Legislation Details (With Text)

File #:	18-0537	**Version:**	2	**Name:**	Thomas Park Pool
Type:	Presentation			**Status:**	Agenda Ready
File created:	8/8/2018			**In control:**	City Council Workshop
On agenda:	8/23/2018			**Final action:**	
Title:	Presentation, possible action, and discussion regarding Thomas Swimming Pool facility options.				
Sponsors:	David Schmitz				
Indexes:					
Code sections:					
Attachments:	Thomas Park Pool Audit				

Date	Ver.	Action By	Action	Result

Presentation, possible action, and discussion regarding Thomas Swimming Pool facility options.

Relationship to Strategic Goals:

1. Providing Core Services and Infrastructure
2. Neighborhood Integrity

Recommendation(s): Staff recommends approval of support for the community needs assessment.

Summary: Staff commissioned a consultant to investigate the depth of repairs, general conditions, possible noncompliance with code and opinion of probable costs for Thomas Pool. On June 12, these findings were presented to the Parks and Recreation Board. At that time the board voted 4-3 to seek design and construction of a new pool (one option presented within the audt).

Budget & Financial Summary: Funding source and availability would vary with the option Council chooses. Pending the option, funding could come through savings from O&M of Thomas Pool.

Reviewed and Approved by Legal: No

Attachments:

- Kimley-Horn Audit of Thomas Pool

THOMAS PARK POOL AUDIT

CITY OF COLLEGE STATION
Home of Texas A&M University®

March 2018

Kimley»Horn

With

Counsilman · Hunsaker
AQUATICS FOR LIFE

The Arkitex Studio, Inc.

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Introduction

The City of College Station commissioned Kimley-Horn, Counsilman-Hunsaker and Arkitex Studio to provide a swimming pool and bathhouse audit at the Thomas Park Pool on March 26, 2018. The pool is approximately 38 years old and has undergone major renovations since its original construction in 1979. The City of College Station commissioned this audit to assist in identifying items that are substandard, not meeting current department of health requirements, or not operating as designed, to assist in defining a course of action regarding the future of the pool. Visual observations, staff interviews and record drawings were used to prepare this audit.

An Opinion of Probable Cost is given for each section to illustrate the construction costs associated with bringing the pools up to current department of health requirements. Some items that are listed to be repaired may only need to be repaired if further examination has determined that such repair is necessary. *The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.*

Thomas Park Pool Commentary

Thomas Park Pool was constructed in 1979 and included the following amenities: a recreational/training swimming area, a 5-lane advanced swimming area and a diving well with two 1-meter diving boards. A separate enclosed children's wading pool was also designed to the west of the main pool. A major renovation took place in 1993 which required repairs to the pool and the installation of a new filtration system. Another renovation in 2002 added a shade structure, renovated pool deck, re-plastered the pool and renovated the surge tank area.

The site was observed on March 26, 2018 when the facility was closed for the off-season. Staff reported a higher than normal rate of water loss which increases the chemical usage due to a higher water usage. There are concerns of leakage at the pool joints and/or the main drain. The current bather load per the Texas Administrative Code is approximately 252 bathers. It was reported that outside of day camps, less than twenty people visit the site per day. The cost of admission is $3 per day.

The condition of the pool is not unusual for pools this age. As with other pools of similar age, the pool is facing physical obsolescence. Swimming pools are built to satisfy the existing standards at the time of construction or renovation. The Texas Department of Health standards have changed over the years. The items identified in this report refer to items that do not meet the current Texas Department of State Health Services requirements for pools built today. It is believed that when the pool was built or renovated, the construction was to current code at the time. The items identified as not meeting the current code do not indicate that the city has been operating the pools that are not to code. Pools are required to meet current codes when they are newly constructed or renovated and until such time may be considered "grandfathered". Thus, the issues do not necessarily indicate that the City has been operating the pools in an unsafe manner. It is also assumed that these pools are monitored by the local department of health, and the pools are considered satisfactory to operate safely.

