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# North Peace Fall Fairgrounds - Structural Condition Assessments and BC Fire Code Assessments (Rev. 1)

June 23, 2023

Submitted to: Peace River Regional District
Prepared by McElhanney

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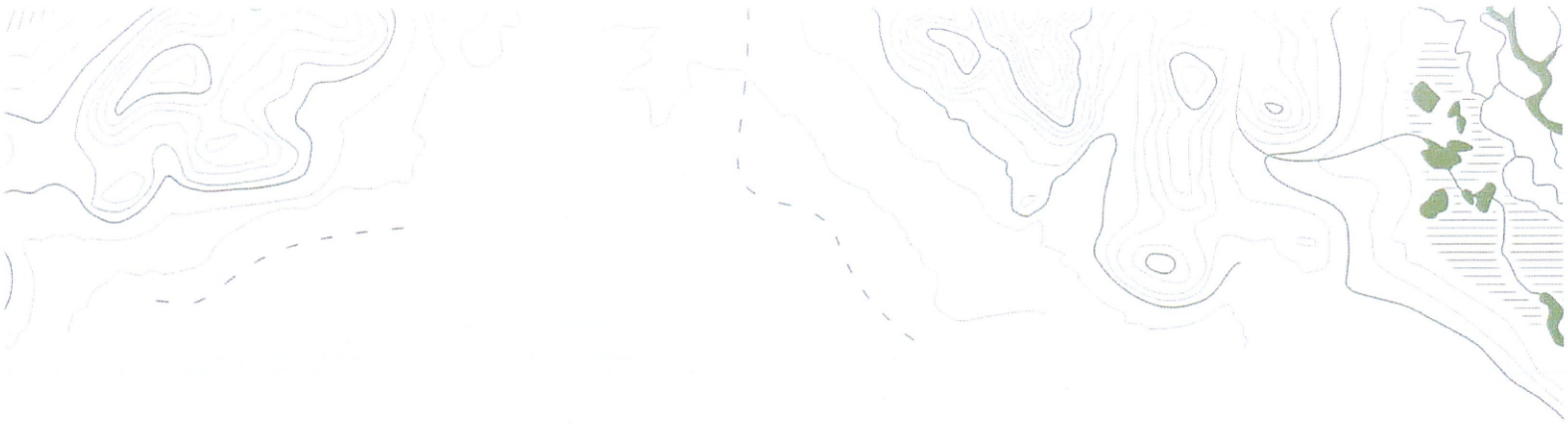
Our file: 3111-27704-00



# Your Challenge.
# Our Passion.

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Our File: 3111-27704-00

June 23, 2023

Bryna Casey
Parks and Rural Recreation Coordinator
Peace River Regional District
Box 810, 1981 Alaska Avenue, Dawson Creek, BC V1G 4H8

Attention: Bryna Casey
(Delivered by Email)

# Structural Condition Assessments and BC Fire Code Assessments (Rev. 1)

RE: PRRD – North Peace Fall Fair Grounds

## 1. Introduction

At the request of the Peace River Regional District (PRRD), McElhanney Ltd. was retained to undertake building condition assessments and fire code assessments of the North Peace Fall Fairgrounds buildings and bleachers in Fort St. John, BC. The request was made to identify any urgent upgrades required to maintain annual operations of the fall fair. On May 10th, 2023, Joe Moser P.Eng., visited the site to conduct a field investigation. Most of the structures on the site were evaluated, with a select few small structures considered abandoned and not included in the scope of work.


*Figure 1: Subject Property*

## 2. Background

The subject property consists of multiple buildings and structures with various ages and uses. At the time of the assessment the structures were unoccupied and have only been used for the annual fall fair, although the client has expressed interest in utilizing the exterior locations on the property for other events. The Parks and Rural Recreation Coordinator and Building Inspector III were present on site for the structural assessment.

No building permit or framing drawings for any of the structures were available during the time of the field review or have been located since.

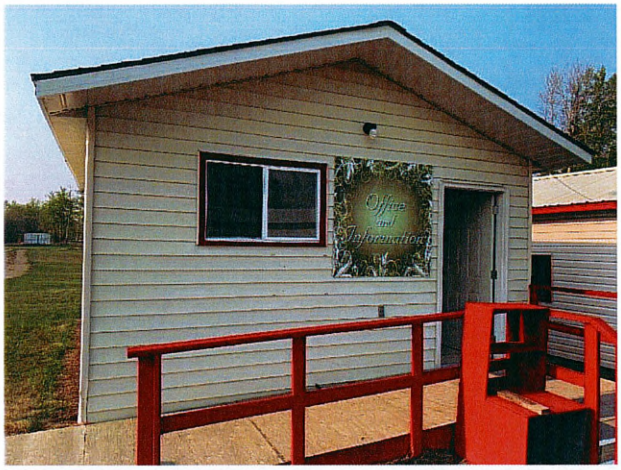


*Figure 2: Exterior of Office and Information Building*

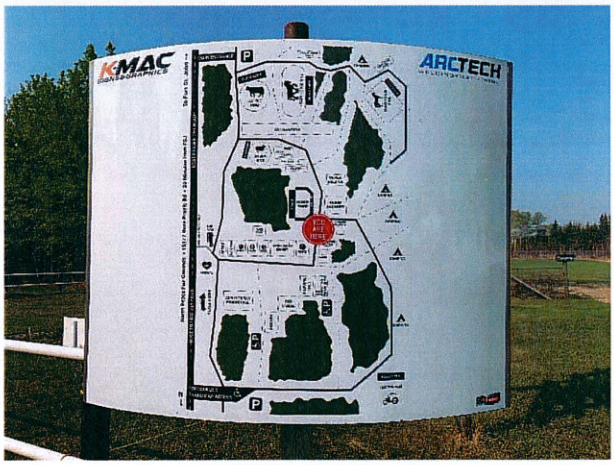


*Figure 3: Map of site*

# 3. Field Observation Conditions and General Information

## 3.1. SCOPE OF WORK AND DISCLAIMER

The scope of work for field review and report includes the following:

- On site field review of all accessible areas of the structure including but not limited to:
  - Visual and non-destructive review of all available areas.
  - Foundation.
  - Framing and main structural elements of the building.
  - Site drainage.
  - Interior and exterior finishes.
- Report sealed by a professional engineer registered in British Columbia as required.
- No analysis was carried out as part of the assessment.

