



**REPORT OF THE TECHNICAL EVALUATION
OF THE
VIROQUA MUNICIPAL SWIMMING POOL
VIROQUA, WISCONSIN
February 7, 2014
(PRELIMINARY)**



SIGNATURE PAGE



I hereby certify that this document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Wisconsin.

Printed or typed name
DAVID F. BURBACH, P.E. #15457-006
My license renewal date is July 31, 2014

I hereby certify that this document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Architect under the laws of the State of Wisconsin.

Printed or typed name
FRED T. MATTHIAS, AIA #8005
My license renewal date is July 31, 2014

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This report contains 54 pages.

INTRODUCTION

Burbach Aquatics, Inc., (BAI) respectfully submits this Report regarding the technical evaluation of the Viroqua Municipal Swimming Pool located in Viroqua, Wisconsin. This document is the final work product and report for professional services performed by BAI as per the Professional Services Agreement between BAI and the City of Viroqua for Phase I-Step #1 Service.

The purpose of this technical evaluation is to inventory the existing condition of the municipal facility including the pools and building, provide comment on each of the facility categories, list recommended improvements necessary to restore the facility to good repair and/or meet the significant Code requirements of the Wisconsin Department of Commerce, Safety and Building Division (The Code) and the Americans With Disabilities Act (ADA); provide Opinions of Probable Construction Costs and present a summary with recommendations.

This Report contains three chapters. The first chapter, "Existing Facilities", inventories the physical plant observed during BAI on-site observations, which were conducted on September 20, 2013 and December 3, 2013. This chapter contains comments regarding each of the facility's 32 categories.

The second chapter, "Data and Probable Construction Costs" provides a quick reference to data of the facility such as area of the pool vessel, official pool capacities and other pertinent statistics. The second component in this chapter is the Opinion of Probable Construction Cost to restore the facility to its original condition and meet significant requirements of the Code and ADA.

Please bear in mind that the impetus of this Report is to maintain the status quo of the facility with a preference for renovation in lieu of complete replacement. The anticipated project life for renovation is 25 years. Project categories, which in BAI's opinion, cannot be renovated to achieve a high probability of 25 year life will be replaced with new. This is an important parameter since the Opinion of Probable Construction Cost can be substantially affected due to higher cost of renovation versus new construction. As an example of this, re-plumbing of the bathhouse may be more expensive than a completely new system in a completely new bathhouse. Bear in mind that replacement recommendations will be presented for each category only when renovation does not result in a 25 year project life or has cost comparable to new construction. Expansion or conversion of the facility into a more recreational orientated center is the subject of the next Step of the Feasibility Study service, and not included in this report.

I would like to thank the City of Viroqua staff for their assistance with explanations of the facility, providing plans, and assisting with communications between the City and consultant. It has been a pleasure to work with such personable and dedicated staff.

Sincerely,
BURBACH AQUATICS, INC.

David F. Burbach, P.E.
Director of Aquatic Services
DFB:clt

CHAPTER I. EXISTING FACILITIES

1a. General Comments

The City of Viroqua is dedicated to maintaining and improving the quality of life in Viroqua and recognizes the importance of recreational facilities in attracting new residents while retaining their present residents. The City has decided to study the condition of the complete swimming pool facility and develop a facility improvement plan with a high probability of achieving a 25 year project life, as opposed to short-term band-aid type repairs. These facilities were originally intended to improve the quality of life in the community and offer opportunities for recreational enrichment. BAI believes that mission has not changed through the years.

The Viroqua Municipal Swimming Pool is located at 230 South Rock Avenue, in the City of Viroqua, Vernon County, Wisconsin. The original facility was constructed in 1936/37. In 1982 the facility was renovated; the existing pool was constructed during the 1982 project.

At this time, the City staff reported that the facility loses a fluctuating amount of water and that the facility has been closed for the past 10 years. The City of Viroqua felt that the development of a comprehensive action plan was needed and a determination should be made as to the extent of construction work and associated costs to renovate the complete facility. This report is the first step in the process of strategic planning for long term solutions to provide aquatic opportunities to the residents of the City of Viroqua.

The aquatic center, which is the focus of this report, serves as a major component of the natant system for the community. The aquatic center is used for the typical recreational and educational programs, although the facility is not well suited for recreation.

EXISTING SWIMMING POOL FACILITY BACKGROUND

Owner City of Viroqua, Wisconsin Project # 2.508

Date September 20, 2013 and December 3, 2013

Facility Name Viroqua Municipal Swimming Pool

Facility Address 230 South Rock Avenue County Vernon

Plans received YN Project Manual received YN Pictures received YN

Other Documents received None

History:

Pool Built 1982 Bathhouse Built 1936

Pool Renovated _____ Bathhouse Renovated 1982

Pool: Vessel #1 Description Main Pool #2 Description _____.

Building: #1 Description Bathhouse #2 Description Mechanical.

Do Pools Leak Water YN Amount unknown

Reported Location of Leaks Pool facility closed in 2003 and has not been operated or maintained since.

Subsurface Conditions: Open Water in close proximity High Ground water observed

Ratings, 1 = Least, Worst or Lowest While 5 = is Most, Best or Highest

Background Comments: The City has sold a portion of the pool to the neighboring business, which is used as an outdoor gathering area. The property line is approximately located at the 3'-0" depth marking on the pool.

1-1. Pool #1 Vessel

Indoor Outdoor

Pool Vessel Type: Combination Recreation Only Wellness Only Diving Only

Shape: Rectangular W150' L60' Free Form Trapezoidal

Pool Uses: Recreation Wellness Education Competition

ADA Accessible Y N

Accessible Method: Lift Ramp Staircase Transfer Wall Transfer Systems

Area: 9,000 Square Feet

Estimated Volume: 314,000 Gallons

Recirculation Rate: 872.22 gpm

Minimum Depth: 3'-0" Maximum Depth: 10'-0" Calculated Patron Capacity: 575

Pool Vessel Features:

25-Yard Lanes 25-Meter Lanes Water Depth Less than 3' Zero Depth
50-Yard Lanes 50-M Lanes Waterslide receiving Area Lazy River Other - _____

Existing Floor: Observed None

Constructed Of: Concrete Aluminum Steel Fiberglass

Random Cracking In:

Shallow Area 1 2 3 4 5

Medium Area 1 2 3 4 5

Diving hopper 1 2 3 4 5

Is Floor Repairable Y N

Diving Hopper: Observed None

End wall Fillet Length 6' Sidewall Fillet Width 5'

Floor Length 12' Floor Width 50' transition Panel: Length 17' Rise 5'

Constructed Of: Cast Concrete Gunite Aluminum Fiberglass Masonry

Hopper Condition Report:

Rebar Exposed Y N Disjointed Walls Y N Walls Straight Y N

Evidence of Structural Failure Y N Structural Cracks Y N

Wall & Fillet Separate Y N Are Fillets Repairable Y N

Are Hopper Walls Repairable Y N Are Hopper Floors Repairable Y N

Walls: Observed None

Constructed Of: Cast Concrete Gunite Aluminum Fiberglass Masonry

Wall Condition Report:

Rebar Exposed Y N Disjointed Walls Y N Walls Straight Y N

Evidence of Structural Failure Y N Structural Cracks Y N

Wall & Floor Separate Y N Wall & Fillet Separate Y N

Random Cracking In:

Shallow Area 1 2 3 4 5

Medium Area 1 2 3 4 5

Diving hopper 1 2 3 4 5

Are Walls Repairable Y N

Expansion-contraction Joints: Observed None

Location: In Floor Vertical Walls Intersection of Walls and Floors Breakline DH

Joint Condition: 1 2 3 4 5 N/A

Type of Original Joint Waterproofing: Sealant PVC Waterstop Unknown

Waterstop Location: Present in Joints Unknown Shown on Plans Y N

Construction Joints: Observed None

Location: In Floor Vertical Walls Intersection of Walls and Floors Breakline DH

Joint Condition: 1 2 3 4 5 N/A

Type of Original Joint Waterproofing: Sealant PVC Waterstop Unknown

Waterstop Location: Present in Joints Unknown Shown on Plans Y N

Recirculation System:

Recirculation Type: Conventional Reverse Mixed

Outlet System Type: Skimmer Pool Gutter Pool No outlet

For Gutter Pool:

Type: Roll Out Amityville Curb with gutter

Manufactured gutter inserted into Cast/Gunite Pool Wall

Constructed Of: Gunite/Ceramic Tile Gutter Cast Concrete Masonry Units

Stainless Steel Assembly Pre-cast Concrete Aluminum Pool Gutter

Pool Gutter Level Y N if No, Approximate Difference _____

Field Comments:

1. The main pool was constructed in 1982 with gunite and a plaster finish, 100% reverse flow vessel;
2. Expansion contraction joints are in the poor condition;
3. Observed cracks in the walls with water seeping into pool from the exterior of the pool;
4. Pool facility was closed in 2003 and has not been operated or maintained since;
5. The stairs into the pool have been filled with an aggregate material to create a ramp into the pool;
6. The existing gutter has a small trench that is intended to allow overflow water to drain to the surge tank. The gap is a maximum of 1/2" wide and does not have a cover to help reduce blockage from debris such as leaves or band aids.