General Site

1.1 Applicable Codes Referenced

Applicable Texas Codes:

Texas Administrative Code:

TITLE 25	HEALTH SERVICES
PART 1	DEPARTMENT OF STATE HEALTH SERVICES
CHAPTER 265	GENERAL SANITATION
SUBCHAPTER L	STANDARDS FOR PUBLIC POOLS AND SPAS

Texas Accessibility Standards 2012

Applicable Federal Code Section:

Americans with Disabilities Act Access Guidelines (ADAAG)
2010 ADA Standards for Accessible Design
2010 Standards: Titles II and II
Approved September 15, 2010

National Spa and Pool Institute (NSPI)
American National Standards Institute (ANSI)
American National Standard for Public Swimming Pools
ANSI/NSPI -1 2003
Approved March 10, 2003

Virginia Graeme Baker Pool and Spa Safety Act (VGB)
ASME/ANSI A112.19.81
Signed into Law on December 19, 2007
CPSC Staff Interpretation of Section 1404 issued on June 18, 2008

The administrative code requirements must be satisfied if a major modification of the pool is undertaken or if a particular item or piece of equipment is in need of repair. The recommended repairs address all administrative code items identified in this report.

1.2 Site Data

Total Parking Spaces – 19 (including 1 space designated as an accessible space)
Pool Deck Area – Approximately 8,665 SF

1.3 Parking Lot

The current space marked as an accessible space does not meet Section 206 of the 2012 Texas Accessibility Standards that require an accessible route from the parking area to the building entrance. The parking space also fails to meet Section 502 of the Texas Accessibility Standards which also requires a 60" minimum marked access aisle that connects to the accessible route.

To meet the 2012 TAS standards, the parking lot would require restriping, a curb cut and accessible ramp needs to be provided and the entire path to the entry should be less than 2% cross slope.

Opinion of probable cost: *$15,000*

1.4 Pool Deck

The current pool deck is generally in good condition. There is very little vertical movement that would generate accessibility issues. There appears to be adequate deck drains to ensure positive drainage limiting standing water on the pool deck. There is one area that is holding water due to an apparent leak in the pool gutter system.

However, access around the pool does not meet Section 265.186 of the Texas Administrative Code near the old diving board platform. The platform creates a structure that could potentially be used as a diving platform and restricts emergency access around the south side of the pool. The pool deck should have a minimum width of 6 feet to meet post 10/01/99 pools.

Area drains are located in the pool deck, evenly spaced and offset approximately 6 ft. behind the pool edge and two locations within the pool deck at shade structure location. There are numerous deck drains that have sunk where the drain grate cover is below the surface of the deck concrete. These areas are outlined in red and pose a risk as a tripping hazard. In addition, there is concern of a potential failure of drainage piping under the pool deck.

Pool deck replacement is recommended to allow for removal of the old diving board platform and additional replacement needed for any pool piping and gutter repairs. Replacement of joint sealant is also recommended for long term maintenance.

Re-caulk all deck expansion joints.

Opinion of probable cost: $3,000

Remove the 1-Meter dive stand. Verify with a structural engineer that removal of stand does not impact the structural slab for the pool piping tunnel below. Replace pool deck in the demolition area.

Opinion of probable cost: $12,000

Pressure test pool deck drainage piping. If leaks are found, replace all deck drainage piping and pool decks.

Opinion of probable cost: $100,000

1.5 Pool Enclosure

The pool enclosure is approximately 8 feet tall and the material is chain-link. Section 265.200 of the Texas Admirative Code requires the enclosure to be a minimum of 6 feet tall for this type of facility, be designed so that it is not readily climbed and have no openings in the enclosure of which a 4-inch sphere can pass.

The height and material of the fence meets the intent of the current code, however there are several sections that include a mid-rail which could potentially be used to climb the fence. There are also areas located on the bottom of the fence that show greater than 4” openings.

Closing the 4" openings and removing the mid-rails on the chain-link fence is recommended to comply with the intent of Section 265.200 of the Texas Administrative Code.

Opinion of probable cost: $3,000

1.6 Hose Bibs

Post 10/01/99 pools require an adequate number of hose bibs and adequate hoses to be provided for washing down all areas of the deck. Only one hose bib accessible to the deck was observed during the site visit.

Providing water service hose bibs around the deck should be a consideration for deck washing purposes.

*Opinion of probable cost: $3,000**

**Cost could vary depending on location and number of hose bibs provided as well as the location of the nearest potable water source.*

Pool Bathhouse

1.1 General

The existing building is approximately 943 square feet and was built in 1980. The building is constructed of the following materials:

Foundation:
- concrete slab-on-grade (foundation system unknown)

Exterior walls:
- single-wythe concrete masonry with cementitious coating
- wood framing with wood siding

Interior walls:
- concrete masonry

Roofing system:
- asphalt shingle on plywood decking; Harditrim fascia and eaves

Windows:
- vinyl windows (recently replaced)

1.2 Exterior Building Condition

The exterior walls of the building show signs of movement. This is evidenced in the appearance of cracking along the mortar joints of the concrete masonry. The exterior cementitious skim coating of the building is showing signs of aging, including this cracking and discoloration and water infiltration along the cracking. The siding portions of the exterior are in reasonable condition, though one hole was observed on the south side. The eave trim is in good condition. The roof shingles appear to be relatively new; however, roofing granules were observed on the ground around the building, which may be a sign of damage caused by the recent hail storm. Confirmation of this would be required by a roofing inspector.