The conclusions and recommendations in this report are based on the results of the visual observation of readily accessible areas of the structures and are limited to visual observations of apparent condition existing at the time of assessment. The structural engineering reviews of existing structures involves inherent risk that some conditions will inadvertently go undetected. Therefore, reports describing such investigations will be based, by necessity, on assumption of what can be seen and what is hidden from view. All persons making use of this report should be advised of this and accept that risk.

McElhanney has prepared this document in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this document. No warranty, expressed or implied, is made. This report does not reflect variations that may occur since the time of the assessment, across the site, or due to the modifying effects of construction at the site or weather. McElhanney acknowledges that this report may be requested by the local governing body. It is acknowledged that the Approving Officers may rely on this report.

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The factual data, interpretations and opinions expressed in this document pertain to the specific project, site conditions, design objective, development and purpose described to McElhanney by the client and are not applicable to any other project or site location. To properly understand the factual data, interpretations and opinions expressed in this document, reference must be made to the entire document.

## 3.2. SUMMARY OF STRUCTURES OVERVIEW AND ASSESSMENT CONDITIONS

| STRUCTURES OVERVIEW | | CLIMATE CONDITIONS | |
|---|---|---|---|
| PROPERTY OCCUPIED | ☐ YES<br>☑ NO | TIME | 09:00 TO 16:00 |
| AGE OF BUILDINGS | ~5-95 YEARS | SEASON | ☑ SPRING<br>☐ SUMMER<br>☐ FALL<br>☐ WINTER |
| FRONT FACING DIRECTION | MULTIPLE | TEMPERATURE | 15 °C |
| TYPE OF MAJOR OCCUPANCY | ☐ RESIDENCIAL<br>☐ COMMERCIAL<br>☐ INDUSTRIAL<br>☑ OTHER | WEATHER | ☑ CLEAR<br>☐ OVERCAST<br>☐ WIND<br>☐ RAIN<br>☐ SNOW |
| PRIMARY FOUNDATION CONSTRUCTION MATERIAL | ☑ TIMBER<br>☑ STEEL<br>☑ CONCRETE | GROUND CONDITIONS | ☑ DRY<br>☐ WET |

| | | | |
|---|---|---|---|
| | ☐ OTHER | | ☐ SNOW COVERED |
| PRIMARY WALL CONSTRUCTION MATERIAL | ☑ TIMBER<br>☑ STEEL<br>☐ CONCRETE<br>☐ OTHER | | |
| PRIMARY ROOF CONSTRUCTION MATERIAL | ☑ TIMBER<br>☑ STEEL<br>☐ CONCRETE<br>☐ OTHER | | |

## 3.3. DEFINITIONS

- GOOD: Average to above-average condition considering age, design, and use. Generally, no abnormal action required other than periodic review and maintenance.
- FAIR / MODERATE: Below-average to average condition or workmanship considering age, design, and use. Action not immediately needed but could use attention besides periodic review and maintenance.
- POOR: Well below average, replacement, or failed condition considering age, design, and use. Action immediately needed to prevent further damage to item, damage to surrounding items, or hazards to occupant or staff health. Periodic review and maintenance will need to increase in frequency once remediated.
- NOT REVIEWED: Item or area not reviewed due to safety concerns, inaccessibility, or potential damage to item or surrounding items.
- NOT APPLICABLE: Item is not within field review or report scope of work, or expertise of field reviewer.

# 4. Field Observations and Condition Assessment – Communal Buildings

The following section outlines observations of the communal buildings noted at the time of the field review. Photos from the field review are shown in Appendix A at the end of this report.

## 4.1. OVERALL COMMENTS

- The majority of the buildings are in poor condition with severe structural deficiencies, and should not be used for any long-term or significant occupancy. The main structural concerns will be broken down below, identifying the structures with the largest concerns to safety.
- None of the structures have adequate fire separation, fire safety plan, emergency lighting, exit signs, fire extinguishers or fire alarms. Posted occupancy loads and emergency exit plans were also not available in any of the buildings.
- Many electrical panels, with the exception of the panels in the locked electrical sheds, are not housed in locked, weatherproof cabinets; one electrical panel was noted to having an exposed busbar. There are many exposed wires located across the property as well.
- Many of the structures appear to be insufficient by design for withholding any snow or lateral loads in the case of a moderate to large weather events.

## 4.2. FOUNDATIONS

- Many of the buildings are supported by untreated timber foundations of various substance. Some of the foundations are round logs, while others are sitting on piles of dunnage. These are concerns as the wood may rot, or the logs or dunnage piles may shift, causing the structure to become unstable. The following buildings possess untreated timber foundations:
    - Office
    - Storage shed
    - Concession stands
    - Craft Hall
    - Abandoned portion of building behind kitchen/dining hall
    - Washrooms (untreated exposed timber on steel and concrete piles)
    - Pineview Hall (untreated exposed timber on steel and concrete piles)
    - Church (untreated exposed timber on steel piles)
    - 4-H building
    - Sheds (excluding SeaCan style sheds)
    - Judging booths
- Many of the foundations for the above structures are already in poor condition, and are not expected to last much longer without intervention. For the low occupancy structures the foundation is not as much of a concern, but the office, abandoned portion of the kitchen/dining building, and the 4-H building are particularly insufficient in design.

