# Crowsnest Pass
# Facility Evaluation Report

## Pass Community Swimming Pool
## 11973 20 Avenue
## Blairmore, Alberta

## Architecture | Arndt Tkalcic Bengert
## October , 2014

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## EXECUTIVE SUMMARY

On August 28, 2014 Architecture | Arndt Tkalcic Bengert, conducted a Facility Evaluation of the Pass Pool in the Community of Blairmore, Alberta. Accompanying Architecture | Arndt Tkalcic Bengert were the Director of Community Services Lyle Hannan and a Pool Lifeguard.

The purpose was to review and report on the existing facility relative to the building and Pool Facility current condition, viability and probable short and long-term operational costs. The Facility Evaluation Costing Report is attached in Appendix A. The total cost to upgrade the Pass Pool Facility would be $1,257,000.00

A synopsis of the Facility is provided as follows:

.1 Civil: The project site is generally in Poor condition, there are some areas that require upgrade, repair and replacement to ensure long term facility viability and performance. Further investigation is required to determine the best solution to the pool liner deterioration, the cracking of the pool deck, and the alkaline problems in the wading pool. Fencing requires replacement, pool equipment requires maintenance and repairs to maintain safety.

.2 Architectural/Structural: The Pass Community Pool has seen few upgrades and alterations since it's originally completion date. Based on observed conditions and information from operational staff, there has been 1 or 2 partial renovations to the Facility. Generally the building is in Marginal condition; however there are specific issues within the building that need to be addressed, specifically: cracks in the load bearing block requires repair, doors and storefront windows require replacement. Ongoing maintenance and/or some replacement of other building components and finishes is required. Existing washrooms are not barrier free and this should be addressed in any contemplated renovation to the facility.

.3 Mechanical: Mechanical systems are generally in poor to critical condition, the pool systems require upgrades and repairs to be operational. The wading pool chlorine system is not functioning properly and has been shut down by the Health authority. the main pool does not drain properly. Chlorination room venting does not appear to meet current fire code regulations. Cost for mechanical upgrades at ~$75.00/ sq ft = **$245,000.00**. The estimate is based on the mechanical systems in the building being totally demo'd and all new piping, plumbing, ductwork, digital building controls, fire extinguishers, HVAC equipment and new pool piping, pool fittings and equipment.

.4 Electrical: Electrical systems are general poor to marginal. Items of concern if the facility is to continue to operate in its present configuration are the electrical panels at maximum capacity and location. Renovation of any kind would, require that a fire alarm system be installed.

Emergency lighting and lighting fixtures require to be upgraded. Cost for electrical upgrades at ~$60.00/ sq ft = **$192,000.00**. I have based the estimate on the existing electrical systems in the buildings being totally demo'd and all new conduit, wiring, distribution, lighting (interior and exterior), communications, connection to new pool equipment and fire alarm for the Pool. Not included in the above is security, CCTV, card access or building service upgrades.

## 1.0 PROJECT METHODOLOGY AND APPLICABLE INFORMATION

Architecture | Arndt Tkalcic Bengert undertook an on-site visual and photographic review of the facility and all internal and external spaces on August 28, 2014. The Team also informally interviewed and was accompanied by a Director of Community Services / Building Operator to acquire subject facility history and desired or anticipated operational needs.

The Facility Evaluation was done with the use of photographic and documented observations, as well as direct input and consideration from the Pool Personnel and in some cases acquired knowledge of alterations done to the facility over the years.

Also factored was a review of an existing 2011 Capital Asset Study, that was conducted in November 2011 by FT3 Architects. Few of the observations and recommendations of that Report appear to have been implemented in the years since the report was released, or in some cases implemented and are again identified as issues in this Report. As the FT3 Report is now 3 years old, it is recommended to review the outstanding issues and plan to address the concerns before the facility deteriorates further.

This Facility Evaluation is intended to provide and outline immediate and ongoing maintenance needs and costs for the facility, as well as long term viability of the various spaces within the facility.

