Morton Grove Park District

Harrer Park Pool Facility Evaluation

13 July 2017

WILLIAMS
ARCHITECTS/AQUATICS

Morton Grove
Park District

www.mortongroveparks.com

Prepared For:
Morton Grove Park District

Prepared By:
Williams Architects Aquatics
WA Project No. 2017-030

WILLIAMS ARCHITECTS/AQUATICS

ACKNOWLEDGEMENTS

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A. EXECUTIVE SUMMARY

BACKGROUND AND HISTORY

The Morton Grove Park District (MGPD) commissioned Williams Architects/Aquatics (WA) to provide an assessment of the Harrer Park Pool facility located at 6250 Dempster St., Morton Grove, IL. The intent of the evaluation was to determine the present condition of the facility and pools to consider planning for aquatic repairs/replacements as they relate to long range considerations for this facility and make informed decisions regarding future operations. The original pool facility including bathhouse facility was constructed in 1962. Various renovations and capital improvements have been implemented up to the present day. This facility is one of two pool facilities within the Morton Grove Park District service area. There have been multiple generations of community enjoyment and memories at the Harrer Park Pool facility throughout the years.

Current amenities include:

- 50 meter, 6 lane lap pool with conjoined Deep Well Hopper with Diving Pool.
- One (1) open Waterslide.
- Wading Pool.
- Spray Pad with separate recirculating system.
- Concession deck.

Posted Bather Load: 571 bathers:

Existing Volumes of pools (in gallons) as per 2016 Cook County Department of Public Health inspection: 300,000

Water usage (in gallons):

2012:	1,422,400
2013:	2,590,798
2014:	1,477,730
2015:	2,367,762
2016:	1,364,148

Attendance

2012:	22,504
2013:	19,289
2014:	11,552
2015:	15,550
2016:	15,013

METHODOLOGY

The evaluation consisted of an on-site visual inspection on 09 May 2017 and 02 June 2017 with MGPD staff members Superintendent of Parks and Facilities, Keith Gorczyca and Parks Maintenance Technician, Tim Brunning of the facility with onsite discussions regarding areas of specific concerns. Steve Mihelich and Rich Klarck of Williams Architects Aquatics (WA) were on site with Mark Ventrelli, Jon Triphahn, and Karl Streitenfeld of W-T Engineering (WT). The investigation included a visual examination of the structure and finish for the pools, pool gutter systems, exposed piping, pool filtration systems, chemical control and feed systems, deck areas and related equipment. This report will help identify items that do not meet the current regulations of the Illinois Department of Public Health (IDPH) Swimming Pool and Bathing Beach Code and current industry design standards. Reference to violations of the State Administrative Code, in the body of this report, should not necessarily be construed as grounds for pool closure. Additional staff level meetings have taken place leading to this final report.

The state administrative code referred to in this pool audit report is:

State of Illinois Administrative Code
Title 77: Public Health
Chapter 1: Department of Public Health (IDPH)
Subchapter n: Recreational Facilities
Part 820 Illinois Swimming Pool and Bathing Beach Code

- The building and construction codes are:
    - International Building Code, 2003 edition with local amendments.
    - International Existing Building Code, 2003 edition with local amendments.
    - International Mechanical Code, 2003 edition with local amendments.
    - Illinois Plumbing Code, 2014, edition with local amendments.
    - National Electrical Code, 2011 edition with local amendments.
    - International Fire Prevention Code, 2003 edition with local amendments.
    - Life Safety Code (NFPA 101), 2000 edition with local amendments.
    - The International Energy Conservation Code, 2012 edition.

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OBSERVATIONS

The outdoor aquatic facility has serviced the Morton Grove Park District for many years. Over the years, repairs have been made and modifications incorporated, making changes to the original facility design. Documented changes include the following:

Filtration improvements, bathhouse improvements, roof addition, water slide built.

1995: Bathhouse remodel, filter removal and replacement.

1998: Pool deck renovation, new liner and coping stones.

2001: Water slide replaced, new pool heater.

2004: Spray ground built.

2010: Replace 4 spray tips in spray ground, cut and replace concrete section.

2012: New water slide pump.

2014: Main drain sump removal and replacement.

2015: Spray ground water line repairs

CONCLUSIONS

This facility, being 55 years old, is well beyond the expected 30-40 year lifespan of a pool facility of this type. While repairs and replacement of deficient items described in this report provide up to five (5) years of life expectancy, there is a good possibility the facility use would be interrupted due to unknown factors that may require major repairs. With what we know upon observing and documenting our findings, there are unknown items that could lead to breakdowns causing the facility to close sooner. With the facility at its current age and condition, it is not advisable to continue to make any repairs or improvements extending this facility beyond five (5) years of additional use. The companion report by the AT Group outlines four (4) viable Options For Consideration to maximize the value, use, and operations for these five (5) years.

The biggest factors limiting the life of this facility is the age of underground piping which experiences significant leaks, the life of the pool liner, and condition of the concrete substrate behind it. Water and heating costs of water are high and will continue to increase due to anticipated pipe leaks. Even if it were possible to extend the life of this facility beyond five (5) years, it is not up to date with current aquatic trends of today.

Main Pool

The findings of our facility assessment indicate the Main Pool has a number of deficiencies that require major repairs. The primary deficiencies include:

1. Deterioration of existing concrete pool structure.
2. Existing PVC pool liner has exceeded its useful life and requires replacement.
3. Deterioration of rimflow coping stone joints affecting skimming action.
4. Major water loss (condition of underground piping) most likely due to piping leaks.

