofing system, repaint damaged area	$10,000
4.4 Second Floor Offices 3. Cracked Windowpane	3 – Fair	North window of office has crack	Replace cracked window	$5,000
4.4 Second Floor Offices 4. Cracking in Concrete Block Wall	3 – Fair	East wall of north office has step cracking in block wall	Repair damaged sections of the block wall	$5,000
4.4 Second Floor Offices 5. Moisture Staining on Truss	3 – Fair	Moisture staining on the truss system, no rot noted	Investigate source of roof leak and patch it	N/A
4.4 Second Floor Offices 6. Hallway Differential Settlement	2 - Poor	Area of the hallway has settled approximately 1” below other floor areas	Replace settled floor area	$25,000
4.4 Second Floor Offices 7. Damaged HVAC Ducts	3 – Fair	HVAC duct has been punctured to increase heating to second floor southeast office	Rework HVAC ventilation system to provide adequate heating to all areas of building	$250,000
4.5 Garage No. 1 1. Separation and Cracking of Concrete Block Wall	2 – Poor	Concrete block wall step cracking, cracking in corners, separation at the masonry column, and cuts in block walls	Repair deficient areas of the concrete block wall	$100,000
4.5 Garage No. 1 2.. Cracking and Wear of Concrete Slab	3 – Fair	Map cracking throughout concrete slab with areas of wear at garage door	Patch cracking and areas of increased wear	$50,000
4.5 Garage No. 1 3. Sewage Odour	3 – Fair	Odour of sewage in garage from the sanitary sewer access points within building	Investigation of the septic system to determine cause of odour leak	$5,000

4.5 Garage No. 1 4. Water Damage and Drainage Issues	2 – Poor	Water damaged of north walls; floor drainage insufficient to prevent flooding	Repair or replace water damaged wall sections and upgrade floor drainage system	$25,000
4.5 Garage No. 1 5. Man Door Frame Corroded	3 – Fair	Bottom sections of north man door are corroded	Clean and coat areas of corrosion	$1,000
4.5 Garage No. 1 6. Water Damage to Ceiling	2 – Poor	Drywall ceiling and upper section of east wall have water damage	Repair roof leaks then repair the damaged areas	$25,000
4.6 Garage No. 2 1. Corrosion of Metal Siding	3 – Fair	Corrosion at the base of the metal siding	Clean and coat areas of corrosion	$10,000
4.6 Garage No. 2 2. Damage to Concrete Block Walls	3 – Fair	Step cracking and impact damage to the concrete block half walls	Repair sections of damaged concrete block wall	$10,000
4.6 Garage No. 2 3. Water Leak Through Wall	2 – Poor	Water is pooling at base of column appearing to be coming from wall	Repair location of water leak in wall	$5,000
4.6 Garage No. 2 4. Damaged Insulation Blanket	3 – Fair	Insulation along south wall is torn	Replace areas of damaged insulation	$25,000
4.6 Garage No. 2 5. Paint Peeling on Exterior Man Door	3 – Fair	The paint on the door, flashing, and surrounding siding is peeling	Repaint areas of peeling of flaking paint	$10,000
4.6 Garage No. 2 6. Degradation of Concrete Block Wall	3 – Fair	Bottom two courses of the west block wall has severe degradation	Repair areas of damage to the concrete block wall	$25,000
4.6 Garage No. 2 7. Wear in the Concrete Slab	3 – Fair	Areas of increased wear in the concrete slab at the garage doors	Patch areas of increased wear	$50,000

4.6 Garage No. 2 8. Rotted Timber Strapping and Sagging Insulation	2 – Poor	The rotted timber and sagging insulation blankets are signs of water leaks from roof	Investigate roof for leaks and repair or replace if necessary	N/A
4.6 Garage No. 2 9. Large Roof Leak	2 – Poor	Employees report large amounts of water leakage in the centre of Garage No. 2	Investigate the roof leak and repair or replace roof section	$25,000
4.6 Garage No. 2 10. Flaking Paint on Steel Columns	4 – Good	Areas of flaking paint on west steel columns	Repaint areas of flaking or peeling paint	$25,000
4.6 Garage No. 2 11. Rotated Roof Beam	3 – Fair	Southwest beam is rotated at the beam-column connection	Monitor the beam for further rotation	N/A
			Subtotal	$1,257,000
			Engineering, Construction Administration, and Construction Review Fees	$ 190,000
			Contingency	$ 120,000
			TOTAL ESTIMATED CONSTRUCTION COST	$1,567,000