## 2.0 EXISTING FACILITY EVALUATION DESCRIPTION

### 2.1 FACILITY EVALUATION REPORT OUTLINE

All of the observations and information identified during the site review of each facility is documented in the Facility Evaluation Report. (Refer also to Appendix A.)

The Facility Evaluation Report includes architectural/structural building system descriptions, as well as mechanical and electrical systems and civil observations and/or comments based on discussions with the Crowsnest Pass Operational Personnel. The descriptions identify the condition of each system using a rating from 1 to 6, with respect to the observed condition of the system. The information in the report is the basis for the Executive Summary.

### 2.2 FACILITY EVALUATION REPORT FORMAT

The Facility Evaluation Report is a summary, in chart form, that identifies the condition of each of the facility and the individual systems and its probable cost to maintain and / or upgrade. The chart contains the following reviewing format:

1. Facility and/or venue Name

2. Chart Rating Definitions:

| | | |
|---|---|---|
| 1 | Critical | Unsafe; high risk of injury or critical system failure. |
| 2 | Poor | Does not meet requirements; has significant deficiencies. |
| 3 | Marginal | Meets minimum requirements; has significant deficiencies. |
| 4 | Acceptable | Meets present requirements; has minor deficiencies. |
| 5 | Good | Meets all present requirements; no deficiencies. |
| 6 | Excellent | As new / state-of-the-art; meets present / foreseeable needs. |
| FI | | Requires further investigation. |
| N/A | | Not applicable. |
| CU | | Currently being upgraded. |

| | |
|---|---|
| Life Expectancy | Less than 5 years for replacement (<5)<br>5 to 10 years for replacement (5-10)<br>Greater than 10 years for replacement (>10) |
| Priority | High (H), Medium (M), Low (L) |
| Life / Safety Code Infringement | Meets code (No); Does not meet code or endangers life (Yes) |

** Denotes a definition or category that is not applicable to this Study.

## 2.3 FACILITY EVALUATION REPORT EXPLANATION

1. A system noted as Further Investigation (FI) denotes a system that information was unavailable, could not be readily determined, and / or could not adequately be reviewed with a visual examination on site.

2. System Priorities have been established as High (H), Medium (M), Low (L).

3. Future expansion or alterations are a possibility for the purposes of this Study and as such, are discussed in this Report.

4. Life / Safety Code Infringement are major infringements to the current Alberta Building Code 2006, which would affect life / safety for users and staff. It is anticipated in existing facilities that some requirements of the current Alberta Building Code may not be met. For the purposes of this Study, it is only those infringements which specifically involve fire and / or life / safety that are identified.

5. Cost to Upgrade identifies costs to each individual system, accurate to approximately $5,000.00 and this level of accuracy is sufficient for this early stage of costing.

6. Mechanical and Electrical system conditions and costs have been reviewed and provided by the specific Consultant on a rudimentary basis and with input and needs / performance assessments from operational staff; they are not a detailed review or an engineering based assessment of the systems.

## 3.0 Pass Community Pool REVIEW

### 3.1 Facility History:

The original Pass Pool in Blairmore, Alberta was built in 1972. The facility is open to the public seasonally from May long weekend to September long weekend. The Facility is noted as having a pool boiler replacement in 2004. The wading pool was also added later and concrete deck cracks around the wading pool were resealed and painted in 2011.

### 3.2 Civil (Site) Review:

.1 The building site has positive drainage to 20 Avenue on the south and 121st Street to the east. The pool is located adjacent to a secured lane to the north east. The north west side of the pool yard is a park. A concrete sidewalk has been added to the east basement mechanical room access. The chain link fencing to the southwest and north west of the pool deck appear in acceptable condition with some repairs required. The north east side of the pool deck is closed off with a wood fence system supported on steel posts. (Refer to Photo C1) The wood fence has deteriorated and should be replaced, the steel posts could be refinished and repainted.

.2 The pool side concrete deck has extensive cracking and a major fault line crack from the wading pool through to Diving tank. This crack should be reviewed by a pool engineer for direction in proper method of repair. Additional drains appear to have been added into the concrete deck and cracking is ongoing. Repairs and replacement of the concrete deck is required to be completed to eliminate further damage. . (Refer to Photo C2). The newer wading pool had concrete cracks repaired and deck painted in 2011. Since the repairs a black substance has been found to be coming from the joints and the paint has not lasted 2 seasons. It appears that an inappropriate material was used in the joints and should be removed and replaced with an appropriate epoxy joint filler grout.(Refer to Photos C3, and C4).