## 4.3. CLADDING AND ROOFING

- The condition of the roofing and cladding is varied across the different buildings, mainly based on age and design of the building. Some of the structures' roofs appear to be near or past the service life. In many cases, the roof and wall sheathing are also showing signs of damage from either physical impact of some sort or water ingress.
- Cladding and sheathing tended to be in the worst condition near the base of the structures, possibly due to damage from snow accumulation or impact from lawn mowers.
- Many structures have no soffit, allowing for moisture ingress as well as rodent and pest access.
- All downspouts and gutters are in poor condition, and some aren't connected properly.
- The following structures have roofing and/or cladding concerns that should be addressed to prevent accelerated deterioration:
    - Office
    - Storage shed
    - Concession stands
    - Craft Hall
    - Kitchen and Dining building
        - Also has an unsupported roof overhang at the doors that has started to collapse
    - Pineview hall
        - Includes an open hole at the front exterior wall
    - Log house
    - Church
    - Stage
    - 4-H Building
    - Sheds
    - Judging booths
- For the sheds this isn't as big of a concern, aside from protecting contents from damage. It isn't expected that people would occupy that space for any extended period of time; however, the roof on the log home is in need of serious repairing and possibly replacing. Many of the cedar shingles are missing, and any openings into the interior structures from missing soffit should be reviewed as continued water ingress could lead to damage beyond repair.

## 4.4. STEPS AND RAMPS

- Many of the entrance ways to these structures require a slight step up, stairs, or a ramp to access. The slight steps and steep ramps do not appear to meet code, may be difficult for certain people to use, and create a risk of potential fall and injury. Handrails are also missing or do not appear to meet code in many locations.

- All ramps and buildings with slightly raised entrances from the ground level should be reviewed by the client as it can be a concern in the case of an emergency, and impedes the ability of some people to access all buildings on the property intended for patron use.

## 4.5. STRUCTURAL DEFICIENCIES

- Some of the buildings have large structural design deficiencies, which are evident due to clear movement, sagging, cracking, and rot. The structural performance would only be expected to be poor in the case of a moderate to large scale weather event such as a windstorm or heavy snowfall. While it is unlikely that a structure would fail outside of these circumstances, these buildings also have other damage and/or insufficient aspects that may also contribute to potential failures under standard loading.
- The highest risk building is the stage. The design of the stage appears to be insufficient for the expected loads, and the slanted design does not possess any additional bracing to prevent lateral movement in the direction of the tilted members. In addition, the stage is showing beginning signs of failure, severe water damage in a number of locations which may affect the structure's long-term performance; instability of the stage floor, and poor performance of the roof.
- Some of the sheds have slight leans or sags, which is not necessarily a large risk to human safety, but is worth reviewing as someone may lean against the structure, or they may be blown over if they are not able to resist the necessary wind loads eventually due to any rot or structural deficiencies.
- The concessions stands and judging booths also typically possess slight leans or sags as they do not appear to have had any design. Again, these are not necessarily a large risk to human safety under expected fall weather loading, but are worth reviewing and maintaining watch over, particularly as small groups of people are stationed in these structures during the fair.
- Pineview hall and the washrooms appear to be in relatively good condition structurally. But they do appear to be experiencing some differential settlement in the floor.
- The abandoned building behind the kitchen and dining hall is visibly in very poor condition, with a sagging roof, visible water damage, a poor foundation as noted in 4.2. Due to the condition of the building, it was only reviewed from the outside. As it is no longer used by the fair, it is not considered to currently have any large risk to safety, granted it be classified as abandoned and remain unused.
- The church chimney is inadequately supported in its current state and is unsafe.

## 4.6. MISCELLANEOUS CONCERNS

- The kitchen was a particularly large area of concern for fire code compliance. There is no hood range ventilation for the stove, no smoke detectors, carbon monoxide detectors or fire suppression, no visible fire extinguishers, no floor plan or emergency exit plans, no emergency shutoff for the equipment was present, and the propane tanks outside are not enclosed with some possessing rubber hoses which are easy for potential vandals to cut. As this is a more commercial kitchen servicing larger groups of people, and is connected directly to the dining hall,

it should possess more fire safety measures going forward, and likely needs review by the local health authority.

- There are two water heating tanks in the bathroom building, one propane and one electric. The propane water heater was made in 2013, which means it is getting close to the end of its expected service life but may still have a few years of life. The electric water heater was made in 2006, which means it is past the typically expected lifespan of 10-15 years and likely will need replacing soon. These tanks should also possess shut off valves, pressure relief valves, and expansion tanks.
- The hot water tank in the kitchen area was made in 2010, which is near the end of its expected life, but it may get another couple of years as well.
- The office has many accessibility concerns, mainly surrounding the door threshold, ramp slope and finish, handrail design, and door hardware. This is important for allowing access to the office and information building for all patrons and employees/volunteers.
- An accessible path should be available to each concession stand window, as currently they are obstructed by a slight step up onto a pallet. It was noted that there are no accessible window heights for those in wheelchairs.
- The craft hall, dining hall, and pineview hall all require occupancy loads, fire safety plans, panic door hardware, exit signs, emergency lights, and more accessible ramps. They should also be located closer to a fire hydrant as well in the case of a large scale fire emergency (should be max 90 meters).
- The washroom building requires accessible washrooms and a universal toilet room, along with a fire extinguisher, and carbon monoxide alarm in the equipment room.
- The large storage shed building should have some emergency lighting and a fire extinguisher. The steps to the door is also not to code for step height, handrails, and landing at the door.
- The church has an exhaust pipe that goes from below the floor, through to the roof; this pipe has poor penetration in its current state and is allowing water to enter, which is evident from the peeling paint around the opening.