Table 2: Upgrades Required to Meet Current Ontario Building Code Requirements and Class D Cost Estimation

Observation	Condition Rating	Conclusion	Recommendation	Cost Estimation
4.7 Ontario Building Code 1. Main Entrance Accessibility	1 – Critical	The buildings main entrance lacks automatic door openers and has a small step to enter	Install automatic door opener and ramp between entrance level and exterior grade	$10,000

4.7 Ontario Building Code 2. Non-Accessible Washrooms	1 – Critical	The washrooms lack the necessary space and facilities to meet the OBC accessibility requirements	Increase washroom size to accommodate the require turning radius, replace sink, paper towel, and soap dispensers with accessible options, install automatic door openers, and install toilet grab bars	$100,000
4.7 Ontario Building Code 3. Insufficient Stairwell Handrail	1 – Critical	The stairwell handrail does not run the full length of the staircase and is not graspable for its full length	Replace stairwell handrail with code complaint railing	$5,000
4.7 Ontario Building Code 4. Outdated Emergency Exit Signage	1 – Critical	Current emergency exit signage is outdated	Replace signage	$25,000
4.7 Ontario Building Code 5. Exit Opening Inwards	1 – Critical	The exit for Garage No. 1 opens inwards, exits for this building are required to open outwards	Alter door to open outwards	$1,000
4.7 Ontario Building Code 6. Garage Roof Combustible	1 – Critical	The garage areas have a timber truss system but are required to be constructed of non-combustible materials	Replace the garage roof	$300,000
			Subtotal	$ 441,000
			Engineering, Construction Administration, and Construction Review Fees	$ 65,000
			Contingency	$ 40,000
			TOTAL ESTIMATED CONSTRUCTION COST	$ 546,000

7. CONCLUSIONS AND RECOMMENDATIONS

The Huntsville Operation Centre requires significant repairs to maintain its functionality. The majority of the recommended repairs are due to the buildings age or poor construction. It is estimated that a complete repair of all the deteriorating items would cost approximately $1,567,000.

To upgrade the facility to meet the current requirements of the Ontario Building Code would require a significant investment and construction period. It is estimated that it would cost approximately $546,000 to bring the Operation Centre up to Code. With the major upgrades/repairs being the replacement of the garage rooves and making the building accessible.

It is worth noting that should the roof replacement of the garages be performed, the cost to repair the Huntsville Operation Centre to maintain its functionality would decrease as all roof repairs would now not be necessary.

Due to the age of the existing structure and the estimated cost to construct a new Operation Centre being $8,340,000 it is TULLOCH's recommendation that the structure not be repaired and replaced instead. This will provide the town with a better final product and a lower maintenance cost. The recommended repair and upgrade work would only delay the enviable replacement of the structure that would be required in the next 10-15 years.

This report is to provide the Town with the required repairs and Building Code upgrades for the Huntsville Operation Centre. As to provide a basis for the Town to decide on repair or replacement of the structure.

8. CLOSURE

We trust this report is sufficient for your purposes at this time, should you require any further assistance or would like clarification on the above please do not hesitate to contact the undersigned.

Respectfully Submitted,

TULLOCH ENGINEERING INC.

Reviewed by:

DRAFT

Frank Palmay, P. Eng.
Project Manager, Associate
frank.palmay@tulloch.ca

Completed by:

DRAFT

Mack Barber, EIT.
Engineer in Training
mack.barber@tulloch.ca

APPENDIX A

Reference Tables

Table 3: Condition Rating

Condition Rating	Action Timeframe
1 – Critical	Requires immediate action to mitigate risk of failure or correct failure. Projects to be completed immediately are expected to be completed by the building owner/operator or their regular service provider without detailed design or competitive pricing
2 – Poor	Requires action within 1-2 years to mitigate the risk of failure. Projects to be completed within 1-2 years are expected to be completed by the building owner/operator/regular service provider, or to be designed and tendered as “rush jobs” with inflated pricing to accommodate the rush.
3 – Fair	Requires action within 5 years to mitigate risk of failure. Projects to be completed within 3-5 years are expected to undergo a standard design and procurement process with competitive, non-rush pricing.
4 – Good	Failure within 5 years is unlikely. Routine maintenance is still required.