.3 Staff noted areas of concern with respect to the pool liners. The liner is pulling away from the structure and the sagging of the liner is more evident when the pool is drained. The pool liners also appears to be damaged at the lane rope inserts and where the exit steps are located. The concrete is disintegrating behind the lane rope attachment and the concrete is being pulled into the liner and damaging the liner. There is a discoloring of the liner when the pool is drained - the liner turns green, blue and black. Recently when the town water system over flowed the liner turn yellow from ground

water. The wading pool has a separate chlorine system and has not been running since a health inspection determined the alkalinity was too high. The wading pool system requires to be assessed by a pool engineer to determine how this system can be modified to meet the requirements for the alkalinity. (Refer to Photos C5, C6, C7 and C8).

.4 Pool equipment such as diving boards and ladders to slides appear to be deteriorating. Column supports are rusting and non slip tap on steps is worn away. Repairs and/or replacements are required. (Refer to Photo C9 and C10).

### 3.3 Architectural Review:

.1 Building Envelope:

The exterior walls of the building envelope for this facility are primarily single wythe ribbed load bearing concrete block with painted plywood fascia panel between the projecting glu-lam beams. The pool side block wall is a smooth face block painted finish to both the interior and exterior. It is noted that the interior face of the exterior block walls is painted with no true vapour barrier. Cracks in the concrete block walls are evident and should be sealed before freeze thaw cycle cause further deterioration. (Refer to Photos A1, and A2). The main entrance doors are aluminum storefront with painted plywood infill panels below the mid door horizontal mullions. Doors and windows from the office to pool side are also aluminum storefront. Plywood infill panels are worn and damaged and should be replaced with proper metal spandrel panels. Caulking around the aluminum storefronts are damaged and flashing are missing. Incorrect caulking and grout at the storefront frames appears to be causing water to be unable to drain from the window frames causing deterioration of the materials. Storefront frames, glazing and doors should be replaced with new properly sealed units. Access from the men's and women's change areas to the pool side is through pressed steel doors and frames. Doors are noted as been damaged and steel is rusting and weatherstripping is missing. The poolside access doors are not barrier free. These doors should be replaced. (Refer to Photos A3, A4, and A5).

The roof is exposed heavy timber wood decking spanning across the glu-lam beams approximately 2.6m O.C. The roof membrane of the Pass Pool building is expected to be a vapour retarder with insulation, fiberboard, built-up bituminous roof membrane with asphalt and gravel ballast. Although no leaks have been reported there is staining noted on the glulam beams in the change areas. The date of the last roof replacement is not know. It is recommended that the roof be reviewed by a roofing inspector to determine the

remaining life expectancy. The fascia band of the roof is painted wood and appears to be distressed wood. The fascia band should be replaced with a prefinished metal. Rainwater leaders are located on the exterior of the building. (Refer to Photos A6 and A7),

Further investigation and remedial work is required to address this problem.

.2 Interior Finishes:

Finishes within the Entry Lobby, Office, are dated with the exception of a small amount of floor tile in the office and entry. The millwork cabinetry and washroom vanities are delaminating and require replacement. The floors in the change areas are painted concrete. The painted floor finish is deteriorating and does not meet the needs for the non slip floor. Maintenance staff indicate that the floors are painted yearly and due to exposure to pool chlorine the finish doesnot last the season. Change room floors should be finished with a non slip epoxy floor finish. Ceramic floor and wall tile located around the urinals and sinks and showers appears in margarinal condition. Upgrading the tile should be completed when epoxy flooring is installed. Drains and troughs in the shower area are deteriorated and require replacement (Refer to Photos A8, A9 and A10). Lockers have been replaced in 2011 and are in good condition. The built up base is exposed plywood and should be finished with a edge banding to protect the wood from damage and potential slivers. The benches in the change rooms are original and painting upgrades cannot prevent potential splinters from damaged wood, replacement is required.