# 5. Field Observations and Structural Assessment – Bleachers

The following was observed at the time of the field review:

## 5.1. OVERALL COMMENTS

- The bleachers are noted as an important set of structures on the property, as they are the most frequently used by patrons during the fair.
- There were three different styles of bleachers present on the property: one pre-fabricated steel bleacher, steel bleachers with and without roofing, and timber bleachers. The client requested that we do not evaluate the roofing for the bleachers, but we will note that they are likely not sufficient for withholding code-specified snow loads in the winter.

- They appeared to be in generally good condition, however they all possess varying code compliance issues, mainly regarding handrails, guards, and step heights.
- The pre-fabricated steel bleachers by the tractor pull area have no railings or guards and should be taken out of use.
- No lateral bracing or inadequate bracing is present on most of the bleachers, meaning they are not protected against lateral movement. Moving loads and unbalance loading can cause lateral loading as well as during wind events.
- It is worth noting that the client has already requested McElhanney do a full design evaluation and create a repair plan for the bleachers, which will be issued as separate documents once completed.

## 5.2. STEEL BLEACHERS WITH AND WITHOUT ROOFING

- The steel bleachers appear to be currently performing mostly well structurally, with no noticeable sags or leans.
- The concerns with these bleachers are as listed below:
    - Handrails aren't rounded at ends
    - No guard to prevent children from falling below the handrail or off the back of the bleachers
    - No handrail at the middle stairs
    - Stairs appear to have a large step with no kickplates preventing slipping through the open space
    - The steps of the stairs appear to be uneven lengths
    - Some bleacher seating areas have open risers
    - Some of the foundation structures for the bleachers appear to have been misaligned so sections are welded off-centre
- These concerns are mostly regarding code compliance, and are required for safety of the users and are especially important for protection of certain groups such as children and seniors.

## 5.3. TIMBER BLEACHERS

- The timber bleachers appear to be currently performing well structurally, with no noticeable sags or leans.
- The concerns with these bleachers are as listed below:
    - No proper handrail extending to bottom step
    - Pallets are currently used as first step to some bleachers
    - Step height is high and inconsistent
    - No guard to prevent children from falling below the handrail or off the back of the bleachers
    - The steps appear to be uneven lengths
- These concerns are mostly regarding code compliance, and are required for safety of the users and are especially important for protection of certain groups such as children and seniors.

Photos from the time of the field review are shown in Appendix A at the end of this report.

# 6. Field Observations and Structural Assessment – Pole Barns

The following was observed at the time of the field review:

## 6.1. OVERALL STRUCTURES

- The pole barns appear to be varying ages, and were likely built to conform to the farm building code, which is much less strict than standard building code due to the reduced human occupancy expected.
- These structures are performing mostly poorly, with many noticeable sagging roofs and leaning structures, and have some questionable structural components.
    - The red and white barn is the only one in generally good condition overall, with no large apparent leaning or sagging to any beams or the overall structure.
- The foundation appears to just be the timber posts driven into the ground. The posts do appear to be treated.
- The metal roofing is in poor condition on many of the barns, and gutters and downspouts are all in severely poor shape or not connected properly.
- Electrical panels should be in locked weatherproof cabinets, a couple of the barns currently have them in unlocked plywood cabinets in easily accessible locations.

## 6.2. STRUCTURAL DEFICIENCIES

- All of the pole barns appear to have similar structural concerns, mainly with the performance of the framing elements. The main roof beams appear to be sagging at least slightly for majority of the barns, and some sections of framing have wood shimmed between columns and beams to reach the required height. Many of the beams are also incorrectly spliced, which may be contributing to accelerated failures.
- A couple of the pole barns are severely tilted and have no adequate lateral bracing to support them from any wind loads in certain directions.
- The structures that appear to be failing and may not survive many more winter seasons or moderate weather events are the short pole barn by the arenas and concession stand, as well as the long pole barn in the middle of the property. These are immediate concerns and should be addressed.
- It is also important to note that loose hay and sawdust are highly flammable and combustible materials and can be dangerous when stored in open piles; they should be stored in a facility or location not accessible by the public to prevent accidental ignition.

# 7. Field Observations and Structural Assessment – Other Structures

The following was observed at the time of the field review:

## 7.1. BRIDGE

- The small timber bridge on the property is in reasonably good condition, but has some minor structural and code compliance concerns. These concerns include:
    - The bridge appears to be made out of untreated wood, which may lead to eventual rot.
    - The design is likely insufficient for large groups to be on the bridge all at once.
    - There is no guardrail, this is particularly a concern with the presence of children.
    - Debris is left on the bridge (this may have just not been cleared at the time of review due to the fairgrounds not being in use).
    - There is no lighting around the bridge and pond area.

## 7.2. SCALE

- The scale was not included in our scope to conduct a full review of structurally, but there are some large concerns, mainly for code compliance. These concerns include:
    - No adequate railing on the edge of the scale.
    - No maximum weight rating posted.
    - Untreated timber supports.
    - Untreated wood retaining wall.
- The weight rating not being posted and missing adequate guardrails are the more immediate concern. If the weight rating is exceeded, the scale may fail beyond repair and may cause injury to anyone on or nearby at the time.

## 7.3. WATER TOWER

- The water tower was noted to be out of commission and unused, however the supports are very visibly leaning due to the positioning of the water storage container and the inadequacy of the initial structure. It should be fully taken apart and removed to avoid risk of injury to passersby.