Table 4: Concrete Crack Chart

Concrete Crack Chart (mm)			
Good		Fair	Poor
Hair Line	Narrow	Medium	Wide
0.05 – 0.10	0.10 – 0.30	0.30 – 1.00	1.00 – 5.00

APPENDIX B

Building Layout

TULLOCH

HUNTSVILLE PUBLIC WORKS GARAGE BUILDING CONDITION ASSESSMENT

169 MADILL CHURCH ROAD

HUNTSVILLE, ONTARIO

PROJECT No. 12-1405

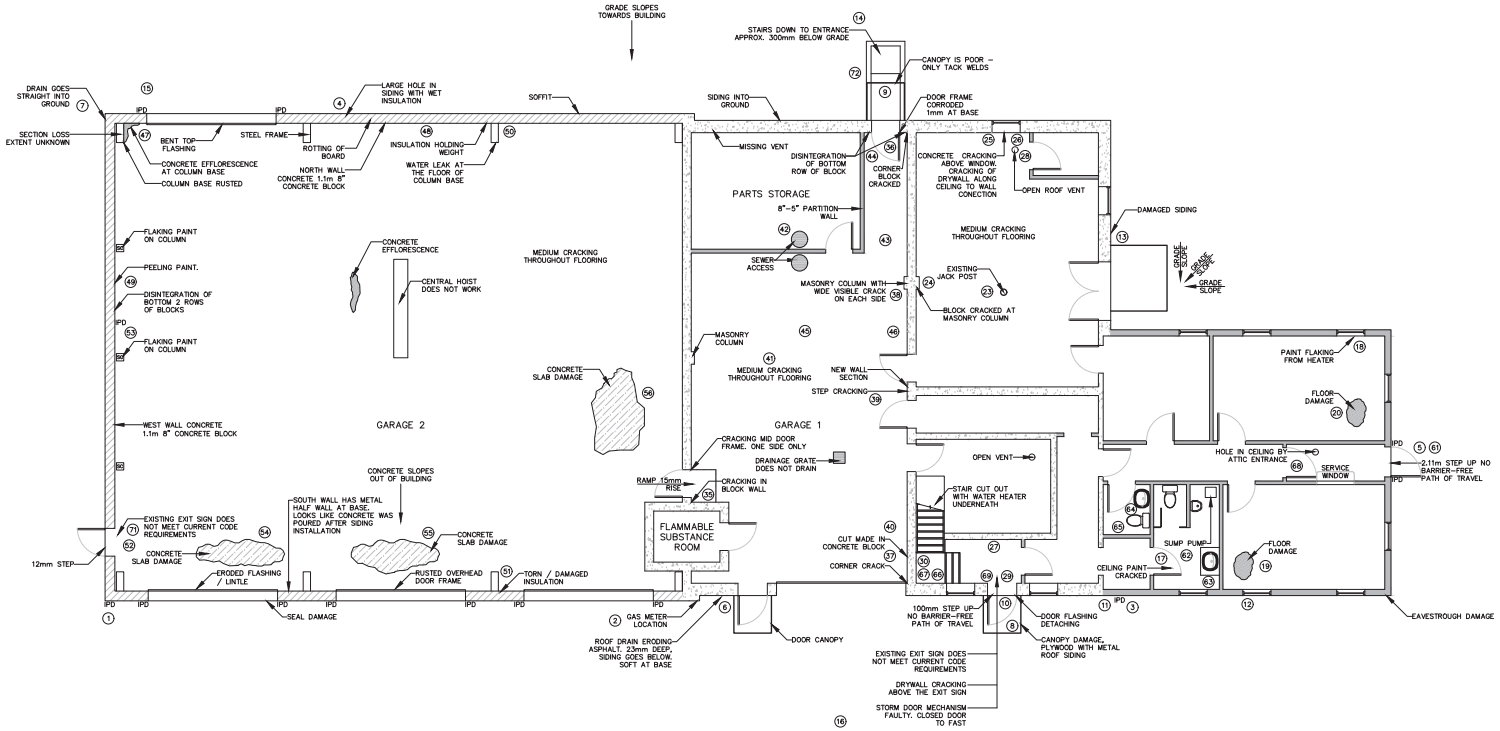
LIST OF DRAWINGS	
DWG. No.	DESCRIPTION
S1	MAIN FLOOR EXISTING CONDITIONS
S2	SECOND FLOOR EXISTING CONDITIONS