The basement mechanical room has a wood stair in critical condition and requires immediate replacement. (Refer to Photo A11).

.5 General:

Access to the basement Mechanical Room is accessed through an open corridor and stair. Along this corridor is the Chlorine Room which is required to be protected with a fire separation and proper venting. The existing wood door with large glazed panel does not provide the proper fire safety. This wood door and frame requires to be replaced. It is also noted that the exhaust fan for this chemical room serves the exit corridor. Further investigation from a Mechanical Engineer with knowledge in venting chemical rooms should be undertaken to ensure the safety of this area for staff. Janitor room requires to be fire separated with 1 hour resistive rating. Provide a fire rated door to the Janitor Room (Refer to Photo A12 and A13).

## 3.4 Structural

.1 General:

Only basic structural elements were reviewed by Architecture ATB and further investigation should be provided regarding items noted as a concern.

.2 Structural System Descriptions:

The building is a single storey building with load bearing block walls on reinforced concrete foundation walls and strip footings. The main floor is a suspended concrete floor supported by beams and columns. The roof structure is wood decking on glulam beams. The swim tanks are likely reinforced concrete slab on grade with reinforced concrete walls. The Basement is concrete slab on grade and formed concrete for the filter tanks.

.3 General Structural Observations and Recommendations:

The basement formed concrete for the filter tanks has severe cracking that should be repaired. (Refer to Photos S1 and S2). Swimming tanks are noted as having fault cracks from the wading pool through to the diving tank. The pool liner is pulling away from the pool wall and showing discoloration. In some areas, the concrete appears to be crumbling behind the liner. Further investigation is required to determine if ground water is filtering through cracks in the pool structure and causing deterioration.

## 3.5 Mechanical:

.1 General:

The site review conducted was not a detailed review of the mechanical systems. The operation of the mechanical equipment was a visual review of the installed mechanical systems. As part of the site review, the building staff assisted in outlining deficiencies in the mechanical systems to date.

.2 Mechanical System Summaries:

The mechanical systems serving the Pass Pool are noted as two furnaces located in the basement mechanical room which provide supply air to the main floor occupied spaces.

The water main enters the building in the basement mechanical room and distributes water to the pool boiler, domestic cold water distribution and domestic hot water boiler and the pool sump.

From the onsite review, it would appear that the pool mechanical systems are in poor to critical condition and require further investigation by an engineer specializing in swimming pool systems. The following existing conditions require investigation and resolution :

- Hot water tank release valve spits boiling hot water on the mechanical room floor.
- The butterfly valve that controls the pool circulation must be wide open yet it cannot keep the flow rate up to standard.
- The boiler does not fire properly.
- The wading pool chlorine system is a separate system (2010) and has been shut down due to alkalinity being too high. The wading pool is not available for community use until the system can be fixed.
- The Main pool will not drain properly. Presently the solution is to use the dive pool to drain in conjunction with the main pool and equalize the line.
- Chlorination room venting does not appear to be vented separate and directly to the exterior as the duct is connected to the exit corridor venting. (Refer to Photos M1 and M2)

.3 Plumbing:

Most of the plumbing fixtures appear to be in fair condition. Urinals appear to be cracked along the top of the fixtures. None of the plumbing fixtures currently installed would meet today's requirements for low water usage fixtures.

The mechanical room is crowded and used for storage of pool chemicals, Electrical panels, and pool equipment . This creates a danger. Recently the town water flooded the mechanical room and water was flowing over and on to the electrical power source and panels. (Refer to Photos M3, M4 and M5).

.5 Fire Protection:

The fire protection currently installed in the building are wall mounted portable fire extinguishers.

## 3.6 Electrical:

.1 General:

The building evaluation specifically related to the electrical installation and systems involved a visual inspection and discussions with the Facility Operators. Only basic electrical elements were reviewed by Architecture ATB and further investigation should be provided regarding items noted as a concern.