1.3 Interior Building Condition

As the building is constructed of single-wythe concrete masonry walls, the cracking that is apparent on the exterior is also seen at locations at the interior. Cracking in the slab was not observed (the slab recently received a new resinous floor coating which may be concealing hairline cracking.) No signs of roof leaks were observed.

Interior doors are in poor condition and are not holding up well to the wet environment. Wood doors are delaminating; restroom entry doors are showing signs of corrosion.

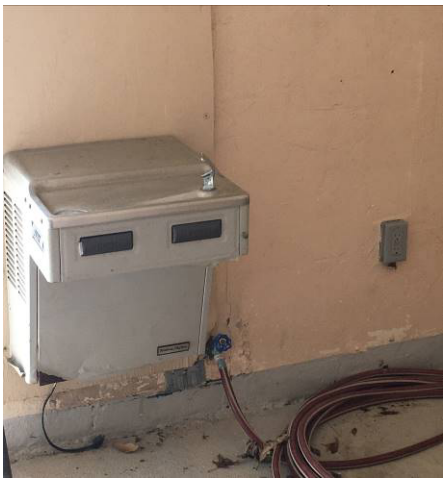
1.4 Fire Safety Systems

The building does not have a fire protection (sprinkler) system, nor does it have a fire alarm system. Based on the size of the building, neither is required by code. A fire extinguisher was observed in the guard room.

1.5 Mechanical Systems

The building is naturally ventilated and does not have a central heating and cooling system. Unit heaters were observed in the restrooms, likely on a thermostat to help prevent pipe freezing in the winter. It is not known if the heaters are in working condition, but staff noted that there were problems with freezing of piping during this past winter.

1.6 Electrical Systems



This review did not include an assessment of concealed wiring systems but only items observed on building exposed surfaces. No power outlets were observed in either restroom or shower area. In the area of the water fountain, an outlet was observed below the fountain and adjacent to a hose bib. This outlet is not a ground-fault interrupter and is thus not compliant with code, as it is within 5 feet of a water source. Electrical panels are located within a closet off the guard room and appear to have appropriate clearances. Building lighting is working and is adequate for the room functions. However, no exit signs or emergency lighting are present.

1.7 Plumbing

Plumbing fixtures appear to be original to the building. City staff noted that there are ongoing issues with clogged drains, leaks, and faucet handle failure. Trench drains in the restrooms are present, but the grates are non-removable thus making it quite difficult to clean out the trench or unclog the drain. Most notably it was observed that the number of plumbing fixtures is small. Based on the occupancy and current code requirements, there should be 3 water closets provided for the

women's room (per Texas Administrative Code, based on 250 pool occupants); however, there are only 2. Current code requires 2 fixtures for the men's room, and there are 2 fixtures. Concerning lavatories, per Texas Administrative Code for pools, there should be 2 sinks per gender. However, there is only 1 in each restroom area.

The 2 showers in each restroom are 36" x 36" each. Based on the pool occupancy, 2 showers per gender is adequate.

A water cooler is present. See below for accessibility compliance comments.