Code Comments:

1. VGBA for outlets has not been addressed. Renovation of the four main drains is required;
2. ADA: The main pool perimeter length is greater than 300', requiring two ADA egress points. The pool is not compliant. Adding a lift and modifying the staircase for compliance is one option for repair;

3. Diving: The diving hopper is 10' deep, which is not deep enough for a 1-meter diving tower. The diving structure is setup for a 1-meter diving board. Reinstalling a 1-meter diving tower would not be Code-compliant.

Recommendations:

1. Any form of renovation in the pool vessel, will have a very low probability of yielding a 25 year design life and an entirely new pool vessel designed by BAI will have a 50 year design life;
2. Diving activities are typically the highest liability exposure for a municipal swimming pool; therefore, BAI recommends that no diving towers be reinstalled during a renovation project;
3. The existing structure of the pool is comprised of gunite, which was built in 1982. Gunite has a life expectancy of 30 to 40 years maximum. The existing pool is over 30 years old. BAI anticipates that structural failure of the pool shell will occur within the next 10 to 15 years. BAI recommends that the pool vessel be completely replaced with a cast in place concrete pool vessel;
4. The existing overflow system with the ½" trench opening is a dated design that likely did not function correctly from the initial installation. If the pool is renovated, BAI recommends that the upper portion of the wall be completely removed and replaced with a new gutter and trench system. The best replacement would be concrete gutters, but a less expensive option would be stainless steel gutters;
5. Work included in the Opinion of Probable Construction Costs for this line item includes minimal repair necessary to reduce water leakage through the pool vessel walls. This is included as reference only as BAI does not recommend renovation of the pool because the life expectancy of the repair would be 15 years maximum and the expense would be greater than half of the cost of a completely new facility. Also, replacement of the gutter is not included, but would likely cost a minimum of \$200,000;
6. BAI recommends the City proceed with Step #2 of the professional service agreement to investigate complete replacement of the facility with a new zero-depth entry pool and amenities appropriate for the community.



Main Drains and Diving Tower Column



Main Drain



Shallow Area - Staircase filled in with Aggregate

1-2. Pool Finish

Pool #1 Finish Type: Pool Finish: Paint Plaster Ceramic Tile Unfinished

Finish Condition: 1 2 3 4 5

For Paint: Heavy Build Up Y N Abrasion Blasting Required Y N

Signage on Deck Y N Type: Paint Tile

Depth Marking Y N Size of numbers 6" Meet Code Distance Y N

In Corners Y N Changes in Pool Floor Depth Y N

No Diving Y N Size of letters 6" Meet Code Distance Y N

Signage in Pool Y N Type: Paint Tile

Depth Marking Y N Size of numbers _____ Meet Code Distance Y N

In Corners Y N Changes in Pool Floor Depth Y N

Finish Details:

Contrasting Color Line at Breakline Y N At Step Threads Y N

Competition Lane Lines Y N Paint Tile Meet Standards Y N

Field Comments:

1. The existing plaster finish is in poor condition and in need of removal and replacement. In gunite pools the plaster creates a watertight seal over the gunite shell. When the plaster cracks or delaminates from the pool shell, water is able to reach the gunite and leak out of the pool;
2. The depth markings are constructed of blue and white tiles. The white tiles are place in a pattern to create the depth measurement. The lettering is 6" tall.

Code Comments:

1. A contrasting line must mark the boundary between the shallow and deep areas. The line must be at least 6 inches wide on the floor and walls of the pool. A safety rope and floats equipped with float keepers is also required. The depth is marked with tiles, however the width of the line is not Code compliant; and the line needs to extend up the walls. The ropes were not installed and likely need to be replaced;
2. "No Diving" markings are required by Code in depths less than 5' and spaced a maximum of 25' apart; The existing tile markings are Code-compliant;
3. The depth markings are Code compliant for spacing, Code requires a maximum spacing of 25' and at each 1' water depth increment throughout the pool;
4. The depth markings are also required on the pool walls, no markings were observed on the walls and therefore additional markings would be required for Code-compliance;
5. The universal symbol for no diving was not observed and is required. The symbol is shown below.



Recommendations:

1. Complete replacement of the plaster finish is required;
2. The depth and no diving markings are in acceptable condition, however repair of the deck will likely require replacement, along with the addition to depth markings and universal no

diving symbols;

- Item 1 and 2 are included in the Opinion of Probable Construction Costs for this line item.



Depth Markings

1-3. Pool Enclosure (fence)

Exterior Perimeter Enclosure: Height 6' Gaps Under Enclosure Y N

4" Gaps at Ends Y N Type: Chain Link Ornamental Other - _____

For Chain Link: Safety Woven Y N Top Bar Y N Barb Wire Y N

Field Comments:

- The existing galvanized chain link fence is in fair condition;
- Barb wire is located at top of the fence, which is not inviting for a public use facility.

Code Comments:

- Barrier openings must be small enough that a 4-inch sphere is not able to pass through, BAI did not observe openings greater than 4";
- Two 5' wide emergency exit gates are required to meet Building Code requirements for emergency egress from the facility, none are provided;
- The existing fence is 6' tall, which is the minimum Code height.

Recommendations:

- The overall condition of the fence is fair and does not need replacement at this time;
- Emergency exit gates should be added during a renovation project for Code compliance;

- 3. BAI recommends removal of barb wire from the top of the fence;
- 4. An 8' tall vinyl coated chain link fence with safety woven top is recommended, but not required;
- 5. Installing emergency exit gates, removal of barb wire and miscellaneous repair is included in the Opinion of Probable Construction Costs.



Chain Link Fence

1-4. Pool Covers

Winter Cover Y N Brand Harmsco Model #BF105BKPSC Quantity _____

Type _____ Deck Pop-up Anchors _____ Deck Weights _____ Storage

Solar Cover Y N Brand _____ Model # _____ Quantity _____

Recommendations:

- 1. BAI does not recommend the use of water covers or solar covers due to a low return on investment. No work included in the Opinion of Probable Construction Costs for this line item.

1-5. Pool Vacuum System

Pool Vacuum Observed Y N Brand Harmsco Model #BF105BKPSC

Type: Central w/Wall Fittings Skimmer Type Portable Robot

For Portable: Discharge Type: W/Filter Back To Pool WO/Filter to Gutter System

Powered By: Gas Engine Electric Motor GFIC Protection

For Robot: Air Sensor Remote Control

Field Comments:

1. The existing manual pool vacuum can be reused; however GFIC protection is required and should be added to the vacuum systems or utilized with a GFIC receptacle;
2. An existing robotic vacuum was observed and not documented. The vacuum is in poor condition and not likely operational.

Recommendations:

1. Regular vacuuming will elevate water quality and reduce chemical usage. The existing vacuum can be reused. No cost is included in the Opinion of Probable Construction Costs for this line item.

1-6. Decking

Type: Unfinished Concrete Decorative Concrete Other

Slope to Pool Y N Slope to Deck Drains Y N Slope to Grade Y N

Min Width 10' Obstructions within 5' of Pool Y N

Cracking: 1 2 3 4 5 Ramps Meet ADA

Field Comments:

1. The existing concrete deck was installed as part of the 1982 project. The deck has sufficient expansion joints on the east and north sides of the pool. Based on condition of the existing deck, it appears that the south and west sides of the deck are original, while the east and north decks were replaced after the initial construction;
2. There is a wood fence constructed within 5' of the shallow end of the pool vessel;
3. The existing ramp from the bathhouse needs adjustment for the most recent ADA requirements;
4. Frost heave is substantial on the south and west sides of the deck. A large portion of the deck will need to be replaced prior to reopening.

Code Comments:

1. Concrete deck elevation differential of 1/4" or more were observed in adjacent deck slabs,

resulting in tripping hazards;

2. An unobstructed deck at least 6' wide must entirely surround the pool. The existing pool deck is compliant, except in the shallow area where a wood fence was installed after the pool was shutdown.

Recommendations:

1. During a pool renovation project a large portion of the deck would require replacement. A new pool will require completely new deck. Partial deck replacement is included in the Opinion of Probable Construction Costs.



Ramp to bathhouse, note lack of deck drain



Stairs to bathhouse



Decking – West Side, Repair and Partial Replacement Required



Deck – East Side, Partial Replacement Required



Deck – South Side, Complete Replacement Require



Deck – North Side, Partial to complete replacement required

1-7. Deck Drain System

Deck Drains Y N Air Gap Y N

Discharge To: Storm Sewer Sanitary Sewer Combined Sewer (Storm & Sanitary)

Maximum Distance Between Drains _____ Water flow more than 15' in one direction Y N

Location of Drains _____

Field Comments:

1. Deck drains are required between the pool and bathhouse;
2. Standing water observed by ADA ramp.

Code Comments:

1. The deck must be sloped away from the pool unless drains are provided to intercept water on the way back to the pool. The deck must also be sloped to provide positive drainage of all deck areas. No drains are provided for the existing deck, standing water was observed between the pool and bathhouse, minimally deck drains are required between any building and the pool vessel.