.2 Building Concerns:

- Electrical panels are located in the mechanical room in close proximity to the pool water filtration systems and chemicals.
- The building uses 1x4 surface mounted light fixtures as well as incandescent fixtures. Lighting should be upgraded to more efficient lighting.
- Electrical wiring concerns are noted by the Facility Operators when a heater is plugged in or a hair dryer is used the breaker is overloaded.
- Emergency lighting battery packs require repair and replacement. Exit lighting is required for exiting from mechanical room and service corridor.
- Exterior lighting fixtures require repair or replacement.
- The building does not appear to have a fire alarm system in place.

# 4.0 APPENDIX A

## Costing Report

# PROJECT NAME: Crowsnest Pass Community Pool

**CHART RATING DEFINITIONS:**

**Existing Facility Evaluation**

(1) Critical: Unsafe, high risk of injury or critical system failure.

(2) Poor: Does not meet requirements, has significant deficiencies. May have high operating / maintenance costs.

(3) Marginal: Meets minimum requirements, has significant deficiencies. May have above average operating maintenance costs

(4) Acceptable: Meets present requirements, minor deficiencies. Average operating / maintenance costs.

(5) Good: Meets all present requirements. No deficiencies noted.

(6) Excellent: As new / state-of-the-art, meets present and foreseeable requirements.

(FI) Requires further investigation

(N/A) Not applicable

(CU) Currently being upgraded

Life Expectancy: Less than 5 years for replacement (<5); 5 to 10 years (5-10); greater than 10 years (>10)

Priority: High (H); Medium (M); Low (L)

Future Expansion: Can be expanded (Yes); No capacity for expansion (No)

Life / Safety Code Infringement: Meets code (No); Does not meet code or endangers life (Yes)

**Building Planning Strategies**

(a) Location Strategy: Is the building located strategically to capture market.

(b) Reinvestment Strategy: Minor upgrades to the building required to maintain facility.

(c) Revitalize Strategy: Renovations and additions that are required to meet current standards for facilities.

(d) Build New Strategy: Due to the current facility conditions, recommendation is to rebuild facility.

## BUILDING:

ARCHITECTURAL / STRUCTURAL

| Component Reference | Rating (1-6) | FI FI | Life Expectancy (<5, 5-10, >10) | Priority (H, M, L) | Life Safety Code Infringe- No / Yes | Cost to Upgrade (+/- $5,000) |
|---|---|---|---|---|---|---|
| **1 SITE** | | | | | | |
| Wood fencing - Note C1 | 2 | No | <5 | H | No | $ 5,000.00 |
| Pool concrete deck - Note C2 | 3 | Yes | 5 - 10 | M | No | $ 250,000.00 |
| Pool Liners - Note C3 | 2 | Yes | <5 | H | No | $ 150,000.00 |
| Pool Equipment - Note C4 | 3 | No | 5 - 10 | H | Yes | $ 5,000.00 |
| | | | | | **SUBTOTAL** | **$ 410,000.00** |
| **2 BUILDING ENVELOPE** | | | | | | |
| **2.1 Roofing** | | | | | | |
| Fascia and re-roofing | 3 | Yes | 5 - 10 | M | No | $ 80,000.00 |
| | | | | | **SUBTOTAL** | **$ 80,000.00** |
| **2.2 Walls** | | | | | | |
| repair cracked block | 2 | No | <5 | H | No | $ 5,000.00 |
| | | | | | **SUBTOTAL** | **$ 5,000.00** |
| **2.3 Exterior Windows** | | | | | | |
| Storefront aluminum frames | 3 | No | <5 | H | No | $ 15,000.00 |
| | | | | | **SUBTOTAL** | **$ 15,000.00** |
| **2.4 Exterior Doors** | | | | | | |
| insulated metal doors | 2 | No | <5 | M | No | $ 5,000.00 |
| | | | | | **SUBTOTAL** | **$ 5,000.00** |