Wading Pool

The findings of our facility assessment indicate that the wading pool is in fair condition. The primary deficiencies include:

1. Chemical balancing of the wading pool is difficult due to its volume and the way the sample stream water to the chemical controller is taken.
2. There is no main drain line, which is a violation of IDPH code requirements.
3. Numerous surface pop-outs in the concrete wall at the deep end of the pool.

Sprayground

The findings of our facility evaluation indicate that the Sprayground is in fair to good condition. The primary deficiencies include:

1. There is some minimal concrete spalling/cracking/surface pop-outs on the sprayground concrete slab.
2. The integral concrete color finish is worn and not uniform.

Consideration could be given to keeping the sprayground in service beyond the life of the rest of this facility. This would require a more extensive study of the parameters necessary for this to occur.

IDPH Code Violations *

1. Main drain in lap pool is not located at the deepest portion of the pool.
2. Depth markers in areas do not meet IDPH code requirements.
3. The floor inlets in the deep well are more than 15'-0" from the side walls.
4. There are areas on the pool decks where water sheets in excess of 15'-0".
5. The main flow meter does not meet the requirements of the IDPH code.
6. The wading pool does not have a main drain.

* Reference to violations per the Illinois Department of Public Health Code (IDPH) should not be construed as grounds for pool closure.

ADA

A transition plan prepared by ACI Services for American with Disabilities Act of 1990 and the Illinois Accessibility Code was made available by MGPD to WA. We recommend these items be addressed within the time frame of our work.

On the pool zone, (2) pod lifts are needed to comply with ADA accessibility.

Bathhouse / Concessions / Pool Equipment

The Bathhouse, Concession, and Pool Equipment spaces are generally outdated and are in average condition at best. While there are minimal immediate health/safety issues, the structure is not reflective of an updated user experience. While capital improvements will prolong the age of the structure it will not update it to a current user experience. The primary deficiencies include:

- Highlights of findings:
  - Shower floor is delaminating.
  - Admission takes ID cards and cash only. Update admission/pass capabilities.
  - Reroof.
  - Replace windows.
  - Provide masonry repairs.
  - ADA transition plan needs to be implemented.
  - Mechanical, Electrical, and Plumbing Systems are in need of updates and replacements (se WT report found in Appendix) Highlights are as follows:

- Replace exhaust fans.
- Corrosion of electrical equipment.
- No exit signs and battery back up lights.
- No fire alarm.
- Additional outlets required on the pool deck.
- Fire alarm and emergency lighting missing.

Site

The primary deficiencies include:

- Highlights of findings:
  - ADA site work implementation outside the pool zone is moving forward at the time of this writing.

Other factors:

There are unknown factors that could lead to possible catastrophic failure and breakdowns within this facility which could lead to unplanned and premature closure if not factored or known:

- Underground pool piping: repairs in specific locations may cause leaks in other areas.
- Pool walls behind liners
- Freeze/thaw damage due to bad winters
- Corrosion within the pool equipment room

Options for Consideration:

A separate document by The AT Group will outline four (4) Options for Considerations to maximize the value, use, and operations at Harrer Park Pool for five (5) years:

1. Continue to operate on an annual basis. The condition of the facility dictates when the District will close. This is not desirable due to operational risks: refunding annual passes and laying off seasonal staff.
2. Implement some or all recommendations to 2021, then close.
3. A hybrid of 1 and 2: Plan to close within the next five (5) years while spending minimal dollars.
4. If a decision is made to close Harrer Park Pool, continue to provide some form of an aquatic amenity at Harrer Park Pool.

DISTRICT WIDE AQUATIC CONSIDERATIONS – HARRER AND ORIOLE PARK POOLS:

1. Compare Harrer Pool to Oriole Pool: In conjunction with the primary service population of 23,000 as of 2014.

   An analysis of attendance records for the past five (5) years at both pools indicates Oriole Park Pool as a 500 bather load facility can accommodate the District's service area by dividing their attendance by serviceable days: eighty (80) days. See Appendix for attendance records of each facility.

   If Oriole Park Pool were the only facility in the District, in means of travel distance it appears capable of serving the District service area since it is located no more than 15 to 30 minutes of travel time and located in a community park according to national standards.

2. Review potential for any improvements that would be needed at Oriole Pool if Harrer were to be closed.

   a. If Harrer Park Pool were to close, the body flume slide ride and spray ground amenities would be lost to the District without additional considerations.

      1. Consider leaving spray pad with possible enhancements at Harrer Park.
         - Update/reconfigure control point.
         - Modify electrical and water service.
         - Provide perimeter fencing.
         - Remove bathhouse.
         - Provide appropriate lighting.

      2. Consider a body flume slide as a potential complimentary offering to Oriole Pool.

   b. As the sole pool facility within the District's service area, parking would be an issue at Oriole Park Pool. Currently 37 spaces support Oriole Pool's 500 bather load facility and would be overtaxed without a plan to transport patrons to that park or add provisions for more parking nearby. The neighborhood will need to support these plans.

B. OBSERVATIONS

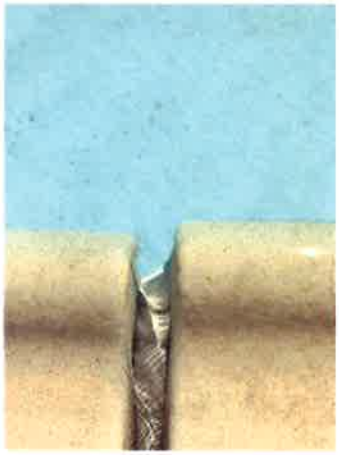
The following are observations and discussions regarding the condition and function of the pool structure and pool equipment. Reference to violations per the Illinois Department of Public Health Code (IDPH) should not be construed as grounds for pool closure.