Recommendations:

1. A new trench-style deck drain system is included in the Opinion of Probable Construction Costs.

1-8. Deck Equipment

Number of Units:

3-meter Tower _____ Portable Lifeguard Chair X Stair Case into Pool _____
1-meter Tower _____ Stationary Lifeguard Chair X Deck Pool Slide _____
Deck Level Tower _____ Pool Ladder X ADA Lifts _____

Diving Towers:

Diving Tower #1: None

Lifeguard Chairs:

Style: Single Pedestal 4 Leg Site Built Broken Fittings Y N

Brand Swimquip Overall Condition 1 2 3 4 5

Umbrellas Y N Fiberglass seats Wood seats Meet OSHA Y N

All appear to have concrete footings Y N Replace Y N

Pool Ladders:

Style: Stainless steel Other Type: Overhang Flush Cross braced Y N

Broken fittings Y N Overall Condition 1 2 3 4 5

Brand Unknown Replace Y N

ADA Access: Y N Type: Lift Ramp Stairs Zero depth wheel chair

Field Comments:

1. The existing ladders are in poor condition;
2. The lifeguard chairs are not OSHA compliant and appear to be from the 1982 project;
3. The diving tower has been removed with the only the steel pedestal remaining.

Code Comments:

1. A minimum of 7 lifeguard stations are required, not all stations need to be chairs. The Wisconsin Health Department requires staffing plans for all facilities, therefore the existing conditions will need to be approved prior to a renovation or replacement project;
2. The depth of the existing diving hopper is 10'-0", which is not sufficiently deep for the installation of a diving tower;
3. Two means of ADA accessible egress are required for pools that contain more than 300 linear feet of pool wall. The primary access must be a lift or ramp and a secondary access can be a staircase, lift or ramp. Two means must be added to the pool for compliance, a lift and a third handrail in the staircase would make the main pool vessel ADA compliant. During installation bonding of anchors would need to be addressed and a plan submittal may be required prior to construction.

Recommendations:

1. Revision of the ADA requirements forces the City to make ADA accommodations prior to reopening. To comply with ADA the City can purchase an ADA lift with backup battery modify the staircase or add a second pool lift;
2. The lifeguard chairs do not meet OSHA standards. BAI recommends replacement of the lifeguard chair and the addition of two more lifeguard chairs with OSHA-compliant models;
3. The Opinion of Probable Construction Costs includes new lifeguard chairs, ADA egresses, ladders and miscellaneous deck equipment.



Lifeguard Chair



Diving Tower Removed Pedestal Remains

1-9. Surge Capacity

Surge capacity present Y N Type: Tank In Gutter Other
Serves Pool #1 Serves Pool #2 Serves Pool #3 Serves Pool #4
Location: In filter tank and exterior tank, adjacent to mechanical building.

Condition 1 2 3 4 5

Size: From Plans = _____gallons
From field measurements=L_____ X W_____ X H_____ = _____ Gallons

Reuse Y N Flood pumps/Basement possible Y N N/A

Automatic fill valve Y N Type Auto level sensor Brand _____

Cross connection: 6" air gap on fill Y N 6" air gap on drain Y N

Field Comments:

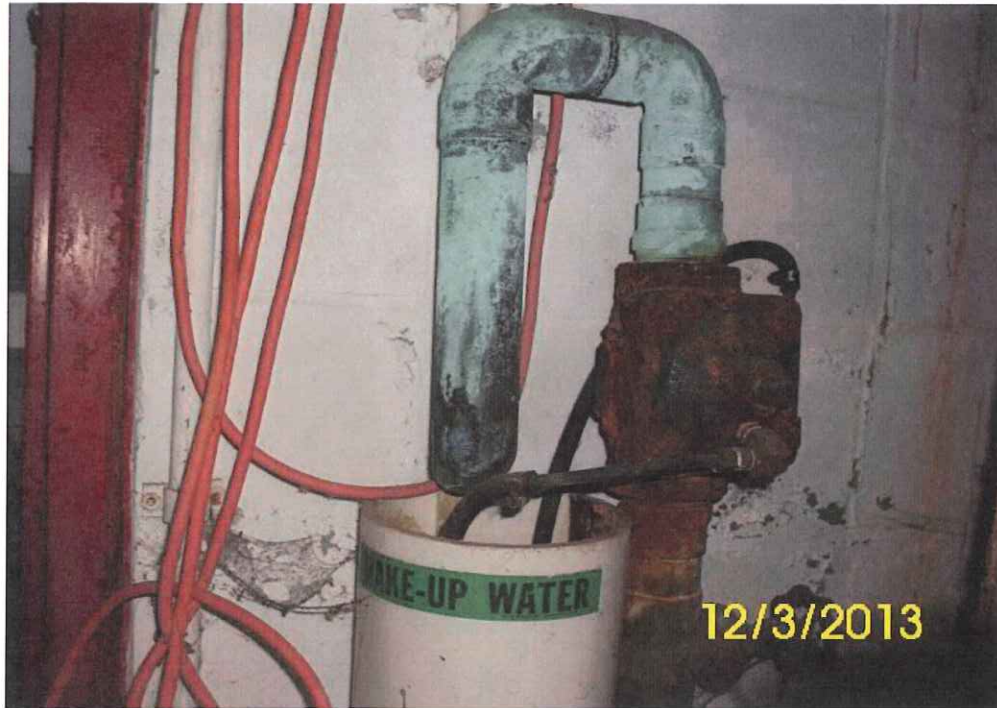
- 1. The existing pool drains to the street west of the pool;
- 2. The fill line does not have a 6" air gap; however, the line can be adjusted to achieve a 6" air gap. The valve for the auto-fill is deteriorated and likely does not work as designed.

Code Comments:

- 1. All overflow systems must be designed with an effective surge capacity of not less than 1 gallon for each square foot of pool surface area. Surge must be provided within a surge tank, in a gutter trough, filter above the normal flow line, or elsewhere in the system. Surge tanks, gutters, and filter tanks must have overflow pipes to convey excess water to waste. The existing system has surge capacity available in the filter tank, however the tank. The tank could be remaining in service for the existing pool vessel.

Recommendations:

1. Repair of the auto-fill valve and modification for the surge tank reuse is included in the Opinion of Probable Construction Costs.



Auto-Fill



Surge Tank/Filter Tank

1-10. Piping System - Pool #1

Conventional Flow Reverse Flow Combination Original System Y N

Main Drain System: Main Drain: Number 4 Size of main drains: 6" diameter x 2' tall

VGBA Compliant Y N 1/2" Maximum Opening Y N

Main Drain Pipe Diameter 10" Constructed Of: PVC Metal

Return System:

Inlet Type: Individual Inlets Floor Trench Inlet Part of Manufactured Gutter

For Individual Inlets: In Wall In Floor

Spacing Per Code Directional Adjustable PVC Metallic

Number of Inlets unable to count, the floor inlets were covered with ice.

Return Pipe Diameter 6" Constructed Of: PVC Metal

Outlet System: Gutter Y N Skimmer Y N

For Gutter Pool: Type of Outlet: Continuous Trench - Continuous trench drain in back of the pool. Individual Grates

Number of Drains _____ "L" Type Flat Type Spacing _____.

Outlet Pipe Diameter _____ Constructed of: PVC Metal

Location of Drains: 1/4" to 1/2" trench drain in back of gutter

Field Comments:

1. The gutter has a 1/4" to 1/2" trench that likely is not functional due to debris located in the trench opening. The gutter outlet size could not be determined as the outlet piping was not observed in the mechanical space and no plans were provided;
2. Code required a minimum spacing of outlets, floor inlets appear to be per code, however many inlets were covered with ice and water and BAI was unable to count;
3. These still pools typically had piping directly below the trench encapsulated in the gunite walls.

Code Comments:

1. The main pool vessel water must be recirculated on a continuous basis with a theoretical turnover rate. The Code specifies minimum turnover rates varying from 0.5 hours up to 6.0 hours. The minimum Code recirculation rates are determined by dividing the volume of water contained in the pool vessel by the Code turnover rate required for each pool vessel. The recirculation rate of the main pool vessel is 822.22 gpm, which is based on a 6 hour turnover rate. The chart below shows the compliance of the various piping systems of the pool vessel.

Pipe Compliance Chart				
Pipe System	Pipe Size	Max Pipe Flow	Code Required	Code Compliant
			Flow	
Inlet Return	6"	705	822.22	No
Main Drain	10"	1015	822.22	Yes
Gutter Outlet	Unkown	Unkown	822.22	No

Recommendations:

1. The gutter should be replaced with a functional gutter along with properly sized piping. The inlet return system will need to be upgraded if any modifications are made to the facility;
2. Any new piping will be comprised entirely of PVC components and installed in correct granular embankment, which is included in the Opinion of Probable Construction Costs for this line item.