## BUILDING:

ARCHITECTURAL / STRUCTURAL

| Component Reference | Rating (1-6) | FI FI | Life Expectancy (<5, 5-10, >10) | Priority (H, M, L) | Life Safety Code Infringe- No / Yes | Cost to Upgrade (+/- $5,000) |
|---|---|---|---|---|---|---|
| **3 INTERIOR FINISHES** | | | | | | |
| **3.1 Flooring** | | | | | | |
| epoxy floor in change rooms | 2 | No | <5 | H | No | $ 40,000.00 |
| | | | | | **SUBTOTAL** | **$ 40,000.00** |
| **3.2 Walls** | | | | | | |
| Ceramic wall tile washroom | 3 | No | 5 - 10 | M | No | $ 5,000.00 |
| | | | | | **SUBTOTAL** | **$ 5,000.00** |
| **3.3 Ceiling** | | | | | | |
| | 4 | No | 5 - 10 | L | No | $ - |
| | | | | | **SUBTOTAL** | **$ -** |
| **3.4 Interior Windows** | | | | | | |
| | 4 | No | 5 - 10 | L | No | $ - |
| | | | | | **SUBTOTAL** | **$ -** |
| **3.5 Interior Doors** | | | | | | |
| hollow metal rated doors | 1 | No | <5 | H | Yes | $ 5,000.00 |
| | | | | | **SUBTOTAL** | **$ 5,000.00** |
| **3.6 Millwork** | | | | | | |
| washroom vanities | 3 | No | <5 | M | No | $ 5,000.00 |
| | | | | | **SUBTOTAL** | **$ 5,000.00** |
| **3.7 General** | | | | | | |
| Stair to basement mechanical rm | 1 | No | <5 | H | Yes | $ 5,000.00 |
| | | | | | **SUBTOTAL** | **$ 5,000.00** |
| **4 MECHANICAL** | | | | | | |
| **4.1 Mechanical** | | | | | | |
| Pool operations | 1 | Yes | <5 | H | Yes | $ 150,000.00 |
| Plumbing fixtures | 3 | No | <5 | M | No | $ 15,000.00 |
| Barrier free washrooms | 2 | No | <5 | H | Yes | $ 30,000.00 |
| | | | | | **SUBTOTAL** | **$ 165,000.00** |
| **5 ELECTRICAL** | | | | | | |
| **5.1 Electrical** | | | | | | |
| Electrical room | 1 | Yes | <5 | H | Yes | $ 15,000.00 |
| Upgrade lighting | 2 | No | <5 | H | No | $ 30,000.00 |
| Upgrade wiring | 2 | Yes | <5 | H | No | $ 25,000.00 |
| Emergency lighting repairs | 1 | No | <5 | H | Yes | $ 10,000.00 |
| Fire Alarm System | 1 | Yes | <5 | H | Yes | - |
| | | | | | **SUBTOTAL** | **$ 80,000.00** |
| | | | | | **TOTAL** | **$ 820,000.00** |
| Mechanical Modernization Costs | | | | | | $ 245,000.00 |
| Electrical Modernization Costs | | | | | | $ 192,000.00 |
| | | | | | TOTAL | $ 1,257,000.00 |