Main Pool

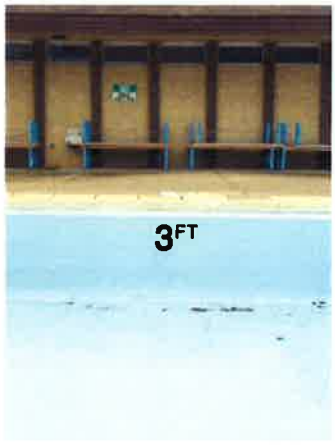
1. The existing PVC pool liner is 19 years old and has exceeded its useful life. It has extensive patching and staff indicated that there are numerous pin holes present. The liner is no longer adhered to the pool walls in the deep well of the pool.

2. The facility has been experiencing major water loss for the past five years. Some piping repairs were made in 2015, which reduced the water loss by approximately 1,000,000 for the season. However, major water loss, 1,364,148 gallons, still continued for the 2016 season. The water loss does not just impact the cost of make-up water but also effects chemical costs and energy costs to heat the water.

3. There is very minimal differential settlement of the perimeter gutter. However, the joints between the coping stones have deteriorated and allow water to flow through the openings, rather than providing uniform perimeter skimming at the hand-hold. This condition effects the surface skimming action and the ability to effectively remove dirt, oils and suspended material.



4. There are areas where there are no depth markers on the building or fencing enclosure. *This is a violation of current IDPH code requirements: Section 820.200.i Depth Markers – 1) The water depth shall be marked at or above the water surface on the wall of the pool and on the edge of the deck next to the pool so as to be readable by persons entering or in the pool. Where depth markers cannot be placed on the walls at or above the water level such that at least 50% of the marking is above water level, they shall be placed on the pool wall as high as practicable and also on the fencing or pool enclosure so as to be plainly visible to persons in the pool. Depth markings shall be provided at the shallow and deep ends of the pool, the transition point, and the point of maximum depth, and shall be spaced at not more than 25 foot intervals measured peripherally, except that depth markings are not required at a zero-depth edge.*



5. There are areas on the pool walls where major cracks can be felt through the liner. In one area where a crack was felt, the upper portion of the pool wall above the crack extended into the pool significantly more than the portion of the pool wall below the crack. This indicates some significant movement and deterioration of the concrete pool structure.

6. A preliminary inspection was performed on the pool walls around the perimeter of the pool, up to the 5'-0" depth, in order to try to locate hollow spots in the concrete structure, which would verify deterioration. It appeared that some hollow spots were present, however it was difficult to identify due to the liner and the fact that in many areas the liner is no longer adhered to the pool walls.

7. The caulk joints behind the coping stones are in fair to poor condition.

8. Staff indicated that the pool main drain is located in the shallow portion of the pool, at the northeast corner, and that the drain line in the main drain located in the deepest portion of the pool is only used to drain the pool to the lift station. *This is a violation of* ***current*** *IDPH code requirements: Section 820.210.f.3. Outlets A) Each pool shall be provided with a main drain system installed at the deepest point, which shall be connected to the pool recirculation system. For multiple-purpose pools, with a floor consisting of more than one drainage area, at least one drain shall be provided in each basin, so that each portion of the pool floor is sloped to drain.*

9. The floor inlets in the deep well are more than 15 feet from the side walls. *This is a violation of current IDPH code requirements: Section 820.210.f.2.- E) Where floor inlets are used, inlets shall be uniformly spaced at a distance of no greater than 20 feet apart, and rows of inlets shall be within 15 feet of each side wall. Floor inlets shall be flush with the pool floor and shall include a diffuser plate to evenly distribute the flow in all directions.*

10. There are areas on the pool decks where water sheets in excess of 15'-0". *This is a violation of **current** IDPH code requirements: Section 820.200.j Walkways and Deck Areas – 6) Except for linear drains, deck drains shall be located so that not more than 900 square feet of deck area is tributary to each drain, and deck drains shall not be more than 30 feet apart. Deck drains shall be located so that water does not drain more than 15 feet in any one direction. Where deck widths are 15 feet or less, deck drains are not required, provided that the deck drains to the ground surface. The deck drains shall not be connected to the pool water recirculation system. Pools designed to operate where the pool water level is at the deck level may be allowed to drain the first 4 feet of deck into the pool perimeter overflow system. Up to 10 feet of the deck adjacent to a zero-depth edge may be drained into the pool.*

11. The decks are in good condition based on their age. There are a few areas where there is some differential settlement, which creates tripping/toe stubbing hazards for patrons. The concrete around some of the deck drains has deteriorated.

12. A few of the deck drain grates are raised, creating a tripping/toe stubbing hazards for patrons.

13. There are caulk joints on the concrete decks that are deteriorated and need to be replaced.

14. The guard chairs have significant corrosion on the top plate of the pedestal, where the platform and chair are attached.

Flume Slide

1. The flume slide has had extensive patching and The flume slide finish is very faded.

2. The finish on the flume slide tower and railings is in poor condition. The paint finish is chipping and flaking.

3. The grout under the base plates of the slide columns is severely deteriorated.

Wading Pool

1. The wading pool concrete structure is in fair condition. There are numerous concrete surface pop-outs in the pool wall at the deep end of the pool.