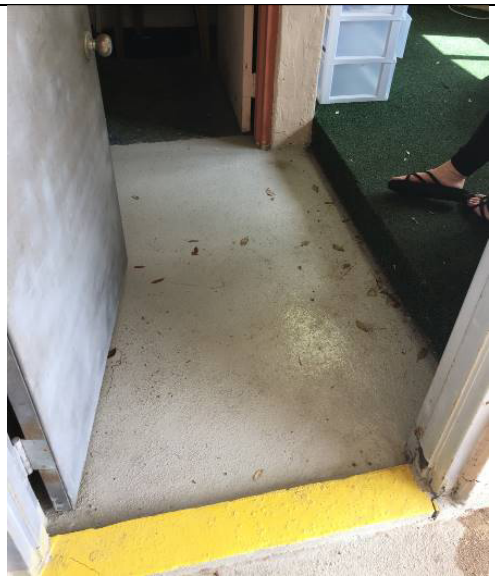
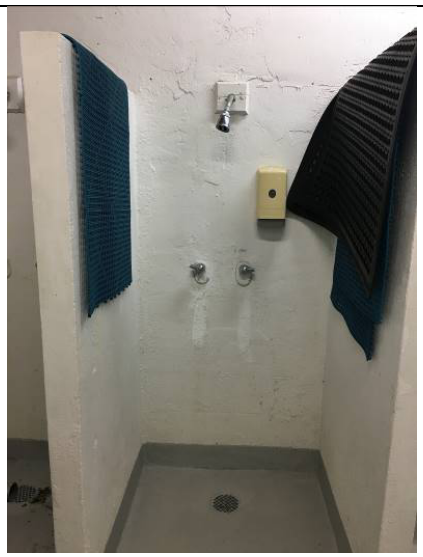
Code requires a janitor's sink; none is present.

A water heater was observed; it was not seen if this water heater has an anti-scald mechanism required by Section 265.201 of the Texas Administrative Code.

1.8 Accessibility

Based on visual observation of the current conditions, the following items pose an accessibility problem:

1. The admission window is not accessible.	

2. Curbs within the building cause the guard room and shower areas to be inaccessible	
3. There is no toilet stall in either restroom that complies with accessibility requirements.	
4. Though shower stall size could comply, the showers are missing the appropriate plumbing arrangement and fixtures as well as seating that is required for accessibility.	

5. Showers are missing the necessary clear floor area in front of the showers for wheelchair access.	
6. Doors to the restrooms do not meet the necessary push and pull clearances.	

7. Restrooms signage is not compliant in graphics, placement, and is missing the required Braille.	
8. The water fountain is required to accommodate high-low access by having 2 units; only one unit is provided.	

1.9 Building Function

There are several concerns with building that may impact function and safety:

1. The entry is visually separate from the interior area of the pool and building. This can be a problem for the staff, as staff may not see if there is a problem at the entry.
2. Sight lines from the guard room are limited. It is not possible to maintain a constant view of those who enter the restrooms.

3. Having no lobby or central desk area prevents the staff from being able to monitor activity of multiple areas of the facility at the same time.
4. The doors to the storage area block access to the restroom when opened.
5. Small windows at the guard room, with wall in between, prevent clear view of the pool and deck occupants.
6. No private dressing areas are provided.

1.10 Feasibility of Building Upgrades

Given the construction systems used and the layout of this building, improvements to address concerns noted above would be challenging. To improve the plumbing and accessibility deficiencies, significant structural modifications will be required, as the current area does not offer enough space to make these improvements within the existing area. An addition would be required. Also, given the masonry walls, plumbing improvements to this building will be very invasive and costly to implement.

Given the age and current state of this building, the cost of an addition and renovations to the existing facility could be estimated as follows:

Building addition	500sf x $300=	$150,000
Building renovation	943sf x $125=	$117,875
Total		$267,875*

*Square foot estimate figures are based on a general knowledge of construction costs and trends in our area and are intended to provide an approximate scale of cost. Figures provided are not an actual construction cost.

Though the cost of a new building would be more than this, this figure represents a number perhaps exceeding 50 percent of the value of a new building, without offering the same functional improvements that a new building would offer. It perhaps would be a better long-term investment of public funds to build in a new facility than modifying this building with its inherent challenges.

Pool and Mechanical Systems

If the owner wants to continue using the Thomas Park Pool, Counsilman-Hunsaker recommends the immediate action of a structural assessment and the replacement of the under-pool recirculation piping to meet applicable health and safety codes. Depending on the results of these assessments, multiple outcomes have been studied.

Pool Structure - The structural assessment shall include the following:

- Drain the pool of all water.
- Plug all pool piping and isolate the pool shell.
- Remove any debris and current plaster finish the bare pool finish and/or structure.
- Visually inspect the structure for any visible cracks or deformities.
- Repair all cracks and deformities as needed and perform a water tightness test for the pool shell in accordance with ACI (American Concrete Institute) requirements.
- If the pool shell does not pass a water tightness test, consult a structural engineer to conduct further investigation including but not limited to taking core samples of concrete structures, using ground penetrating radar to locate potential voids on the pool structure and providing recommendations for additional repair and/or waterproofing methods.

Pool Structure Options: If the pool shell is in need of replacement, two (2) plans of action are suggested as detailed below.