## 7.4. SEACAN STRUCTURES

- A number of small storage containers and structures were comprised of small seacan type buildings on steel or concrete supports. These appeared to be in generally good condition with no apparent structural concerns.
- One of the containers has an electrical panel with exposed busbar, while the container is locked to the public, this should be reviewed for employee and volunteer safety.

Photos from the time of the field review are shown in Appendix A at the end of this report.

It is worth noting that the rabbit hutches and Adeline Kelly building were not included in our scope, along with a number of small abandoned outhouses and tiny plywood shed structures.

# 8. Conclusions and Recommendations – Overall

## 8.1. OVERALL STRUCTURE

The above findings have been summarized in the below table, please note that the summarized deficiencies are brief descriptors, please refer back to the full findings above for more in-depth statements.

| Structure | Current Condition | Deficiencies |
|---|---|---|
| Office | Fair - Poor | - Poor untreated timber foundation<br>- Exposed electrical<br>- Lack of fire code compliance<br>- Roofing/cladding deficiencies |
| Craft Hall | Fair – Poor | - Poor untreated timber foundation<br>- Exposed electrical<br>- Lack of fire code compliance<br>- Roofing/cladding deficiencies<br>- Poor gutters |
| Concession Stands | Fair | - Untreated timber foundations<br>- Structural deficiencies (slight sagging/leaning)<br>- Lack of fire code compliance<br>- Roofing/cladding deficiencies |
| Judging Booths | Fair | - Untreated timber foundations<br>- Structural deficiencies (slight sagging/leaning)<br>- Lack of fire code compliance<br>- Roofing/cladding deficiencies |
| Kitchen and Dining Hall | Fair – Poor | - Entire abandoned building section behind main structure<br>- Severe lack of fire code compliance<br>- Roofing/cladding deficiencies<br>- Uncontained propane tanks |
| Log House | Fair | - Untreated timber on concrete pad<br>- Lack of fire code compliance<br>- Roofing deficiencies |

| Structure | Current Condition | Deficiencies |
|---|---|---|
| Church | Fair | - Untreated exposed timber foundation on steel piles<br>- Lack of fire code compliance<br>- Roofing/cladding deficiencies<br>- Water ingress<br>- Chimney support insufficient |
| Stage | Poor | - Insufficient structure overall<br>- Water damage<br>- Lack of fire code compliance<br>- Roofing/cladding deficiencies |
| 4-H Building | Fair | - Poor untreated timber foundation<br>- Lack of fire code compliance<br>- Roofing/cladding deficiencies |
| Storage Sheds | Fair | - Untreated timber foundations<br>- Structural deficiencies (slight sagging/leaning)<br>- Lack of fire code compliance<br>- Roofing/cladding deficiencies |
| Pole Barns (excluding red and white barn) | Poor | - Structural deficiencies (splices, shimming, considerable leaning, sagging, lateral bracing)<br>- Lack of fire code compliance<br>- Electrical panel housing not to code<br>- Poor gutters |
| Pole barn (white and red) | Fair | - A few concerning splices in beams<br>- Lack of fire code compliance |
| Pineview Hall | Fair | - Untreated timber foundation on concrete<br>- Lack of fire code compliance<br>- Roofing/cladding deficiencies |
| Bathrooms | Fair | - Untreated timber foundation on concrete<br>- Lack of fire code compliance<br>- Roofing/cladding deficiencies |
| Bleachers | Fair - Poor | - Structural deficiencies (poor construction, lateral bracing, inadequate for required loads)<br>- Lack of code compliance (stairs, railings, open risers, guards) |
| Weight scale | Not within scope for condition assessment | - Code compliance should be reviewed for this item<br>- Untreated timber supports and retaining wall |

| Structure | Current Condition | Deficiencies |
|---|---|---|
| Bridge | Poor | - Untreated timber on ground<br>- Lack of code compliance (railings, lighting) |
| Water Tower | Poor | - Structural Deficiencies (severe leaning, improper foundation) |
| Seacans | Fair | - Untreated timber foundations<br>- Roofing/cladding deficiencies<br>- Exposed busbar in electrical shed |

The majority of structures are in severe disrepair or are completely inadequate in design. Due to the nature of the fairground use, we understand that it is expected that no person would ever be occupying the structures during periods of heavy loads (ie. During the winter or in a windstorm), or for long term use. In the case of a windstorm or other large weather event, none of the buildings should be used as a shelter in their current conditions.

The client should review which buildings are necessary to operations, and any that are not deemed as such should be decommissioned and demolished. All that are necessary should be put on a repair and/or replacement plan for the structures, especially if the plan is to operate the fall fair at this location for many years to come. All buildings should be labelled with signage stating that they are not intended for extended human occupancy, should not be used outside of normal summer weather conditions, and should not be used as an emergency shelter.

## 8.2. COMMUNAL BUILDINGS

- All communal buildings where larger groups on people are accumulating should be upgraded to meet fire code and accessibility requirements. This includes posting occupancy loads and emergency exit plans, fire extinguishers, smoke detectors, emergency lighting, panic hardware on doors, proper steps and ramps with accompanying handrails, and other requirements that should be discussed with an architect, as the buildings are severely below requirements for code compliance.
- The kitchen should be completely renovated to be brought up to fire code requirements. This includes proper hood fans and ventilation, fire suppression, emergency shutoffs, fire extinguishers, smoke and carbon monoxide detectors.
- All water tanks should be reviewed for necessary shut off valves, pressure relief valves, and expansion tanks. Any tank older than 15 years should likely be replaced, and the others between 10-15 years old should start to be monitored for end of life replacement needs.
- The stage is suggested to be immediately decommissioned and demolished due to safety concerns, along with the abandoned section of building attached to the kitchen and dining hall area.