2. There are areas where there are no depth markers on the perimeter fencing enclosure. *This is a violation of current IDPH code requirements: Section 820.200.i Depth Markers – 1) The water depth shall be marked at or above the water surface on the wall of the pool and on the edge of the deck next to the pool so as to be readable by persons entering or in the pool. Where depth markers cannot be placed on the walls at or above the water level such that at least 50% of the marking is above water level, they shall be placed on the pool wall as high as practicable and also on the fencing or pool enclosure so as to be plainly visible to persons in the pool. Depth markings shall be provided at the shallow and deep ends of the pool, the transition point, and the point of maximum depth, and shall be spaced at not more than 25 foot intervals measured peripherally, except that depth markings are not required at a zero-depth edge.*

3. The wading pool painted finish is in poor condition.

4. There is very minimal differential settlement of the perimeter gutter. However, the joints between the coping stones have deteriorated and allow water to flow through the openings, rather than providing uniform perimeter skimming at the hand-hold. This condition effects the surface skimming action and the ability to effectively remove dirt, oils and suspended material.

5. The wading pool does not incorporate a main drain. *This is a violation of current IDPH code requirements: Section 820.210.f)3)A) Each pool shall be provided with a main drain system installed at the deepest point, which shall be connected to the pool recirculation system. For multiple-purpose pools, with a floor consisting of more than one drainage area, at least one drain shall be provided in each basin, so that each portion of the pool floor is sloped to drain.*

6. The decks on the east end of the wading pool sheet water in excess of 15'-0". This is a violation of current IDPH code requirements: *Section 820.200.j Walkways and Deck Areas – 6) Except for linear drains, deck drains shall be located so that not more than 900 square feet of deck area is tributary to each drain, and deck drains shall not be more than 30 feet apart. Deck drains shall be located so that water does not drain more than 15 feet in any one direction. Where deck widths are 15 feet or less, deck drains are not required, provided that the deck drains to the ground surface. The deck drains shall not be connected to the pool water recirculation system. Pools designed to operate where the pool water level is at the deck level may be allowed to drain the first 4 feet of deck into the pool perimeter overflow system. Up to 10 feet of the deck adjacent to a zero-depth edge may be drained into the pool.*

<u>Sprayground</u>

1. Minimal concrete spalling/cracking/surface pop-outs on the concrete surface.

2. Integral concrete color finish is worn and faded. It is not uniform.

3. Per staff, the sprayground feature pump does not keep prime. This could be due to the check valve on the pump suction not losing he filter being dirty.

4. Per staff, the Sprayground is running well.

Pool Mechanical

1. The chemical controller sampling lines for the wading pool and the main pool are taken off of the supply line after the filter. This design does not provide an accurate reading for the wading pool. Both chemical controllers are sampling water from the main pool and the wading pool combined. Ideally, the sampling lines should be taken off the main drain line for each pool, prior to the main drain isolation valve and modulating valve, allowing sampling of water from the pool being controlled.

2. Staff indicated that chlorine levels in the wading pool are good but it is very difficult to control pH. This is a due to the fact that the wading pool chemical controller is not sampling water directly from the wading pool.

3. Per staff, chemical usage for both pools is extremely high. This is due to the excessive water loss that the pools currently have.

4. The main flow meter does not meet the "5 and 10 rule" required by the IDPH code. *This is a violation of current IDPH code requirements: Section 820.210.d Flowmeter. Flowmeters shall be located so that the rate of recirculation and the backwash rate of sand filters can be read. In a multiple pool system, flowmeters shall be provided for each pool. Separate flowmeters shall be provided to monitor the flow for each area of a pool with a turnover rate that differs from adjacent areas according to subsection (b)(1). Flowmeters shall be provided on inlet supply piping in accordance with subsection (f)(2)(F). Flowmeters shall be installed on a straight length of pipe with no valves, elbows or other sources of turbulence within 10 pipe diameters upstream or 5 diameters downstream from the flowmeter.*

5. Per staff, the vacuum transfer on the filter, to load DE into the filter, does not work well. It takes 15 minutes to load the DE.

6. The filter on-stream valve and pre-coat valve do not always open in sequence, maybe 5% to 10% of the time, per staff. This is most likely due to the MOD1 system controller not operating properly. This condition will allow diatomaceous earth, DE, media to pass into the pool. Per staff, DE is getting into the pool.

7. The mother boards for the MOD1 filter controller are no longer available. If replacement is required the new model Filtrex controller would need to be purchased or a HALO system controller would need to be purchased.
8. The influent pipe going into the filter has an immediate 90 degree elbow right before the flange connection to the filter. This can cause turbulent flow into the filter and

result in DE filter media to fall off the filter elements and pass into the pool. It is recommended that there is a straight length of pipe, a minimum of 5 pipe diameters, before the filter to create a laminar flow.

9. Staff indicated the swimming pool heater only runs intermittently and can only get the water up to 76 degrees. The heater is 16 years old and in very poor condition.

ADA

Various ADA issues to be verified as per Morton Grove Park District's separate ADA report.

- Highlights of findings:
  - Five (5) accessible parking stalls are to be dedicated and striped.
  - Miscellaneous door opening fire issue.
  - Miscellaneous toilet accessory mounting height correction.
  - Benches required at changing rooms.
  - Miscellaneous drinking fountain mounting heights.
  - Full height mirrors in dressing room/toilet rooms.
  - Pass thru concession counter is too high.
  - Locker room door signage mounting heights.
  - 1" high tot pool zero depth transition.
  - Walkway between tot pool and east side of lap pool cross pitches.
  - Open risers at pool

Bathhouse / Pool Equipment / Concessions

1. Exterior
   a. Outside pool equipment room south elevation and entire north elevation, moisture has collected on the first several courses of face brick. No weep holes or flashing at the base to allow moisture an outlet is evident.

   b. Steel windows has been puttied and sealed. They are showing signs of needing replacement.

c. Roof shingles facing south have darkened at routes of water travel. No visual signs of cupping.
d. Most of the wood trim is showing signs of deterioration or requiring restaining.
e. Sprayground equipment shed: water marks on roof sheathing from underside.