- The first provided option is to repair the areas identified by the structural engineer.
- The second provided option would be to replace the existing pool. This can be accomplished by either demolishing the existing pool and replacing it with a new code compliant pool or spray pad, or to construct a new pool inside the existing pool.

A. POOL ITEMS

1.1 General Pool Information

General Pool Information – Outdoor Lap/Recreation Pool

- Built in 1979 (per provided information)
- Renovated in 1993 and 2002 (per provided information)
- Surface Area = (4,637 SF) Measured
- Perimeter = (334 FT) Measured

- Dimensions = (82’-1” x 41’’-9”) Lap Area
- Dimensions = (44’-8” x 26’’-9”) Shallow Area
- Depth Range = (2’-6” to 12’-8”) Posted
- Volume = Approximately 166,000 gallons (calculated per site visit measurements)
- Flow rate = 700 gpm (based on pump ID tag)

1.2 Perimeter Overflow System

The Lap/Recreation Pool perimeter overflow system is a fully recessed stainless-steel gutter system with an integral pressure tube for return water. The stainless-steel gutter was retrofitted into this pool in 2002 along with updates to the pool concrete, main drains, filter room piping and pool finishes.

Due to the excessive daily water loss and consistent wet spots on the pool deck, its logical to assume that a portion of the water loss is due to leaks in the pool gutter. The likely location is the pressure tube providing filtered and chemically treated water back to the pool. Typically, leaks in stainless steel gutters can be found at weld joints, change of direction locations and flange locations.

At the time of my review, water level in the pool was approximately 1 ½” to 2” below rim overflow condition.

Recommendations

Immediate:
The gutter pressure tube and all connecting piping (suction and pressure) should be pressure tested to confirm all leak locations. Deck removal will likely need to occur to repair leak points. Any welding repair to the stainless-steel gutter should be performed by a qualified welder experienced with stainless steel pool gutters

Opinion of probable cost: *$25,000 (does not included deck replacement)*

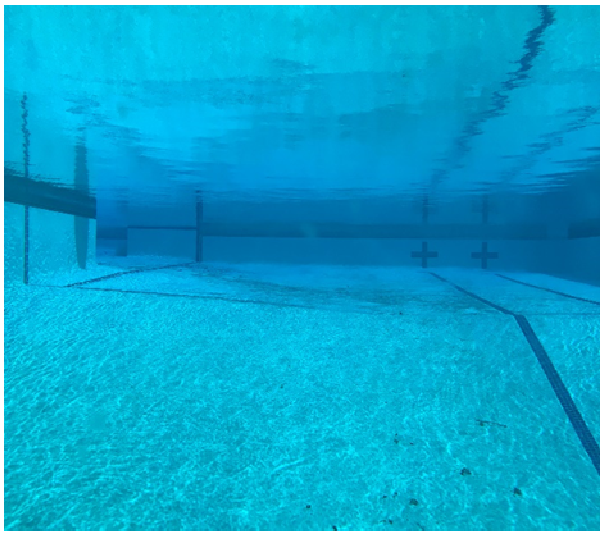
1.3 Structure and Finish

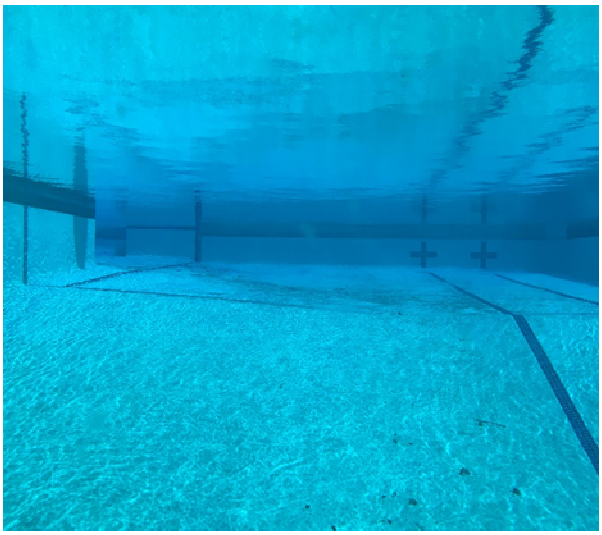
The original pool shell was constructed in 1979 and renovated in in 1993 & 2002. It should be noted that the current life expectancy of a concrete pool shell is approximately 30 to 40 years. The pool was full of untreated water at the time of my visit. Therefore, my inspection of the pool shell and finish was minimal. Pool staff reported that the pool loses an estimated 200,000 to 225,000 gallons of water a month. This calculates to 6,700 to 7,500 gallons a day or 5+ gallons a minute.