- All communal buildings that are being kept should be on a repair/replacement plan, particularly for the foundations as they are all insufficient in design and construction.
- The sheds are not necessarily a concern to human safety, but depending on what is stored in them, fire extinguishers and emergency lights should be added; and the slight step to all doors should be reviewed as a potential tripping hazard.
- Proper accessible paths should be built to all concession stand windows, in its current state it is a tripping hazard as well as an accessibility issue.
- Soffit should be added to all buildings to prevent water and pest ingress, cladding and roofing should also be replaced where identified as a concern in the above sections.
- An electrician should be brought in to address exposed wires, the exposed busbar in the seacan shed, and the cabinets for all panels should be replaced with weatherproof lockable enclosures.
- All gutters and downspouts should be replaced.
- Any unnecessary or poorly sealed openings and penetrations should be better sealed by a contractor to prevent water ingress.
- The chimney on the church should be removed and the opening sealed prior to the fair, as it is not properly supported and may become a safety concern.

## 8.3. BLEACHERS

- Under the request of the client, McElhanney is currently conducting a design review of the bleachers, and will provide a repair plan as a separate submission once completed.

## 8.4. POLE BARNS

- The barns identified to be noticeably failing in the above sections should have limited access to all people attending the fair, and they should be repaired or replaced in the very near future as they are a safety concern in their current state, and it will progressively get worse if not addressed soon. They should be labeled as a safety concern to the public through signage.
- All electrical panels should be provided with waterproof, lockable enclosures.
- All gutters and downspouts should be replaced.
- The other barns that aren't an immediate concern should be put on a repair schedule as they do have clear structural deficiencies that may eventually progress beyond repair if left unattended.
- The loose hay being stored openly should be moved and stored properly, away from public access.

## 8.5. OTHER STRUCTURES

- The bridge should have railings and lighting added before the next fair.
- The scale should be reviewed and given a maximum weight rating that is posted on the scale.
- Railings should be added to the scale to prevent falling if people attempt to walk across it.
- The water tower should be decommissioned and demolished prior to the next fair as it is a safety hazard.

- The exposed busbar in the electrical panel in the seacan shed should be evaluated by an electrician and repaired.
- The sawdust and hay piles by the arenas should be moved and stored properly away from public access.

## 9. Repair/Replacement Cost Estimation

The following cost estimates are based on EGBC class D guidelines, which includes a +/- 50% evaluation. Construction costs vary widely depending on the time of year, availability of labour and materials, and location of the project; and thus, cannot be accurately predicted far in advance. It is suggested to always assume a large contingency in budgeting, as prices can jump within a day without notice. The estimates provided will be based on repair costs where possible, as well as full replacement costs. Professional fees and demolition costs won't be included within the estimated values.

It is important to note that the cost estimates are based on the results of the non-invasive visual reviews; if an attempt to repair structures is made and more structural deficiencies are discovered upon the beginning of construction, the repair cost may fluctuate beyond the cost estimate.

The noted priority in the table below is based on a combination of client priority as well as structural concern and risk to safety.

Please note the following assumptions for the estimated repair values:

1. HVAC and insulation is not being added or modified.
2. Structures are not being brought up to full fire code requirements (sprinklers, fire separations, etc.).
3. Existing foundations can be reused or temporary foundations replaced in kind.
4. Kitchen and dining hall estimates include the cost of the commercial kitchen.
5. Repair estimates are for structural upgrades only (with the exception of the commercial kitchen).
6. Structures not intended for extended human occupancy are not considered.

The estimated replacement cost is based on ensuring the structure is fully code compliant and intended for continuous occupancy.

The water tower is not included in the list below as it is already considered abandoned and should just be demolished to avoid potential issues. The concession stands, judging booths, log house, storage sheds, and seacans have been deemed okay to remain in their current state as they are low occupancy buildings, with no expected risk to safety. The bleachers are already being evaluated for a repair plan by McElhanney at the request of the client, and so all information regarding the bleacher repairs will be provided in that submission.

| Structure | Priority | Square Footage | Estimated Replacement Cost/ sq. ft | Estimated Replacement Cost | Estimated Repair Cost |
|---|---|---|---|---|---|
| Office | 11 | 400 | $175 | $70,000 | $30,000 |
| Craft Hall | 6 | 1600 | $150 | $240,000 | $50,000 |
| Concession Stands | - | N/A | N/A | Not necessary | Not necessary |
| Judging Booths | - | N/A | N/A | Not necessary | Not necessary |
| Kitchen and Dining Hall (excluding abandoned section) | 3 | 1125 | $200 | $225,000 | $75,000 |
| Pineview Hall | 10 | 1500 | $150 | $225,000 | $40,000 |
| Bathrooms | 9 | 1150 | $150 | $172,000 | $30,000 |
| Log House | - | N/A | N/A | Not necessary | Not necessary |
| Church | 7 | N/A | N/A | Not necessary | $5000 (removal of chimney only) |
| Stage | 1 | 730 | 150 | $109,000 | Demolish |
| 4-H Building | 8 | 600 | $150 | $90,000 | $15,000 |
| Storage Sheds | - | | | Not necessary | Not necessary |
| Bridge | 4 | N/A | N/A | $5000 | Demolish |
| Seacans | - | N/A | N/A | Not necessary | Not necessary |
| Bleachers | 2 | N/A | N/A | N/A | Repair design currently underway - TBC |
| Pole Barns (numbers per site plan) | | | | | |
| #9 | 5 | 2400 | $50 | $120,000 | $15,000 |
| #36 | | 2250 | | $115,000 | $15,000 |
| #37 | | 7125 | | $350,000 | $25,000 |
| #41 | | 400 | | $20,000 | $10,000 |
| #42 | | 400 | | $20,000 | $10,000 |
| Total Values | | | | $1,765,000 | $320,000 |

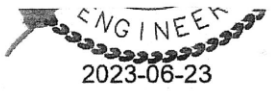
## 10. Closure

McElhanney has enjoyed working with Peace River Regional District on this project and hopes to continue our working relationship in the future. McElhanney has committed to providing the staff, resources, and technical expertise following the Engineers and Geoscientists of British Columbia' (EGBC) structure and internal Quality Management System (QMS) to efficiently and accurately execute this project. Should you have any questions, or require clarification, please contact the undersigned.