2. Women's Changing Interior
   a. No ADA full height mirror.
   b. Shower wall base, due to a straight base profile and no cove at the first structural glazed tile course, the glazing is showing signs of deterioration at the trench drains.

3. Men's Changing Interior
   a. No ADA full height mirror.
   b. Steel windows has been puttied and sealed at sashes before. They are showing signs of wear.
   c. Crack in dressing room slab.

4. Entry and Office
   a. Surface cracks in slab at Entry.

5. Pool Equipment Room
   a. Signs of chemical corrosion.

6. Concessions
   a. Stained plywood soffit as exterior.

7. Pool Deck
   a. Southern perimeter fence has overhead water-line facing the pool zone for yard hydrant or hose bib.
   b. There are apparent lack of current non-complying areas slide to drain lengths as they relate to current IDPH requirements:
      - NW corner at lap pool: slope to drain exceeds 15'
      - SW corner at lap pool: deck slope shallow
      - South of 50M pool under and adjacent to slide: not enough drains and deck slope is shallow.
      - Deck between deep well and slide: Slope to drain exceeds 15' and deck slope is shallow.
      - Deck zone behind dive stands: slope to drain exceeds 15' and deck slope is shallow.

8. Mechanical, Plumbing, and Electrical Systems
   a. Refer to Appendix for Mechanical, Plumbing and Electrical Systems
   b. Changing facilities have more than adequate amount of shower, lavatory and toilet fixtures.
   c. Number of plumbing fixtures required to support the current posted bather load is in conformance as per Appendix B of the IDPH code.

	Existing Dry & Wet Combined (571 posted bathers load)	Required (501-1,000 bathers)
Men:		
• Toilets	5	3
• Urinals	4	3
• Lavs	2	2
• Showers	11	6
Women:		
• Toilets	6	6
• Lavs	2	2
• Showers	9	6

C. RECOMMENDATIONS / CONSIDERATIONS

The following recommendations and opinion of probable cost address major items identified in this report as needing repair, replacement or renovation.

It is recognized that this Consultant or Owner have no control over the cost of labor, materials or equipment, over the Contractor's methods of determining bid prices, or over competitive bidding, and market or negotiating conditions. Accordingly, the Consultant cannot, and does not, warrant or represent that bids or negotiated prices will not vary from the Owner's project budget or from any opinion of construction cost or evaluation prepared or agreed to by the Consultant.

Each recommendation has been assigned a priority level which determines the importance of the repair/replacement. The priority level assigned to a recommendation is based on the following:

Priority	Time Frame	Assessment Criteria
1	2018-2019 Work	Deterioration of structure; health and life human safety deficiencies; maintenance items that will reduce future maintenance; Illinois Swimming Pool and Bathing Beach Code compliance.
2	2020-2021 Work	Repairs that will be required that are not health and life safety issues, but could lead to failure

		Swimming Pool and Bathing Beach Code compliance; maintenance improvements that can be performed by the Park District
3	Potential exposure/items to breakdown/catastrophic failure beyond maintenance.	Items that may need to be quickly implemented due to catastrophic failure and/or breakdown that will cost more than $1,000 each. Note: All items and cost herein are allowances that have significant operating budget impact.
4	Augment ongoing maintenance and modernization.	Improvements that will improve the performance of the facility.
5	No time frame/for further study if needed	5A: Replace this pool facility with same bather load facility. 5B: Updated to current pool/aquatic trends while complimenting District community level of service.

RECOMMENDATION	PROBABLE COST RANGE
PRIORITY LEVEL 1	
HIRE A LEAK DETECTION COMPANY TO FIND LOCATION OF POOL LEAKS.	$4,000 TO $6,000
REPAIR LEAKS FOUND BY LEAK DETECTION COMPANY. (TO BE VERIFIED UNTIL ACTUAL TEST IS DONE). REPAIR CONCRETE POOL STRUCTURE, PRIOR TO NEW LINER NEW INSTALLATION, AS REQUIRED BY POOL LINER MANUFACTURER INCLUDED.	$50,000 TO $75,000
DEMO EXIST, INSTALL NEW PVC POOL LINER	$100,000 TO $120,000
REPAIR POOL COPING STONE JOINTS IN THE MAIN POOL AND IN THE WADING POOL. (300 JOINTS TOTAL)	$35,000 TO $45,000
INSTALL NEW MAIN DRAIN LINE WITH MODULATING VALVE ON THE WADING POOL. PROVIDE CHEMICAL SAMPLING FEED PUMPS ON EACH MAIN DRAIN TO ALLOW SEPARATE SAMPLING AND CHEMICAL CONTROL OF THE WADING POOL AND THE MAIN POOL	$70,000 TO $100,000
INSTALL NEW POOL HEATER (REPLACE EXISTING WITH POSSIBLE UPGRADE)	$25,000 TO $50,000
REPLACE SELECTED RAISED DECK DRAIN GRATES	$1,500 TO $2,000
ADA (2) POOL ACCESSIBILITY LIFTS	$20,000 TO $25,000
INSTALL HVAC COMBUSTION AIR OPENING	$4,500 TO $6,000
CORRECT ELECTRIC CODE VIOLATIONS INCLUDING LACK OF SELF-POWERED BATTERY BACKUP AND NO EMERGENCY LIGHTING	$20,000 to $25,000
INSTALL FIRE ALARM SYSTEM WITH FIRE DEPARTMENT CONNECTION	$25,000 TO $30,000
TOTAL – PRIORITY LEVEL 1	**$355,000 TO $484,000**