## 5.0 APPENDIX B

## Photographs

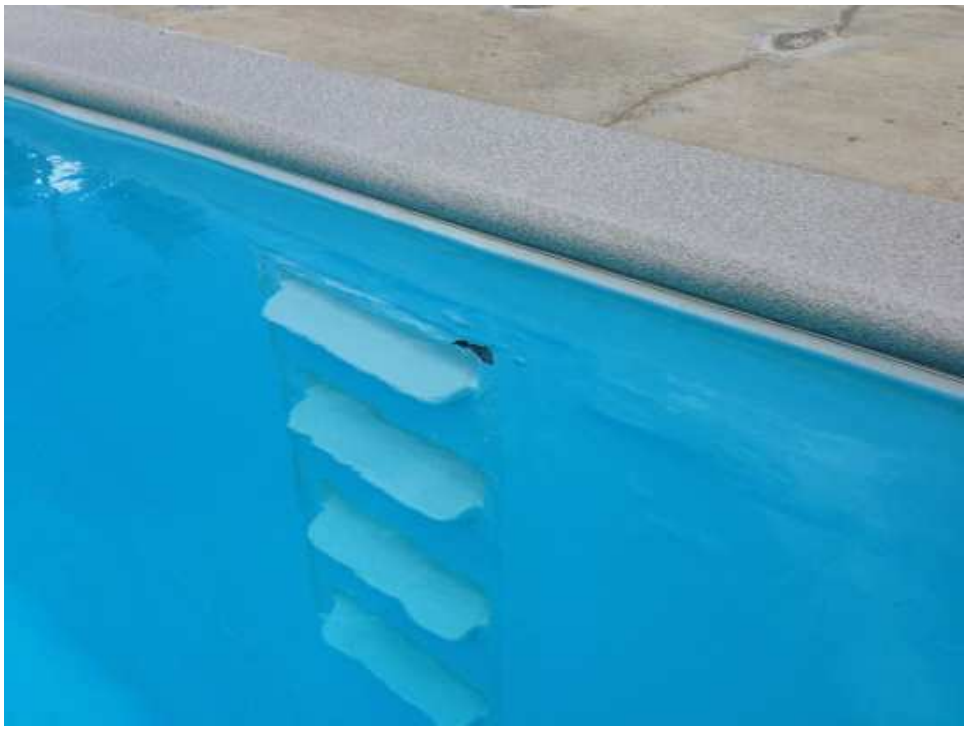
**C1 - Wood Fencing**

**C2 - Pool Deck Cracking**

**C3 New pool deck peeling paint and crackfiller.**


**C4 - Waiting pool unable to be used**

**C5 - Lane rope attachments are pulling out and liner is damaged**



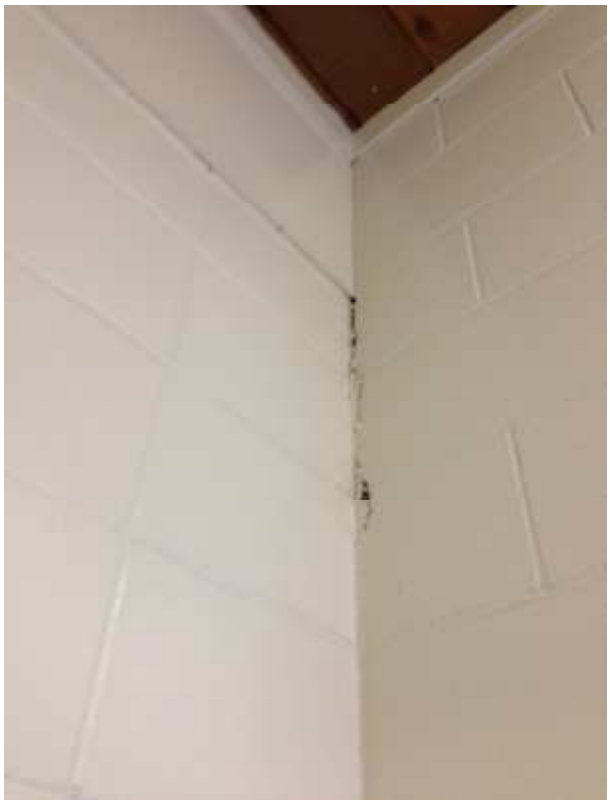
**C6 - Liner is damaged and pulling away from concrete**