Sincerely,
McElhanney

Prepared by:

Reviewed by: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Enclosure

**PERMIT TO PRACTICE**
McElhanney Ltd.
**PERMIT NUMBER: 1003299**
Engineers and Geoscientists of BC

# APPENDIX A

Site Visit Photographs

Note: Select pictures have been chosen in the interest of brevity and as more representative or instructive than others. If a full set of pictures is required, please contact McElhanney and a ".zip" file will be made available on our server for download.

| Element: Office | GOOD | FAIR | POOR | NOT REVIEWED | NOT APPLICABLE |
|---|---|---|---|---|---|
| **Condition:** | ☐ | ☑ | ☑ | ☐ | ☐ |

**Comments:**

**Supporting Pictures:**


Timber foundation on a pile of untreated lumber

Exposed wires

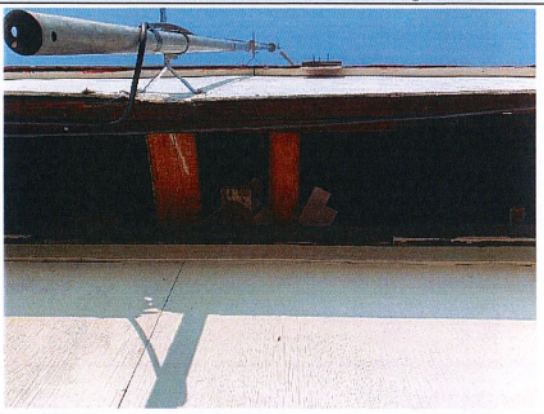
| Element: Craft Hall | GOOD | FAIR | POOR | NOT REVIEWED | NOT APPLICABLE |
|---|---|---|---|---|---|
| Condition: | ☐ | ☑ | ☑ | ☐ | ☐ |

**Comments:**

**Supporting Pictures:**

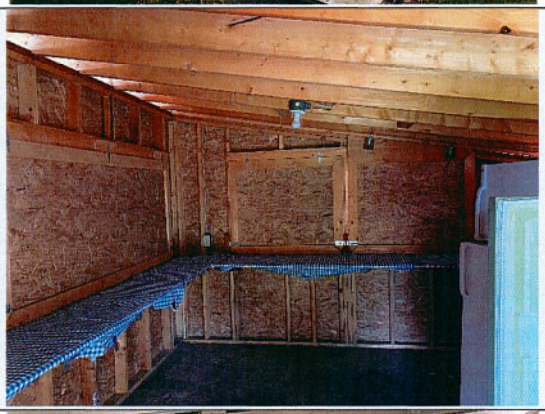
Untreated timber foundation on ground

Exposed Wire



| Element: Concession Stands | GOOD | FAIR | POOR | NOT REVIEWED | NOT APPLICABLE |
|---|---|---|---|---|---|
| Condition: | ☐ | ☑ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

**Supporting Pictures:**



| Element: Judging Booths | GOOD | FAIR | POOR | NOT REVIEWED | NOT APPLICABLE |
|---|---|---|---|---|---|
| Condition: | ☐ | ☑ | ☐ | ☐ | ☐ |

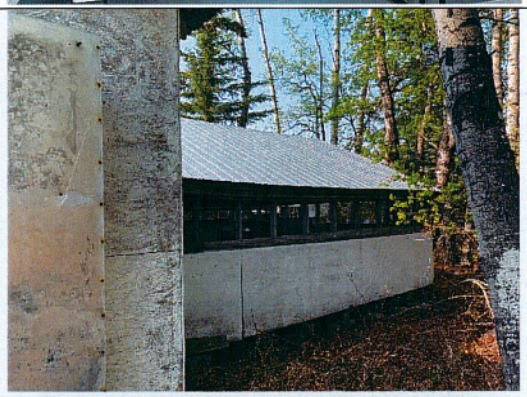
**Comments:**

**Supporting Pictures:**

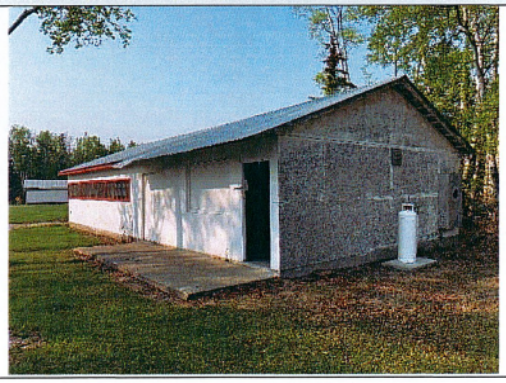

| Element: Kitchen and Dining Hall | GOOD | FAIR | POOR | NOT REVIEWED | NOT APPLICABLE |
|---|---|---|---|---|---|
| Condition: | ☐ | ☑ | ☑ | ☐ | ☐ |

**Comments:**

**Supporting Pictures:**



Abandoned building behind kitchen



Round log foundation

Untreated timber foundation

| Element: Log House | GOOD | FAIR | POOR | NOT REVIEWED | NOT APPLICABLE |
|---|---|---|---|---|---|
| Condition: | ☐ | ☑ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

**Supporting Pictures:**

| Element: Church | GOOD | FAIR | POOR | NOT REVIEWED | NOT APPLICABLE |
|---|---|---|---|---|---|
| Condition: | ☐ | ☑ | ☐ | ☐ | ☐ |