PRIORITY LEVEL 2	
INSTALL NEW MOD1 SSC FILTER CONTROLLER	$5,000 TO $7,000
ROOF REPLACEMENT	$20,000 TO $35,000
MISCELLANEOUS ADA BUILDING COMPLIANCE ALLOWANCE	$15,000 TO $20,000
REPAIR SUNDECK IN SHOWERS	$20,000 TO $25,000
TOTAL – PRIORITY LEVEL 2	**$60,000 TO $87,000**
PRIORITY LEVEL 3	
SLIDE TOWER GEL COATING AND RECOAT TOWER STRUCTURE	$70,000 TO $90,000
MISCELLANEOUS POOL DECK REPAIRS	$50,000 TO $100,000
REPLACE ELECTRIC SERVICE SWITCHBOARD, METER TO PANELS	$20,000 TO $25,000
REPLACE POOL EQUIPMENT ROOM JUNCTION BOXES, DISCONNECTS, MOTOR STARTERS & CONDUIT	$15,000 TO $20,000
PROVIDE INTERIOR LED LIGHT FIXTURES AND ASSOCIATED CONTROLS	$35,000 TO $40,000
REPLACE LIGHTING TIME CLOCKS	$2,000 TO $3,000
ADDITIONAL POOL LEAKS UNKNOWN AFTER INITIAL REPAIRS	$50,000 TO $75,000
POOL WALL REPAIRS BEYOND REQUIRED BY LINER WORK & REPAIR LINER	$25,000 TO $50,000
BREAKDOWN OF ELECTRICAL SYSTEMS DUE TO CORROSION AND RUST	$10,000 TO $15,000
DOMESTIC WATER HEATER REPLACEMENT	$15,000 TO $20,000
BAD WINTER CONTINGENCY (FREEZE/THAW)	$25,000 TO $50,000
DEEP SUMP PUMP FAILURE	$12,000 TO $15,000
REPLACE EXHAUST FANS	$10,000 TO $15,000
MISCELLANEOUS CUT & PATCHING ALLOWANCE	$25,000 TO $50,000
SUBTOTAL – PRIORITY LEVEL 3	**$364,000 TO $568,000**

PRIORITY LEVEL 4	
REMOVE AND REPLACE DOMESTIC WATER PIPING, FIXTURES, WATER HEATERS, & SYSTEMS	$150,000 TO $170,000
REPLACE RECEPTACLES & FACE PLATES	$1,500 TO $2,000
WINDOW REPAIRS	$5,000 TO $10,000
MASONRY REPAIRS (IF MOISTURE IIN EXTERIOR WALLS BECOMES PROBLEMATIC)	$25,000 TO $40,000
TOTAL – PRIORITY LEVEL 4	**$181,500 TO $222,000**
PRIORITY LEVEL 5A	
REPLACE FACILITY INCLUDING BATHHOUSE & POOL EQUIPMENT. LEAVE SPRAYGROUND	$7,000,000 TO $8,000,000
TOTAL – PRIORITY LEVEL 5A	**$7,000,000 TO $8,000,000**
PRIORITY LEVEL 5B	
RECONFIGURE CONTROL ACCESS: CONCRETE PATH	$15,000 TO $30,000
FENCE ENCLOSURE TO SPRAYGROUND	$20,000 TO $40,000
SPRAYGROUND EQUIPMENT ENCLOSURE UPDATE	$50,000 TO $100,000
MISCELLANEOUS PIPING RECONFIGURATION	$50,000 TO $100,000
REWORK ELECT TO FEED SPRAYGROUND PUMPS	$25,000 TO $30,000
MODIFY EXTERIOR LIGHTING WITH LED TYPE FIXTURES	$25,000 TO $30,000
MODIFY WATER SERVICE	$35,000 TO $40,000
TOTAL – PRIORITY LEVEL 5B	**$220,000 TO $370,000**

WILLIAMS ARCHITECTS/AQUATICS

D. APPENDIX

- HVAC Existing Conditions Assessment prepared by the W-T Group, dated 19 May 2017.
- Swimming Pool Attendance Records

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PH: (224) 293-6333 | www.wtengineering.com

May 19, 2017

MECHANICAL, PLUMBING, & ELECTRICAL EXISTING CONDITIONS ASSESSMENT

For

MORTON GROVE PARK DISTRICT
HARRER PARK POOL
6250 Dempster St.
Morton Grove, IL 60053

Morton Grove Park District
www.mortongroveparks.com

Mechanical

Systems Description

The Bathhouse buiding has no means for heating and cooling. Heat was provided by hot water radiant tubing in the floor slabs however this system is no longer operational. The radiant floor heat system consists of a gas fired boiler located in the pool filter room. Hot water is circulated to the various floor heat zones by inline pumps, also located in the pool filter room. The pumps are controlled by wall mounted thermostats as well as floor temperature sensors. It was reported by park district staff that this system is no longer operational. The facility is "winterized" and not heated. There is no cooling provided in any portion of the building.

Exhaust for the Bathhouse is provided by inline exhaust fans located in the attic. The intake ductwork for these fans is routed exposed below the ceiling. The discharge ductwork is routed in the attic to wall louvers at various locations throughout the buildng.

The fans are controlled by wall switches located in the Guard Office. One fan serves the Women's Locker areas, one fan serves the Men's Locker areas and one fan serves the Pool Filter Room

The Pool Filter Room is heated by an electric unit heater controlled by a wall mounted thermostat. The chemical storage room has an inline exhaust fan with intake ductwork routed to floor level and discharge ductwork to a wall louver.