1-11. Filtration Assembly

Brand Site built DE Model # N/A # Units 1

Type: Pressure Sand Vacuum Sand Gravity Sand Other

Pressure DE Vacuum DE Bump DE Cartridge Other

NSF Listed

Tank Material: Steel Fiberglass S.S. Aluminum Concrete Other

Serves Pool #1 Serves Pool #2 Serves Pool #3 Serves Pool #4

Reuse Filter Y N

Sand Filter Size: High Rate Rapid Rate Diameter _____ or L _____ x W _____ = Area _____ s.f.

For DE: Number of Septum 104 L 2' x W 2' = Area 832 s.f.

Hydraulic Capacity: From Data Plate: N/A

From Calculations: Loading of 1.0 gpm/sf x area 832 sf = Flow of 832 gpm

Supply Piping: Manifold _____ Each Filter Lateral _____ Independently Valved Y N

Manifold Piping: D.I. PVC Valves: Gate Butterfly

Backwash: Individually Group Backwash Pipe Size _____ Air Gap Sight Glass

Backwash Flow To: Storm Sanitary To Grade

Field Comments:

1. The existing filter is a site built DE filter with 832 gpm capacity. This style filter is effective at filtering water, but is difficult to maintain and operate. BAI recommends replacing the existing filter with high pressure sand filters;
2. BAI did not enter the pit to review the septum; the filter would most likely be operational after a thorough cleaning and restoring the DE to the septum.

Code Comments:

1. The existing filter is sufficiently sized, which is based on BAI's estimation of the existing filter area and existing pool recirculation rate;
2. The existing filter is not NSF listed. Filters are required to be NSF listed. A renovation project would require filter removal and replacement with NSF listed models.

Recommendations:

1. BAI recommends replacing the existing filter with a high pressure sand filter, which will lower operational costs;
2. The filter cleaning and repair is included in the Opinion of Probable Construction Costs.



DE filter

1-12. Recirculation Pump Assembly #1

Pump Brand Berkeleg Model #13JPBLS # Units 1 Size _____

Type: End Suction Centrifugal Split Case Centrifugal Vertical Turbine

Long Coupled Short Coupled

Serves Pool #1 Serves Pool #2 Serves Pool #3 Serves Pool #4

Capacity: From Data Plate _____ gpm @ _____ ft. TDH

From Plans _____ gpm @ _____ ft. TDH

Pump Housing Suction Size 8" Pump Housing Discharge Size 6"

Pump Reusable: Y N Data Plate Located Y N

Pump Suction:

Pump Suction Pipe Commences: At Surge Tank Direct From Main Drains At Filter Suction

Pipe Size 8" Pipe Type: D.I. PVC Valve in Suction Line Y N

Flooded Suction Y N Existing Foot Valve Y N Foot Valve Required Y N

Hair & Lint Strainer Y N Brand _____ Size _____ Model # _____

Reuse Strainer Y N Isolation Valve(s) For Strainer Y N

Pump Discharge:

Discharge Pipe Size 6" Pipe Type: D.I. PVC

Flow Meter Y N Brand Blue/White Model # _____

Pump Motor:

Brand Matathon Model #68256TTDX7074AAE HP 20

Phase 3 Voltage 208 Amps 36.4 RPM 1750 Type TDR Frame 256JM

Starter Provided Y N Model # Square D

Field Comments:

1. The is pump corroded and likely not operational;
2. The motor is in fair condition but is likely not operational after sitting idle for 10 years.

Code Comments:

1. The existing centrifugal pump is undersized for the main pool required recirculation rate.

Recommendations:

1. Replacement of the existing pump and motor with correctly sized system is recommended and is included in the Opinion of Probable Construction Costs for this line item.

1-13. Disinfectant System #1

Form of Disinfectant: Gas Liquid Solid Type: Chlorine Bromine

Specific Type Chemical Used sodium hypochlorite

Chlorinator Brand Chemtrol Model #320 # Units 1

Maximum Output 76.1 in gph _____ in pph Location _____

Serves Pool #1 Serves Pool #2 Serves Pool #3 Serves Pool #4

Method of Operation: Vacuum Pressure Manual Control Automatic Control

Point of Injection Downstream of: Pump Y N Heater Y N Filter Y N

Method of Inducing Flow through Chlorinator:

Internal Pump Valve in Return Public Water Booster Pump

For Booster Pump: Brand Flex Flo Model # A-100N Hp _____ Volt _____ Phase _____

Does Method of Inducing Flow Result In Direct Cross Connection Y N

Where Chemicals Stored _____

pH Balancing System: Y N if Yes, Then Manual Control Automatic Control

Chemical Equipment/Storage Space:

Type: Dedicated Rooms Y N Number _____

In Open Space with Other Equipment Y N Location of Space Basement

Walls Constructed of: Masonry Wood Frame

Ceiling Constructed of: Concrete Wood Frame

Rooms Have: Out Swing Door Y N Mechanical Ventilation Y N Window Y N

Ventilator Operational Y N None Safety Mask Y N

Chemical Storage: Tanks Y N Double Containment Y N

Field Comments:

1. The liquid chlorine tanks could be reused with the addition of double containment tanks;
2. The existing solution pumps are in need of replacement.

Code Comments:

1. The chemical systems for pH and chlorine are compliant.

Recommendations:

1. BAI recommends the installation of a secondary containment vessel for the pH and chlorine systems to reduce the risk of injury and property damage;
2. All pumps for the chemical system need to be replaced;
3. A new secondary containment tank for the chemical systems and pumps are included in the Opinion of Probable Construction Costs.

1-14. Chemical Controller #1 and Sampling Pump

Chemical Controller Y N

Serves Pool #1 Serves Pool #2 Serves Pool #3 Serves Pool #4

W/recorder Y N W/Sampling Pump Y N

Controller Brand Chemtrol Model # 320 # of Units 1 Serial # N/A

Sampling Pump Brand _____ Model # _____ Hp _____ Voltage _____

Field Comments:

1. The existing chemical controller is the original 1982 technology. While the unit may still be operational it would be best to replace the controller with a newer model;
2. The existing sampling stream needs to be replaced, the probes are not functioning and the system is in poor condition.

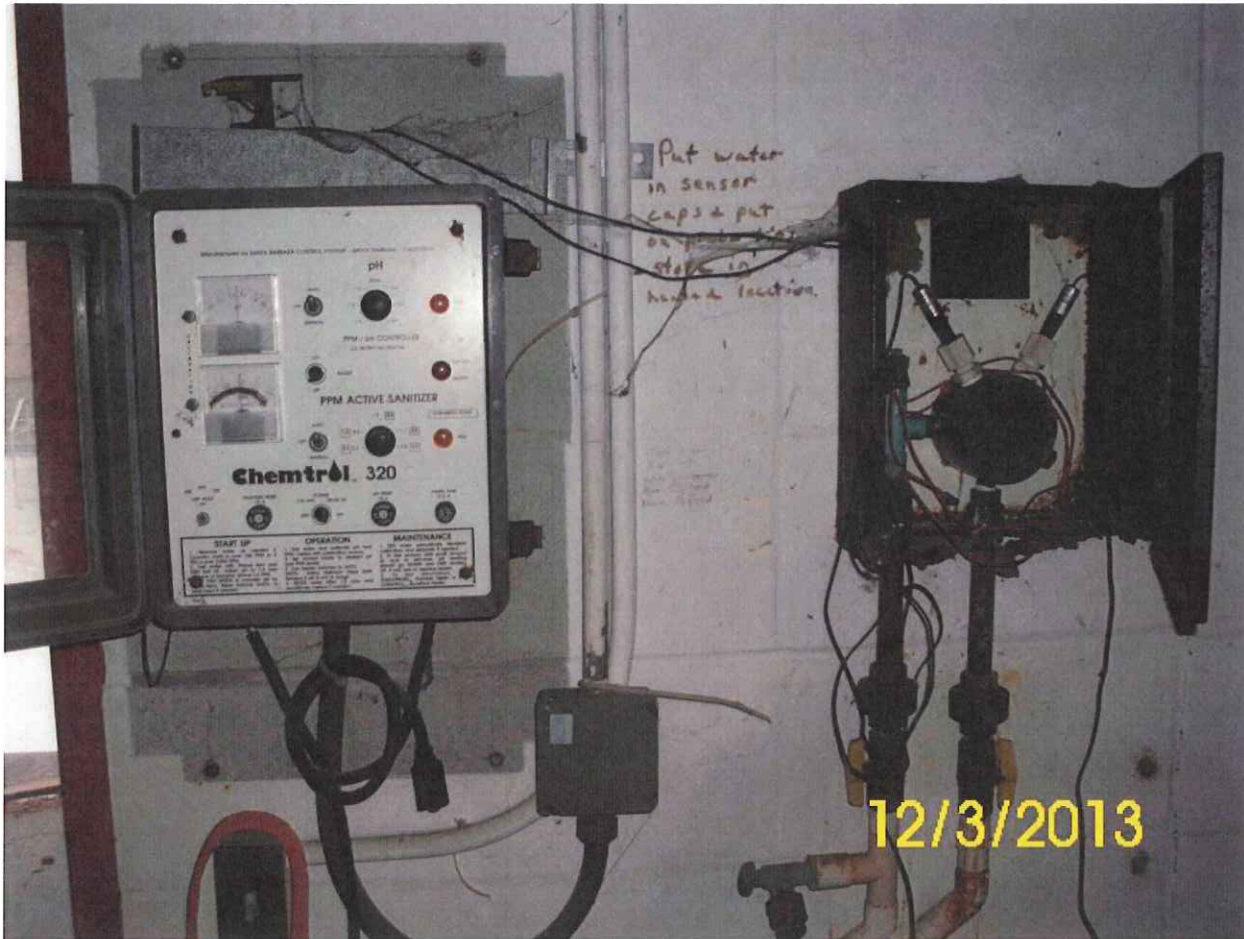
Code Comments:

1. The pool water is required to be automatically and continuously disinfected.

Recommendations:

1. A new controller is included in the Opinion of Probable Construction Costs.
The City can discuss lease opportunities with the local chemical which could reduce yearly

maintenance costs on the system.



Chemical controller and sampling stream

1-15. Pool Heater #1

Pool Heater Y N

Serves Pool #1 Serves Pool #2 Serves Pool #3 Serves Pool #4

Type: Standard Pool Heater Y N Central Boiler w/Heat Exchanger Y N

Solar Collector Heat Pump Other Hot Water Steam State Boiler # _____

Standard Pool Heater Brand Raypak Model # 1570 # of Units 1

Serial # _____ Input 1,570,000 BTU/Hr Output _____ BTU/Hr

General: Energy Type: Electric Gas If Gas Then: Natural Gas LPG

Vent Size _____ Forced Draft Y N Common Chimney Y N Size _____

Combustion Air Source Y N 50% High Y N 50% Low Y N Motorized
 Method of Inducing Flow: Recirculate Pump Y N Bypass Valve Y N
 From Data Plate on Unit Y N Gas Feed 2" Regulator before Appliance Y N
 Temp/Pressure Relief Valve Y N 6" Air Gap on Blow off Y N
 Thermometer Y N Location: Influent Lateral Effluent Lateral Main Return Line
 ASME mark found Y N AGA mark found Y N
 Water Supply 3" Water Return 3" Metal Pipe Y N
 Expansion Tank Y N Brand _____ Size _____ gallons
 Recirculate Pump: Brand None Model # _____ # of Units _____
 Flow _____ gpm from Data Plate
 Motor Brand _____ H.P. _____ Phase _____ Voltage _____ Amperage _____
 Field Comments:

1. The existing pool heater is located upstairs, while the recirculation pump is located downstairs. There are no booster pumps connected to the recirculation lines to provide lift to the pool heater. BAI believes that the pool heater operation was limited and potentially never worked correctly. The pool water likely does not reach the heater on a consistent basis with the existing system setup. Water travels in the path of least resistance. Since, the pool inlets are lower in elevation than the pool heater the water would want to travel to the inlets rather than travelling to the heater. The inlets are adjustable so in theory the inlet openings could be closed down to create head pressure and lift the water to the pool heater. However, the degree of error is small and the inlets are most likely not set correctly. The only way to be 100% sure the inlets are adjusted correctly would be to adjust them while there is water in the pool, and the system is operating. This tends to be extremely difficult as somebody would need to scuba dive to be able to adjust the inlets. In summary the loop to the pool heater was and is a poor design, a secondary pump is required to ensure that the recirculated water reaches the pool heater. Alternatively, the heater can be relocated to the basement.

Code Comments:

1. Pool heaters are not required by Code for outdoor pools.

Recommendations:

1. The existing pool heater needs to be replaced along with the addition of a booster pump or relocation of the heater to the ground floor of the building. A new heater system complete with thermometers, valves and booster pump is included in the Opinion of Probable

Construction Costs.

1-16. Pool Vessel #2 - None

1-17. Pool Piping System #2 - None

1-18. Filtration Assembly #2 - None

1-19. Re-circulation Pump Assembly #2 - None

1-20. Disinfectant System #2 - None

1-21. Chemical Controller #2 and Sampling Pump – None

1-22. Mechanical Building

Separate Mechanical Building Y N Dimensions L 25' W 14' H 9'

Plans Available Y N Basement Y N

Foundation Y N Wall Type: Masonry Wood Frame Cast Concrete

Roof Type: Flat Single Pitch Hip Roof Roofing Type: Shingles Membrane

Roof Structure: Wood Truss Wood Rafters Precast Concrete Bar Joists

Evidence of Roof Leakage Y N Fire Resistant Roof Y N

Fire Resistant Structure Y N Utilities: Electric Water Sanitary Gas

Telephone Telemetry Comb Air Y N

Field Comments:

1. The building is constructed of concrete masonry units (CMU) with wood rafter roof structure. The building structure is in good condition and can be reused;
2. The mechanical room is located on the southwest corner of the facility. The building is comprised of two floors. The main floor is located at the same elevation as the decking around the pool vessel. The ground floor is located 10'+/- below the water elevation of the pool, which creates flooded suction for the mechanical system;
3. There is sufficient space for new surge tanks between the pool and mechanical building;
4. The existing mechanical room is too small to house the pool heater and the remaining mechanical equipment existing pool mechanical equipment.

Recommendations:

1. Reuse the existing mechanical building and consider installing a chemical room to isolate chemical vapors;
2. The Opinion of Probable Construction Costs includes minor renovations and repairs only, the construction of an addition or new mechanical building can be reviewed in Step #2 of the Professional Service Agreement.

1-23. Bathhouse Structure

Separate Building Y N Or Part of Larger Building Y N 1 Story 2 Story
 Plans Available Y N Basement Y N
 Foundation Y N Wall Type: Masonry Wood Frame Cast Concrete
 Rooms: Entry Single Entry Y N Office First Aid Guard Chlorine
 Janitorial Control Manager Combination Guard/Basket Room
 Family Toilet Room
 Male: Shower Toilet Room Indoor Change Room Outdoor Change Area
 Female: Shower Toilet Room Indoor Change Room Outdoor Change Area
 Basket Storage: Central Y N In Each Change Area Y N
 Requires Male/Female Guard Y N
 Floor Treatment: Painted Concrete Natural Concrete Ceramic Tile Other
 Floor Condition: Interior 1 2 3 4 5 Exterior Condition: 1 2 3 4 5
 Well Lighted Y N Vandal Resistive Lighting Y N
 Mechanical Ventilation Y N Rooftop Y N Wall Type Y N
 Natural Ventilation Y N Type windows in wall and doors
 Utilities: Electric Water Sanitary Gas Telephone Telemetry
 Combustion Makeup Air Y N
 ADA Compliant: Entrance Y N Entrance Counter Y N Hallways Y N
 Shower Rooms Y N Toilet Rooms Y N Door Widths Y N
 Plumbing Stalls Y N Plumbing Fixtures Y N Door Hardware Y N
 Mirrors Y N Drinking Fountain Y N

Field Comments:

1. Exterior walls are 8” thick cast concrete interior, with masonry stone exterior. The exterior masonry is stained and portions are decayed due to water;

2. The majority of the concrete walls are in good condition; however there are several walls that have severe cracking. The archways in the entrance of the building are in poor condition and need to be replaced;
3. The coatings of the walls, floors and ceilings are in poor condition and in need of repair.

Structural Condition:

1. Several steel lintels are badly corroded and are in poor condition;
2. Interior archways are badly broken, however the archways do not appear to be structural and could be removed;
3. Interior walls are a combination of masonry or cast concrete. The masonry was likely added during the 1982 renovation project.

Code Comments:

1. American Disabilities Act (ADA) requirements for sanitary fixtures, door hardware, mirrors, and other elements of the building are not addressed. Updates to the male and female restrooms are required for ADA compliance;
2. The existing bathhouse is sufficient in size for renovation to make the building ADA compliant and install the correct number of sanitary fixtures required by Code.