**Comments:**

**Supporting Pictures:**

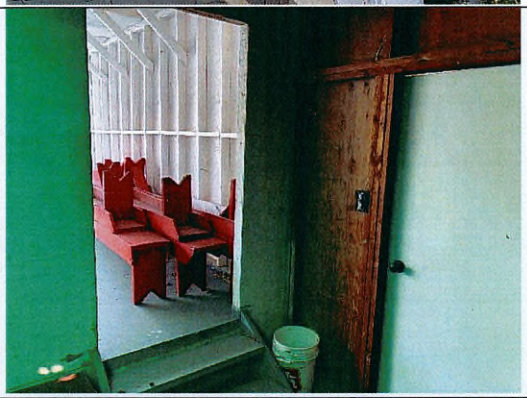
Chimney requiring removal

| Element: Stage | GOOD | FAIR | POOR | NOT REVIEWED | NOT APPLICABLE |
|---|---|---|---|---|---|
| Condition: | ☐ | ☐ | ☑ | ☐ | ☐ |

**Comments:**

**Supporting Pictures:**



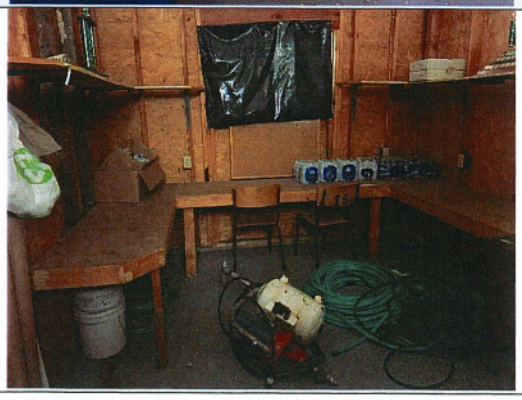



| Element: 4-H Building | GOOD | FAIR | POOR | NOT REVIEWED | NOT APPLICABLE |
|---|---|---|---|---|---|
| Condition: | ☐ | ☑ | ☐ | ☐ | ☐ |
| Comments: | | | | | |

**Supporting Pictures:**







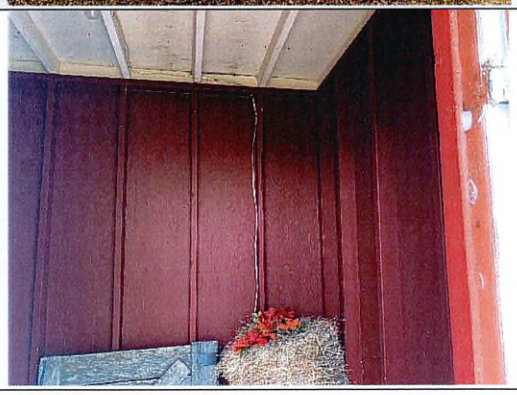

| Element: Storage sheds | GOOD | FAIR | POOR | NOT REVIEWED | NOT APPLICABLE |
|---|---|---|---|---|---|
| Condition: | ☐ | ☑ | ☐ | ☐ | ☐ |

**Comments:**

**Supporting Pictures:**



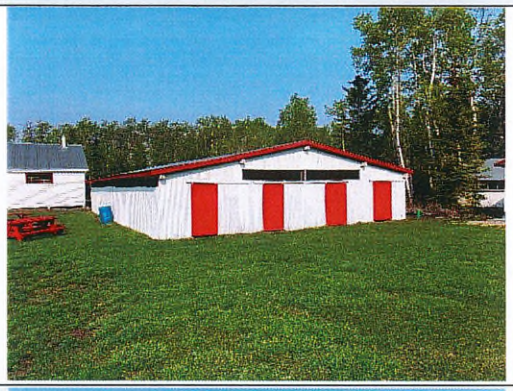


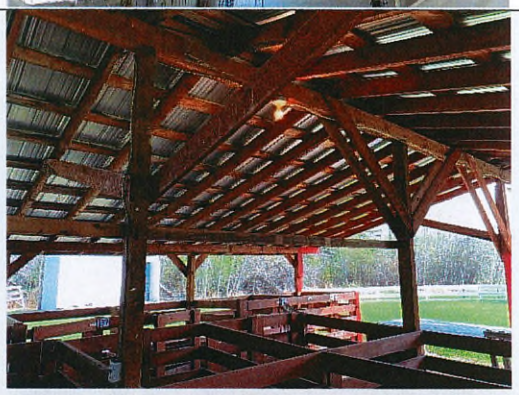
| Element: Pole Barns | GOOD | FAIR | POOR | NOT REVIEWED | NOT APPLICABLE |
|---|---|---|---|---|---|
| Condition: | ☐ | ☑ | ☑ | ☐ | ☐ |

**Comments:**

**Supporting Pictures:**



Gutters in poor condition



Leaning (long pole barn)

plywood shims column to beam

Roof sagging in various locations

Incorrect splice


Unlocked not weatherproof panel enclosure

| Element: Bleachers | GOOD | FAIR | POOR | NOT REVIEWED | NOT APPLICABLE |
|---|---|---|---|---|---|
| Condition: | ☐ | ☑ | ☑ | ☐ | ☐ |

**Comments:**

**Supporting Pictures:**






| Element: Other Structures | GOOD | FAIR | POOR | NOT REVIEWED | NOT APPLICABLE |
|---|---|---|---|---|---|
| **Condition:** | ☐ | ☑ | ☑ | ☐ | ☐ |

**Comments:**

**Supporting Pictures:**

Weight scale

Weight scale with untreated retaining wall

Bridge

Water tower

Seacan

Seacans

# APPENDIX B

Site Plan