The Concession Room was heated by a hot water unit heater however the heater is connected to the abandoned radiant floor heat and is inoperable.

Exposed exhaust ductwork in Bathhouse

Thermostat for radiant floor heat

Switches for Bathhouse Exhaust fans

Typical exhaust grilles in Bathhouse

Zone pumps for radiant floor heat

Boiler for radiant floor heat (abandoned)

Electric unit heater in boiler room


Hot water unit heater in Concessions


Exterior intake venting for pool heater

Typical exhaust louver for bathhouse

Condition of Equipment

The ductwork and grilles that are visible in the Bathhouse appears to be in good condition. The radiant heating boiler and pumps that are located in the Pool Filter Room are in very poor condition and not operating. Much of the metallic surfaces in the Filter room have excessive corrosion on them, likely due to excessive chlorine and acid in the atmosphere. This corrosive atmosphere probably caused premature failure of the boiler burners. The electric unit heater in the Filter room appears to be in good condition.

The condition of the exhaust fans in the attic could not be observed at the time of survey.

Code Violations

Combustion air openings were not observed in the Filter room. One pool heater has a ducted combustion air intake (see picture above).

Recommendations

Verify the combustion air requirements for the pool heaters and domestic hot water heater in the Filter room and provide adequate combustion air openings as required.

If the radiant floor heat system is not desired to be renovated and reused, it is recommended to remove the abandoned radiant floor heat boiler and all associated pumps and piping in the Filter room. It is also recommended to remove all associated equipment such as the hot water unit heater in the Concessions Room, thermostats and sensors.

The condition of the exhaust fans in the attic could not be determined at the time of survey, however assuming they have not been replaced since the improvements done in 1986, they are approximately 30 years old and well past their useful lives. If this is the case, it is recommended to replace these fans.

Plumbing

Systems Description

Pool Equipment Room, this room consists of (1) one 3" water service, (1) one 3" water meter, (1) one 3" reduced pressure backflow preventer, (1) one 3" reduced pressure backflow preventer for pool fill, (1) one make up water fill for surge tank, (1) one thermostatic mixing valve for showers, (1) one hot water recirculation pump, (1) one water heater, (1) one hot water storage tank, (2) two hose bib's, (1) one receiving basin for pool backwash and a few floor drains.

Water meter

backflow preventer

Backflow preventer for pool fill

surge tank fill

Mixing valve

recirculation pump

Hose bib

backwash drain

Pool Deck, the deck consists of various drains, trench drains, (2) two yard hydrants, (2) two sill cocks, (2) drinking fountains and (1) one pool underdrain sump pump.

Typical deck drain

typical trench drain

Typical yard hydrant

Drinking fountain and sill cock

pool underdrain pump

drains at splash pad

Men' Dry Toilet Room, this room consists of (1) one floor set manual flush valve water closet, (2) two wall hung manual flush valve urinals, (2) two wall hung lavatories with single handle metering faucets, (2) two hose bib's and (1) one floor drain.

Water closet

urinals

Floor drain

lavatories

Men's Janitor / Storage, this room consists of (1) one service sink

Service sink

Men's Dressing Room, this room consists of (1) one drinking fountain.

Drinking fountain

Men's Shower, this room consists of (11) eleven surface mounted metering shower faucets, Floor trenches with drains and area drains.

Showers

shower trench drain

Showers

shower trench drain

Shower drain

shower faucet

Handicap shower

typical area drain

Men's Wet Toilet, this room consists of (4) four floor set manual flush valve water closets, (2) two urinals with manual flush valves, (1) one floor drain and (1) one hose bib.

Water closet

urinals

hose bib

Women's Dressing Room, this room consists of (1) one drinking fountain.

Drinking fountain

Women' Dry Toilet Room, this room consists of (2) two floor set manual flush valve water closet, (2) two wall hung lavatories with single handle metering faucets, (2) two hose bib's and (1) one floor drain.

Water closet and hose bibb

lavatories

Women's Shower, this room consists of (9) nine surface mounted metering shower faucets, Floor trenches with drains and area drains.

Showers

handicap shower

Showers

shower drain

Women's Wet Toilet, this room consists of (4) four floor set manual flush valve water closets, (1) one floor drain and (1) one hose bib.

Water closet

floor drain

Women's Janitor / Storage, this room consists of (1) one service sink

Service sink

Concessions, this room consists of (1) one electric water heater, (1) one floor drain, (1) one hose bib, (1) one three compartment sink, (1) one grease trap and 91) one hand sink.

Water heater

floor drain

Three comp sink

grease trap


Hand sink

Building Systems, The waste and vent system consists of cast-iron and galvanized piping. The water piping consists of galvanized and some copper piping.

Condition of System

The system appears to be working properly and in poor condition.
Water piping appears to be mostly original and in poor condition.
Fixtures and equipment appear to be mostly original and in poor condition.

Code Violations

The water cooler is not ADA compliant
The water heater does not have an expansion tank.
Most hose bib's do not have vacuum breakers.

Recommendations

Correct code violations.
Remove and replace the water piping system.
Remove and replace all fixtures.
Remove and replace the water heating system. Remove and replace existing thermostatic mixing valve.

Electrical

Systems Description

The building electrical service presently consists of a pad mounted Comed transformer, interior floor mounted 400 amp 120/208 volt, 3-phase, 4-wire switchboard with C/T, exterior meter socket, and a 400 amp, 3-pole main circuit breaker. The distribution section consists of two (2) - 30A/3P, four (4) - 100A/3P and two (2) - 200A/3P fusible switches. The switchboard is located in the pool equipment room.