CONSULTANT

TULLOCH

OWNER

TOWN OF HUNTSVILLE Muskoka



HUNTSVILLE PUBLIC WORKS GARAGE CONDITIONS:

1. ROOF LEAK IN FIRST BAY STARTED IN 2021
2. OFFICES HAD COSMETIC FIX–UPS IN 2021
3. STAIRCASE HAS SETTLED OVER FLOOR IN HALL. CRACK LOCATED IN WALL BY STAIRS
4. NO PROPER VENTILATION IN WASHROOM
5. INFESTATION OF RODENTS IN WASHROOM AREA.
6. FRONT OFFICE – RENOVATION DONE IN 2019 – TRIM IS SEPARATING, FLOORING UNDER DESK IS FAILING, NO INSULATION IN WALLS (WIND IS FELT FLOWING THROUGH) AND THE CEILING DRYWALL HAS CRACKS.
7. LUNCHROOM – RENOVATION DONE IN 2018 – JACK POST IS ORIGINAL.
8. GARAGE BAY 1 – STORM WATER DOES NOT DRAIN PROPERLY, LARGE CUT IN BLOCK WALL BY GARAGE DOOR AND SEWER ACCESS. DRAINS LOCATED WITHIN THE GARAGE HAVE A SMELL OF GAS AND SEWAGE, THESE DRAINS RUN TO THE PARKING LOT.
9. GARAGE BAY 2 – IN FLOOR WASTE CONDEMNED AND THERE IS ICE DAMMING IN THE WINTER.
10. ELECTRICAL SYSTEM HAS BEEN ADDED ON TO EXISTING ELECTRICAL AFTERWARDS.
11. WATER BUILDS UP ON THE EXTERIOR OF BUILDING BETWEEN GARAGE BAYS.
12. HEATING SYSTEM IS 12 YEARS OLD WITH LITTLE TO NO VENTILATION.
13. BUILDING IS LOWER THEN PARKING LOT (NORTH SIDE) ALONG THE SIDE WHERE DRAINAGE BASIN IS LOCATED.
14. THE BUILDINGS SIDING TERMINATES INTO THE ASPHALT
15. CONCRETE SLAB HAS GENERAL WEAR AND TEAR WITH PATCHES OF EFFLORESCENCE THROUGHOUT. CONCRETE SLABS CONDITION IS NOT BAD.
16. BLASTING AT FOWLERS NEXT DOOR CREATES VIBRATION THROUGHOUT BUILDING. THE BLASTING TURNS THE LIGHTS OFF IN THE SINGLE STORY OFFICE AREA.
17. NO DOOR OPENER BUTTONS
18. HOT WATER APPEARS MILKY WHITE.
19. BOTH WASH ROOMS DO NOT MEET THE OBC ACCESSIBILITY STANDARDS. NO GRAB BARS INSTALLED, THERE ARE NO ADA SINKS, ALL FIXTURES ARE TO HIGH TO MEET ADA STANDARDS AND NO TURNING RADIUS.

IPD = IMPACT DAMAGE

CONSULTANT:

TULLOCH

CLIENT:

TOWN OF HUNTSVILLE Muskoka

REVISIONS

No	DATE	REMARKS
0	04/06/2022	ISSUED FOR REVIEW

PROJECT TITLE

HUNTSVILLE PUBLIC WORKS GARAGE BUILDING CONDITION ASSESSMENT

DRAWING TITLE

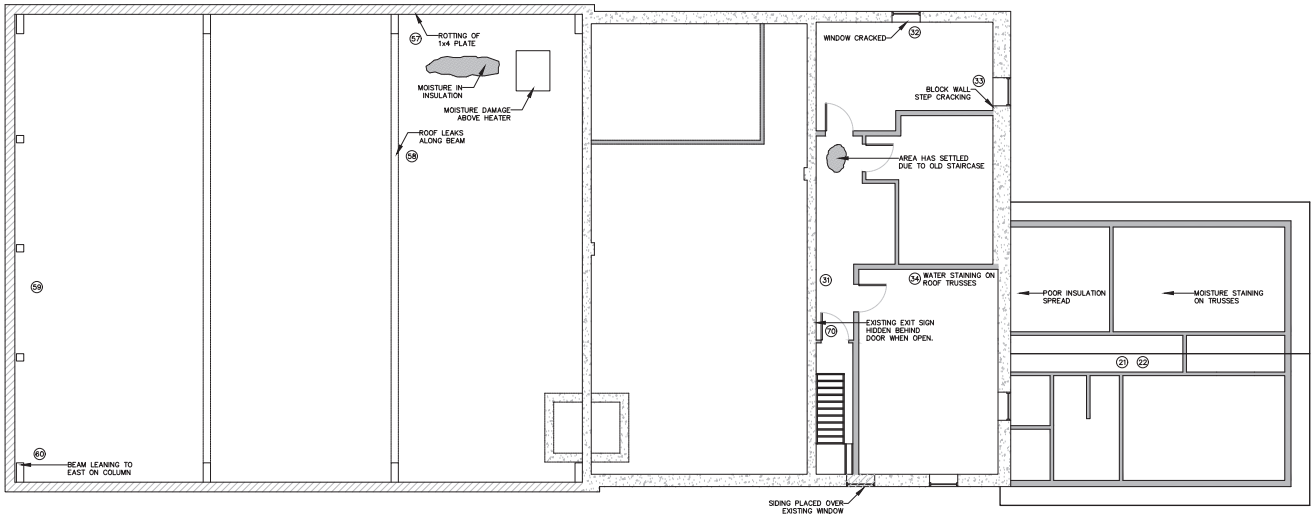
MAIN FLOOR EXISTING CONDITIONS

LOCATION

169 MADILL CHURCH RD HUNTSVILLE, ONTARIO

DATE	03/31/2022
DRAWN	HD
CHECKED	FP
SCALE	1:75
ISSUED FOR TENDER	–
ISSUED FOR CONSTRUCTION	–

DWG. No.	PROJECT No.	REV. No.
S1	21–1405	0



HUNTSVILLE PUBLIC WORKS GARAGE CONDITIONS:

1. SECOND FLOOR OFFICE – APPEARS TO HAVE NO LEAKS BUT SLIGHT WATER STAINING VISIBLE IN AREAS. 10" STYROFOAM INSULATION WITH MAT INSULATION LAYERED ON TOP. TIMBER TRUSS FRAMING WITH STEEL ROOFING.
2. ATTIC APPEARS TO HAVE MOISTURE STAINING ON THE TRUSSES. POOR INSULATION SPREAD.

CONSULTANT:

TULLOCH

CLIENT:

TOWN OF HUNTSVILLE Muskoka

REVISIONS

No	DATE	REMARKS
0	04/06/2022	ISSUED FOR REVIEW

PROJECT TITLE

HUNTSVILLE PUBLIC WORKS GARAGE BUILDING CONDITION ASSESSMENT

DRAWING TITLE

SECOND FLOOR EXISTING CONDITIONS

LOCATION

169 MADILL CHURCH RD
HUNTSVILLE, ONTARIO

DATE	03/31/2022
DRAWN	HD
CHECKED	FP
SCALE	1:75
ISSUED FOR TENDER	–
ISSUED FOR CONSTRUCTION	–

DWG. No.	PROJECT No.	REV. No.
S2	21–1405	0

APPENDIX C

Statement of Limitations

STATEMENT OF LIMITATIONS AND QUALIFICATIONS

The attached Report (the "Report") has been prepared by TULLOCH Engineering Inc. ("Consultant") for the benefit of the client ("Client") in accordance with the agreement between Consultant and Client.

The information, data, recommendations and conclusions contained in the Report (collectively, the "Information"):

- represents Consultant's professional judgement in light of the Limitations and industry standards for the preparation of similar reports;
- may be based on information provided to Consultant which has not been independently verified;
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- was prepared for the specific purposes described in the Report; and
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time.

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Consultant agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report, but Consultant makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

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Except (1) as agreed to in writing by Consultant and Client; (2) as required by-law; or (3) to the extent used by governmental reviewing agencies for the purpose of obtaining permits or approvals, the Report and the Information may be used and relied upon only by Client.

Consultant accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information ("improper use of the Report"), except to the extent those parties have obtained the prior written consent of Consultant to use and rely upon the Report and the Information. Any injury, loss or damages arising from improper use of the Report shall be borne by the party making such use.

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