Recommendations:

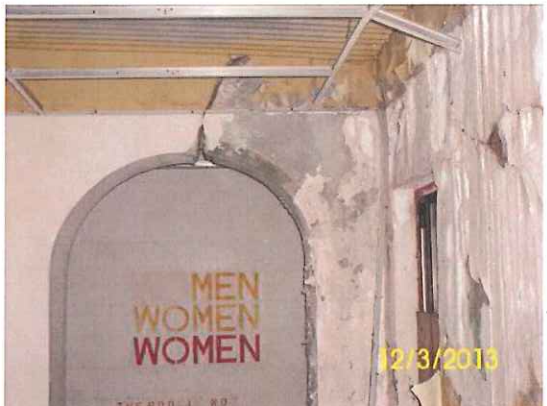
1. In BAI's opinion the present bathhouse can be renovated. The building was constructed of cast in place concrete walls which has proven to be durable and practical to work with during a renovation project. Functionally, the building is completely obsolete; however the space necessary to meet ADA and Code spaces and fixture counts can be met with the present building;
2. The renovation of the building will be costly due to the amount of work required to make the building functional. The interior of the building is in such poor condition that BAI would recommend removing all the walls, floors, ceilings, HVAC, electrical, plumbing and installing new systems;
3. Walls, floors, and ceiling replacement is included in the Opinion of Probable Construction Costs for this line item.



Building – Entrance with ADA ramp



Lintels – Replacement required, bowed, rusted, unsafe



Bathhouse – Archways with full depth crack



Bathroom – Floor and wall

1-24. Bathroom Roof

Roof Type: Flat Single Pitch Double Pitch Roofing Type: Shingles Membrane

Roof Structure: Wood Truss Wood Rafters Concrete Bar Joists

Evidence of Roof Leakage Y N Fire Resistive Roof Y N

Fire Resistive Structure Y N

Interior Ceiling: Cathedral Y N Flat Y N Ceiling Finish Steel panels or drop ceiling

Field Comments:

1. The existing roof is a flat roof; BAI did not observe the roof from the top side;
2. The existing roof leaks in multiple locations. The water from the leaks is damaging the roof structure;
3. Multiple rafters are rotting and in poor condition.

Recommendations:

1. Removal and replacement of the entire roof system is recommended and is included in the Opinion of Probable Construction Costs for this line item.



Wood Rafter Structure – Wet and rotting



Ceiling and Roof Deck



Ceiling with steel underside attached to Wood Rafters

1-25. Bathhouse Doors and Windows

Door Frames: Metal Wooden Fiberglass Aluminum Replace Y N
 Doors: Metal Wooden Fiberglass Aluminum Replace Y N
 Heavy Duty Hardware Y N Operating Condition: 1 2 3 4 5
 Windows Y N Type: Fixed Operable Frame: Metal Wooden Fiberglass
 Aluminum Sky Lights Y N Window Replacement Required Y N
 Overhead Door Y N Replacement Required Y N
 Shutter Door Y N Replacement Required Y N
 Standard Exit Openings Y N Sufficient Exit Openings Y N

Field Comments:

1. Windows in the restrooms are expanded steel;
2. All windows and doors are in fair to poor condition and are in need of replacement.

Code Comments:

1. Natural ventilation requirements are met with the existing doors and windows;
2. The existing bathhouse does not have Code-compliant door hardware;
3. The existing door widths are ADA compliant, doors are not ADA compliant.

Recommendations:

1. Replacement of the door frames, doors, and hardware is recommended during a building renovation project and is included in the Opinion of Probable Construction Costs.



Expanded metal Windows



Bathroom Doors – Poor condition, Hardware not ADA

1-26. Bathhouse Sanitary Facilities

Fixture Type	Existing Quantity		Code Required Quantity	
	Female	Male	Female	Male
Urinals	<u>2</u>	<u>0</u>	<u>0</u>	<u>3</u>
Water Closet	<u>2</u>	<u>4</u>	<u>10</u>	<u>2</u>
Shower	<u>9</u>	<u>9</u>	<u>6</u>	<u>6</u>
Lavatory	<u>2</u>	<u>2</u>	<u>4</u>	<u>3</u>
Baby Changing	<u>0</u>	<u>0</u>		
Mirror	<u>0</u>	<u>0</u>		
Soap	<u>0</u>	<u>0</u>		
Towel	<u>1</u>	<u>1</u>		
Hair/Hand Dryer	<u>1</u>	<u>1</u>		
Privacy Booths	<u>0</u>	<u>0</u>		
Indoor Change Area	<u>X</u>	<u>X</u>		
Outdoor Chge Area				
Benches				
Baskets				
Lockers				

Water Closet Type: Tank Flush Valve Open Seats Y N

Urinal Type: Flush Tank Flush Valve Floor Mounted Wall Mounted

Shower Type: Individual Econo Wall Type Column Shower

Touch Control Flow Y N Individual Shower Floor Drains

Tempering Valve Y N

ADA Compliant Stalls Y N ADA Compliant Fixtures Y N

Field Comments:

1. Replacement of all sanitary facilities is required.

Code Comments:

1. ADA requirements have not been addressed. Sink faucets, drinking fountain, and showers are not ADA-compliant;
2. Individual shower drains are required in the plumbing Code;
3. By reviewing table 390.19 of the Wisconsin Administrative Code, we determine the number of fixtures required. The existing pool fits into the range of 9,000 to 9,999 of cumulative area of water surface. The required number of fixtures is located on the table above. The present bathhouse has a deficiency of 6 female water closets, 1 male urinal, 2 female lavatories, 1 male lavatory, 3 female showers and 3 male showers. The only fixture with the correct number of fixtures is the male water closet.

Recommendations:

1. BAI recommends that the entire bathhouse plumbing system be replaced and updated with the required number of fixtures, along with the correct number of ADA fixtures. Complete replacement is included in the Opinion of Probable Construction Costs.

2. Swimming pools, wading pools and whirlpools without living units, except for items 3. to 5. Swimming pools, wading pools and whirlpools with sleeping or dwelling units where open swim or lessons are permitted and water attractions where lessons are conducted. (i.e., municipal pools and campgrounds)	< 2000	1	1	0	1	1	1	1	1
	2000 – 3999	3	1	2	1	1	2	2	1
	4000 – 5999	4	2	2	2	2	4	4	1
	6000 – 7499	4	2	2	2	2	5	5	1
	7500 – 8999	8	2	2	3	2	5	5	2
	9000 – 9999	10	2	3	4	3	6	6	2
	10000 – 12999	12	3	3	4	3	6	6	2
	13000 – 15000	14	3	4	5	4	7	7	3
	>15,000	See note ^b below for requirements.							

Table 390.19 from Wisconsin Administrative Code, Chapter SPS 390



Existing Lavatories



Existing Toilet



Existing Dismantled Showers

1-27. Bathhouse Water Heater

Water Heater Y N Energy Type: Natural Gas LPG Electric

Appliance Type: Standard Tank Type Boiler W/Separate Tank

Central Boiler W/Exchanger Storage Tank Capacity _____gallons

Heater Brand Burklay Model # _____ Serial # _____

Temp & Pressure Relief Y N Balancing Valve Y N # Units _____

Balancing Valve Brand _____ Model # _____ Serial # _____

Input _____BTU/Hr Output _____BTU/Hr Wattage _____ Phase _____

Recharge Rate _____gph From Data Plate Y N

Vent Type: Power Direct Standard Power-Direct

Field Comments:

1. The existing water heater is an older water heater and has not been operated over the past 10 years. The heater does not likely operate correctly and is not as energy efficient as newer models;
2. A tempering valve and thermometer was not observed.

Code Comments:

1. Combustion air is provided through natural ventilation openings in the windows and doors of the building. The vent is a standard style vent, wall louvers directly to the exterior are recommended to reduce risk of back drafting;

- Code requires clearances around the water heaters to maintain a minimum of 2' in front of the water heater and 2" around the sides and rear, BAI recommends a minimum of 6" clearance around the sides and rear.

Recommendations:

- A new water heater, tempering valve, gauges and miscellaneous equipment is included in the Opinion of Probable Construction Costs for this line item.

1-28. HVAC Systems

Mechanical Building/Room: Power Ventilation Y N Heating System Y N

Rooftop Ventilator Y N Wall Ventilator Y N Combustion Air Ventilator Y N

Bathhouse: Power Ventilation Y N Heating System Y N Air Conditioning Y N

Rooftop Ventilator Y N Wall Ventilator Y N Combustion Air Ventilator Y N

Natural Ventilation Y N Type Expanded metal windows Total Size 2'X4'

Open Area Size 60% Quantity _____

Natural Ventilation by room:

Field Comments:

- The bathhouse has ample natural ventilation through the main portion of the building due to the expanded metal windows;
- The windows plus the power vent through roof of men's and women's restrooms provide sufficient air movement and combustion air for the water heater.

Code Comments:

- International Mechanical Code requires natural or mechanical ventilation for buildings. The existing method of ventilation for the bathhouse is natural which requires a minimum opening to be 4% of the floor space ventilated by the opening;
- Combustion Air of the mechanical building is not required due to the pool heaters being located on the exterior of the building. Natural ventilation of the building is required and provided via windows and doors.

Recommendations:

- No work is required for this line item; however, the mechanical ventilators were not tested during BAI's site visit and may not be operational. BAI assumes they are not operational and therefore has included new exhaust fans and miscellaneous work in the Opinion of Probable Construction Costs.