There are six (6) panels located throughout the building, many without identification and are as follows:

1. Panel LP-2 is a 225 amp 120/208V 3PH, 4W 36-circuit main lug only panel.
2. Panel PP is a 100 amp 120/208V 3PH, 4W 30-circuit main lug only panel.
3. Concession panel is rated 200 amps 120/208V 3PH, 4W 24-circuit main lug only and is fed with a 100 amp feed and disconnect switch.
4. There is a panel tagged Harrer Guard Rm. and appears to be a 200 amp 120/208V 3PH, 4W 42-circuit main lug only panel.
5. There is a panel located in the pool equipment room also tagged as Harrer Guard Rm. and it is a 200 amp 120/208V 3PH, 4W 42-circuit main lug only panel and appears to be fed with a 200 amps feed and disconnect switch.
6. There is a 480V panel and a 45KVA 480-120/208V 3Ph, 4W transformer present in the pool equipment room. This equipment currently appears to be abandoned.


ON
ON
WATER SLID


ON
ON
AIR COMPRESSOR
OFF


OFF


120/208 VOLTS
LP 2

The building is not equipped with a Fire Alarm System but does have a stand alone 120V smoke detector with battery back-up.

Interior lighting consists of combination of T-5 lamped linear industrial, wraparound, and vapor-tight surface mounted fluorescent fixtures, surface mounted sockets with screw-in compact fluorescent lamps and surface mounted 1' x 1' square vapor-tight fixtures.



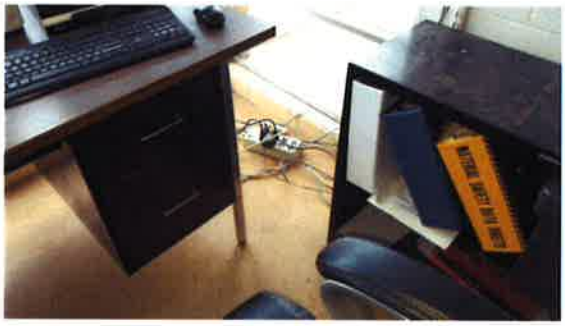



There is only one exit sign and an emergency battery light present in the pool equipment room. The balance of the building does not have powered exit signs with emergency battery back-up or emergency battery lighting units.

Interior lighting controls consist of local toggle and key operated switches.

There are a combination of 15 amp and 20 amp rated receptacles present with GFCI type located at sinks. There are some extension cords present.



Exterior building lighting consists of surface mounted LED square fixtures and recessed 1' x 1' HID square, lensed fixtures. Site lighting consists of HID pole mounted heads mounted on what appears to be round 30'-0" poles.


Exterior lighting controls consist of a combination of contactors and time clocks.






Exterior lighting controls consist of a combination of contactors and time clocks.


The exterior of the building has a horn system we believe is connected to the Thor Guard system and a music/paging speaker.

Condition of System

The existing exterior meter socket is in poor condition. The main switchboard is showing signs of rusting and corrosion with some of the disconnect switches not identified as to what they serve. Panels LP-2 and the Concession panel are in good condition. Panel PP interior is in good condition with the cover rusting and in poor condition. The 200 amp 120/208V 3PH, 4W 42-circuit main lug only panel tagged Harrer Guard Rm. is rusting and in poor condition. The panel located in the pool equipment room also tagged as Harrer Guard Rm. is badly rusted and in poor condition. The 480V panel and a 45KVA 480-120/208V 3Ph, 4W transformer present in the pool equipment room are showing signs of rust and are average to poor condition.

The existing interior lighting fixtures range from average, newer vapor-tight fixtures to poor condition, older lensed wraparound and industrial fixtures with some having missing, broken, or cracked lenses. The 1' x 1' square vapor-tight fixtures look to be in good condition. The combination exit sign and emergency light fixture is in good condition.

Lighting control switches are in average to poor condition with some faceplates showing dirt.

The receptacles are in average condition with some receptacles showing over-paint on them. Faceplates are in average to poor condition.

Exterior building surface mounted lighting is in good condition while the recessed 1' x 1' fixtures are in average condition. Exterior pole mounted light fixtures and poles are in average condition.

The exterior lighting control system consisting of contactors and time clocks range from poor to average condition.

The Thor Guard lightning system is in good condition.

The exterior horns and speakers are in average condition.

Generally, the equipment consisting of junction boxes, disconnect switches, motor starters, conduit, and panels located in the Pool Equipment Room are showing signs of rust and corrosion and are in poor condition due to pool chemicals.

Code Violations

Insufficient illuminated exit signage with emergency battery back-up in building.

Insufficient emergency battery lighting in building.

There is no fire alarm system installed in the building.

The current interior lighting control system does not meet the 2015 IECC energy code for automatic off control.

Recommendations

Correct all code violations.

Replace the existing main electrical service switchboard, meter and panels that are rusted and corroded. Utilize Nema 4X enclosures within the Pool Equipment Room.

Replace all junction boxes, disconnect switches, motor starters and conduit within the Pool Equipment Room. Utilize Nema 4X enclosures and galvanized rigid conduit.

Replace existing interior lighting fixtures that are in poor condition with new LED type lighting fixtures.

Replace the exterior pole mounted lighting fixtures with LED type fixtures that are "Dark Sky Friendly"

Replace rusted and corroded exterior lighting control time clocks and contactors as required.

Replace receptacles and faceplates as required.

END OF REPORT

Morton Grove Park District
Swimming Pool Attendance Records

	2016	2015	2014	2013	2012
Harrer	15,013	15,550	11,552	19,289	22,504
Oriole	17,634	13,872	14,506	0	13,723