**C7 - Pool liner discolouring**

**C8 - Pool liner discoloring**

**C9 - Non slip stair tread nosings require replacement**

**C10 - Pool equipment is rusting**



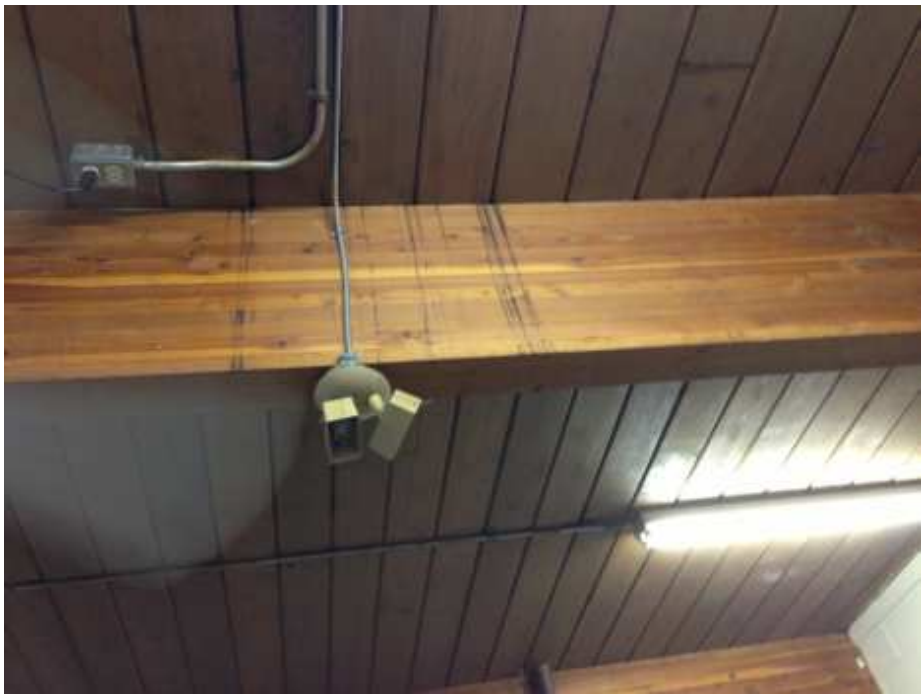
**A1 - Cracks in concrete block Joints**

**A2 - Cracks in concrete block wall joints**

**A3 - Plywood panel infill in storefront frames requires replacement**

**A4 - Caulking and grout filled joints require removal and correction**


**A5 - Hollow metal door deterioration and not barrier free**



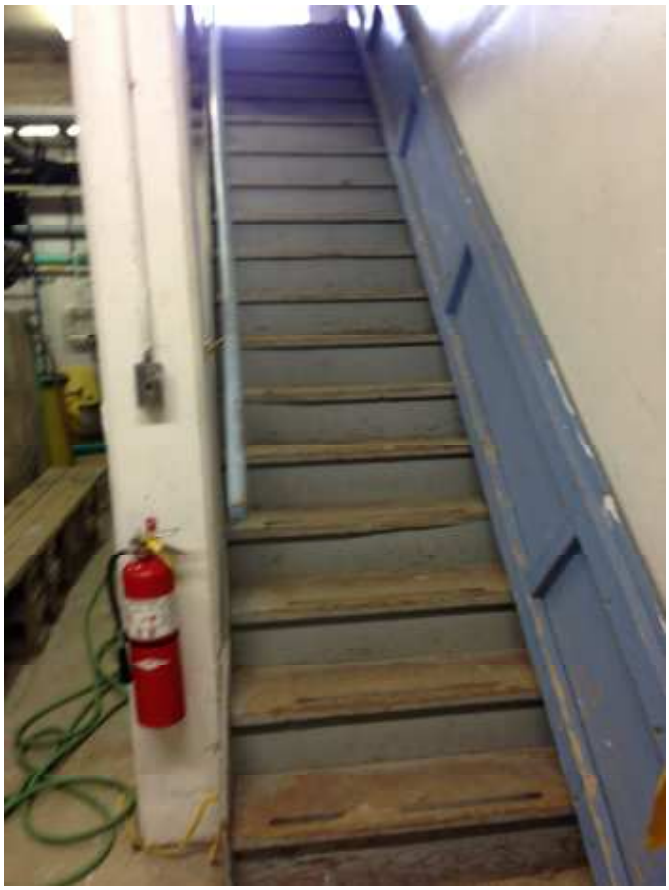
**A6 - Staining on Glu-lam beams from asphalt roofing**

**A7 - Painted wood roof fascia requires replacement with metal flashing**

**A8- Floor finish has deteriorated and requires replacement**

**A9 - Floor finish requires replacement**

**A10 - Ceramic tile  requires replacement**



**A11 - Basement stairs required repair to treads risers and non slip nosing**


**A12 - Chlorine gas room door requires to be fire rated for life safety.**

**A13 - Janitor room requires a fire rated steel door and frame.**

**S1 - Structural foundation cracks**

**S2 - Structural foundation cracks**