1-29. Electrical System

Number of Services to Facility 2

Point of Service #1 Bathroom on South side Transformer Type: Pad Mount Pole Mount

Transformer location Electrical Service Disconnected CT Cabinet Y N

Meter Location Meter removed, socket located on south side of bathroom

Service #1: Amperage 100 Voltage 208 Phase: 1 3 Wye Delta

Service Disconnect Type: Single Switch 6 Switch

If Single Switch: Fused Safety Switch Power Panel w/Main MDP w/Main

If 6 switch: Fused Safety Switches Breaker Panel wo/Main MDP wo/Main

Main Safety Switch Brand Square D Cat# _____ Amperage 100

Main Breaker Panel Brand _____ Cat# _____ Amperage _____

Main Distribution Panel: Brand _____ Cat# _____ Amperage _____

Feeder Power Panels Y N Number of Feeder Panels _____

Feeder Power Panel #1: Location _____ Main Breaker Y N Amperage _____

Feeder Power Panel #2: Location Mechanical building Main Breaker Y N Amperage 225

Feeder Power Panel #3: Location _____ Main Breaker Y N Amperage _____

Branch Circuit Overcurrent Protection Type: Breakers Fuse GFIC

Point of Service #2 Mechanical building Transformer Type: Pad Mount Pole Mount

Transformer location _____ CT Cabinet Y N Meter Location _____

Service #2: Amperage 225 Voltage 208 Phase: 1 3 Wye _____ Delta _____

Service Disconnect Type: Single Switch 6 Switch

If Single Switch: Fused Safety Switch Breaker Panel w/Main MDP w/Main

If six switch: Fused Safety Switches Breaker Panel wo/Main MDP wo/Main

Fused Main Safety Switch Brand _____ Cat# _____ Amperage _____

Main Breaker Panel Brand Square D Cat# _____ Amperage 225

Main Distribution Panel Brand _____ Cat# _____ Amperage _____

Feeder Power Panels Y N # of Feeder Panels _____

Feeder Power Panel #1: Location _____ Main Breaker Y N Amperage _____

Feeder Power Panel #2: Location _____ Main Breaker Y N Amperage _____

Branch Circuit Overcurrent Protection Type: Breakers Fuse GFIC

On-site Generator: Y N Brand _____ Model # _____ KW _____

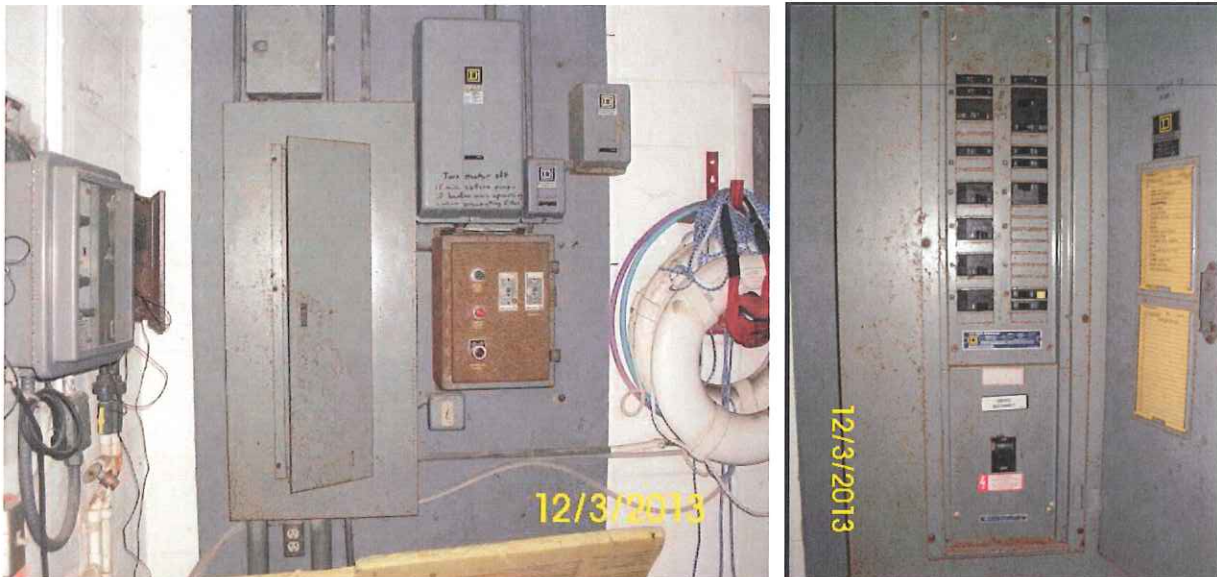
Bonding: Observed Y N For Pump Y N Deck Equipment Y N

Field Comments:

1. The existing electrical equipment is corroded and in need of replacement;
2. The existing light fixtures are in poor condition; most electrical devices are in poor condition and need to be replaced.

Recommendations:

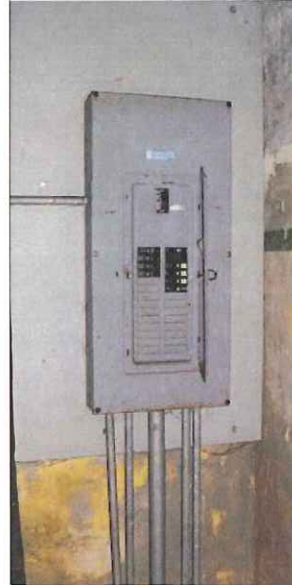
1. BAI recommend a minimum 600 amp service with new main distribution panel for a replacement project, however for a repair a 400 amp service would be sufficient;
2. New panels, motor starters and miscellaneous electrical equipment should be replaced prior to restarting the pool system;
3. The Opinion of Probable Construction Costs includes new service, panels, motor starters and miscellaneous work for a replacement project.



Existing Mechanical Building Panel and electrical system components



Bathroom exterior lighting



Bathroom Panel

1-30. Utilities

Site Utilities: Electric Water Sanitary Gas Telephone Telemetry Storm

Bathroom Utilities: Electric Water Sanitary Gas Telephone Storm

Mechanical Building Utilities: Electric Water Sanitary Gas Telephone

Telemetry Storm Potable Water Source: Municipal Private Well

High Iron Y N High Hardness Y N High Alkalinity Y N

Point of Water Service #1: Site Bathroom Mechanical Building Size _____

Water Service #1 Meter: Size 2" Location Bathroom Brand _____

If Meter 2" And Larger = Manual Valve Bypass Y N

Exempt Meter For: Site Pool

Point of N Gas Service #1: Site Bathroom Mechanical Building Size 2"

N Gas #1 Meter Location South side of bathroom, meter removed

Gas Fired Appliance 1. Pool heater 2. Potable water heater

Regulator In Front Of Appliances Y N Name of Utility _____

Storm Sewer To Site _____ Flow Direction Southwest Gravity Y N

Storm Sewer Into BH _____ Flow Direction _____ Gravity Y N

Storm Sewer Into MB _____ Flow Direction _____ Gravity Y N

Storm Sewer Receives: Filter Backwash Y N Surge Tank Y N

Pool Drainage Y N Deck Drain Y N Roof Drainage Y N

Storm System: Lift Station Y N Location: _____ Duplex Simplex

Discharge Size _____ Submersible Y N Shaft Driven Y N

Sanitary Treatment Source: Municipal Private Septic Tank

Sanitary Sewer To Site _____ Flow Direction East Gravity Y N

Sanitary Sewer Into BH _____ Flow Direction East Gravity Y N

Sanitary Sewer Into MB _____ Flow Direction _____ Gravity Y N

Sanitary Sewer Receives: Filter Backwash Y N Surge Tank Y N

Pool Drainage Y N Deck Drain Y N Roof Drainage Y N

Sanitary System: Lift Station Y N Location: _____ Duplex Simplex

Discharge Size _____ Submersible Y N Shaft Driven Y N

Field Comments:

1. The utilities are all disconnected, except for the sanitary sewer system. In order to renovate the pool facility all services would need to be reconnected and brought up to current Codes. New pipe and conduit extensions to the facility will be required and a complete redesign of the utilities between the buildings will likely be required;
2. Since the facility has not been operated in ten years it is likely that the sanitary and water piping is broken or in a state unsuitable for use.

Recommendations:

1. A new water service with appropriate back flow prevention is recommended along with new sanitary, gas and electric utility connects. Backwashing and pool drainage to the storm sewer should be reviewed further and discussed with the Health Department. All work is included in the Opinion of Probable Construction Costs.

1-31. Pool Area Lighting System

Pool Area Lighting Y N Security Lighting Y N

Pole Mounted Fixtures _____ # Building Mounted Fixtures _____

Condition Of Poles 1 2 3 4 5 Condition Of Fixtures 1 2 3 4 5

Underwater Lighting Y N Operating Y N

Field Comments:

1. Pool area lighting foundations are in place, however the poles have been removed;
2. The existing lighting system is for security lighting only.

Recommendations:

1. No night or evening swimming should occur with out sufficient lighting;

2. In general, BAI does not recommend pool area lighting (night lighting) due to a lack of return on the initial investment. No work is included in the Opinion of Probable Construction Costs.



Typical light pole base

1-32. Safety Equipment

Ring Buoys Spine Board Blankets Telephone Emergency #'s

Fire Extinguisher First Aid Kit Eye Wash Chlorine Mask

Separate First Aid Water Closet Separate First Aid Lavatory

Field Comments:

1. All existing equipment observed is in poor condition.

Recommendations:

1. Replacement of all required safety equipment and pool water testing equipment is included in the Opinion of Probable Construction Costs.

CHAPTER II. DATA AND PROBABLE CONSTRUCTION COSTS INFORMATION

2a. Data For Existing Facility

(Data for study purposes only)

TOTAL WATER SURFACE AREA = 9,000 square feet

TOTAL FACILITY PATRON CAPACITY = 575 patrons, does not include decking

1. Existing main pool surface area: 9,000 Square Feet
2. Existing main pool water volume: 314,000 gallons
3. Existing main pool patron capacity: 575 patrons
4. Existing main pool recirculation rate: 872.22 gpm
5. Number of existing and required sanitary facilities:

Fixture Type	Existing Quantity		Code Required Quantity	
	Female	Male	Female	Male
Urinals	<u>2</u>	<u>0</u>	<u>0</u>	<u>3</u>
Water Closet	<u>2</u>	<u>4</u>	<u>10</u>	<u>2</u>
Shower	<u>9</u>	<u>9</u>	<u>6</u>	<u>6</u>
Lavatory	<u>2</u>	<u>2</u>	<u>4</u>	<u>3</u>

6. Existing Surge capacity: unverified, additional tank measurements required
7. Required Surge Capacity: 9000 gallons.



**Viroqua - Technical Evaluation
Opinion of Probable Construction Costs**

<u>Line Items</u>	<u>Cost</u>
1 Pool Vessel.....	\$450,000
2 Pool Finish.....	\$110,000
3 Pool Enclosure (Fence).....	\$10,000
4 Pool Covers.....	\$0
5 Vacuum System.....	\$0
6 Decking.....	\$108,000
7 Deck Drain System.....	\$40,000
8 Deck Equipment.....	\$35,000
9 Surge Tanks & MH #1.....	\$20,000
10 Main Pool Piping.....	\$135,000
11 Pool Filtration and Backwash System.....	\$12,000
12 Recirculation Pump Assembly.....	\$33,000
13 Pool Disinfectant System.....	\$17,000
14 Chemical Control.....	\$24,000
15 Pool Heater.....	\$36,000
16 Wading Pool Vessel.....	N/A
17 Wading Pool Piping System.....	N/A
18 Wading Pool Filtration Assembly.....	N/A
19 Wading Pool Recir. Pump Assembly.....	N/A
20 Wading Pool Disinfectant System.....	N/A
21 Wading Pool Chemical Control.....	N/A
22 Mechanical Building.....	\$20,000
23 Bathhouse Structure.....	\$400,000
24 Bathhouse Roof Assembly.....	\$132,000
25 Bathhouse Doors & Windows.....	\$36,000
26 Bathhouse Plumbing.....	\$135,000
27 Potable Water Heater.....	\$2,000
28 HVAC Systems.....	\$8,000
29 Electrical System.....	\$165,000
30 Utilities.....	\$40,000
31 Pool Area Lighting System.....	\$0
32 Safety Equipment.....	\$14,000
33 Additional Line Items	
a Demolition - Asbestos Abatement not Included.....	\$35,000
b Contractor Mobilization, Supervision, and Bonding.....	\$101,000
c Contractor Profit & Overhead.....	\$162,000
d Design Fees, Permits, Soil Borings, Site Survey, Reimbursables, etc.....	\$217,000
e Construction Related Services & Reimbursables.....	\$125,000
f Contingency Fund.....	\$50,000
Opinion of Probable Construction Cost.....	\$2,672,000

CHAPTER III. RECOMMENDATIONS

3a. General Comments

In this Chapter of the Report, the consultant weighs all of the information and data which has been generated in the previous Chapters of the Report, and also weighs the importance of many different factors to arrive at a recommendation which is felt to be in the best interests of the Community. This recommendation must also meet the aquatic recreational, instructional, competitive, and special needs of the Community with the limiting parameter of maintaining the same size and type of facility.

One must remember that the purpose of a Technical Evaluation Study is to establish the concept of the project, provide opinions as to the probable costs of construction, and identify the scope of renovation necessary to return the facility to a state of good repair and meet the significant Code and ADA requirements. BAI's opinions were made using BAI best judgments and are not intended to serve as absolutes, nor are they warranties.

The aquatic center has been a very well received facility for the Community; however, many of the facility's elements are now at the end of their useful life and have Code obsolescence. Over the past ten years the City has not operated or maintained the facility. If the facility were to reopen, the City will be required to perform a large renovation project to repair and replace existing equipment that has aged and been idle for the past 10 years.

After considering the evaluation of the existing outdoor facility, scope of necessary facility repairs, probable construction costs, special needs and demand for facilities, the final summary recommendations are hereby respectfully submitted for Phase I, Step #1 of BAI's Professional Services Agreement with the City of Viroqua.

3b. Recommendations

1. Modifications for ADA compliance and VGBA compliance must be completed prior to opening the main pool and are required by federal and state codes.

2. After much consideration, BAI recommends that the City replace the existing swimming pool vessels. This recommendation is based on several key issues:

a. The cost of pool vessel renovation with a goal of creating a high probability of reaching a 25 year life is more than half the cost of a totally new vessel;

b. The pool vessel is in poor condition;

c. Cracks and fractures were observed within the pool and leakage into the pool from the surrounding ground water was observed. Repair of these cracks can be performed; however, there will be a high probability future leakage;

d. The vessel is leaking; the repairs to reduce leakage will be very labor intensive. Repair of an existing pool can be very risky. Expenditure of significant funds will not guarantee that another element of the vessel will not fail after the renovation is completed. The structural damage to the pool is such that the leakage can be reduced but not eliminated. Any renovation will not likely provide the facility a 25 year life expectancy.

3. BAI recommends the City convert the existing bathhouse to a useful public amenity such as a park shelter for the following reasons:

a. Renovating the bathhouse for use as a bathhouse will be costly and will result in a cost more than half of a completely new building, while renovating the bathhouse for use as a shelter would limit the repair work to removing interior non-load bearing walls, removing sanitary fixtures and refinishing walls and floors. The roof will need to be removed and in the event the building becomes a shelter the roof could be a lesser cost roof than that of a bathhouse;

b. Some cosmetic features of the building are aged and require replacement; however the structure is in good condition;

c. The space required for a new zero-depth pool vessel at the existing facility is limited and is further complicated by the fact that the City doesn't own 100% of the facility. Therefore, locating a new facility in a different location would be ideal.

4. The existing mechanical building is in good structural condition and could be reused with minor

modifications if the City decides to renovate or construct a new pool in the same location as the existing pool.

5. Prior to beginning any construction program, the City should seriously consider the intended use of the facility. The present facility is commonly referred to as a traditional-style outdoor facility. This vintage of facility has high operating costs and lower revenue generation than some of the newer style (zero-depth) recreational facilities. This facility tends to be very traditional with infrastructure.

6. A facility constructed with more recreational features would offer greater value with an increased attendance. However, the limited space availability at the existing facility will greatly reduce the flexibility of a new pool design as the new pool would likely need to fit within the existing pool footprint.

7. It is recommended that the City not make decisions based solely on this first Step. The second Step of the Professional Service agreement will address new and different type of uses for outdoor facilities, develop site layouts which will be more efficient and similar in size, determine the anticipated aquatic usage, combine assets of the present facility with new construction to greatly increase the profitability and service level, prioritize the City's anticipated swimming pool needs and address the financial operating profile of a modern facility.

3c. Schedule of Implementation

A suggested schedule for repair/renovation or replacement of the Viroqua Swimming Pool facility is as follows:

- | | |
|--|----------------|
| 1. Submit completed Phase I - Step #1 Technical Evaluation for review and approval | February 2014 |
| 2. Submit completed Step #2 Feasibility Study for review and approval | February 2015 |
| 3. Select project option and authorize financing mechanism and place on ballot for referendum(if required) | February 2015 |
| 4. Conduct referendum | May 2015 |
| 5. Authorize preparation of plans and specifications | May 2015 |
| 6. Submit plans and specifications for review and approval | August 2015 |
| 7. Submit plans and specifications to the State for approval (approval required for pool and buildings) | August 2015 |
| 8. Advertise for Bids | August 2015 |
| 9. Open Bids | September 2015 |
| 10. Award Contracts | September 2015 |
| 11. Begin Construction | October 2015 |
| 12. Substantially Complete Construction | Summer 2015 |

Please note the above schedule is an example time frame for reference only. The schedule can be modified to meet the Owner's specific needs.