Pool drawings provided by city staff indicate that the pool experienced extensive concrete crack and joint repair in 1993. Additionally, the pool was originally designed with floor inlets. All floor inlets were “capped and abandoned” in 2002.

Pool staff also relayed that the pool expansion joints have been a concern for pool leakage.

The pool finish could not be observed since the pool was full of water. Staff relayed that the plaster finish is questionable and needs to be replaced. Typically, plaster finishes for outdoor pools last 8 to 10 years based upon water quality and proper chemical balance.





Recommendations

Immediate:
Due to the age and current condition of the existing pool structure, Counsilman-Hunsaker recommends draining the pool, remove the plaster finish to the bare concrete pool structure (methods may include sandblasting, hydro-blasting, or other mechanical abrasive means) and consult a structural engineer to inspect the structural integrity of the pool. Hammer testing or borings may be required to determine potential voids under the pool shell.

Opinion of probable cost: $5,000 (Structural Inspection)
$50,000+ (Epoxy injection/crack repair & mud jacking)

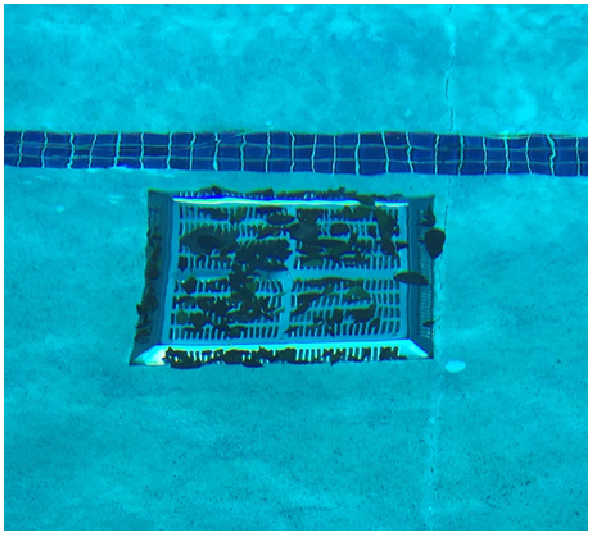
Future:
Due to the age and current condition of the existing pool structure and the lengthy list of issues, it is recommended to provide a new reinforced concrete pool structure if not initially required by the structural engineering assessment.

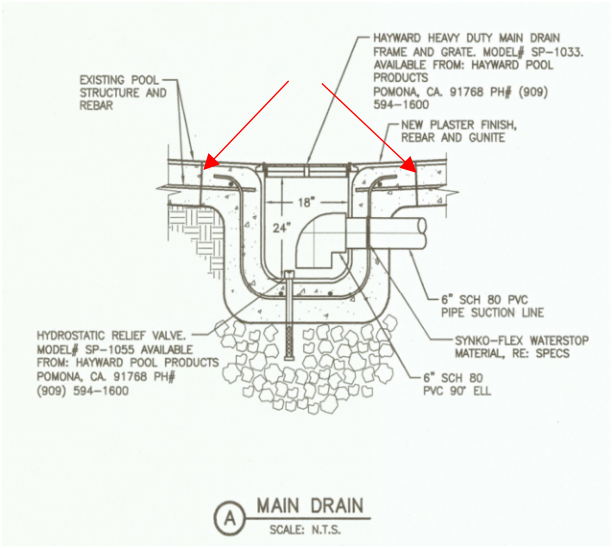
Opinion of probable cost: $1,224,000 (To replace the existing pool with a pool of equal size and depth)

1.4 Main Drains

The main drains in the Lap/Recreation Pool could not be inspected due to the pool being full of untreated water. The drain covers appear to be the Hayward SP-1033 installed as part of the 2002 renovation. Please note, these main drain covers are not VGB (Virginia Graeme Baker) compliant. All pool main drains in public pools are to be compliant per the Virginia Graeme Baker Pool and Spa Safety Act (VGB) ASME/ANSI A112.19.81 signed into Law on December 19, 2007.

The main drain replacement detail shown below taken from the 2002 renovation drawings does not show water stop at the concrete cold joint. Unless this was addressed during construction, this could be contributing to the loss of water the pool is experiencing.





Recommendations

Immediate:

After plaster coating is removed, use a high-pressure epoxy injection system to seal the concrete cold joints.

Opinion of probable cost: $3,800

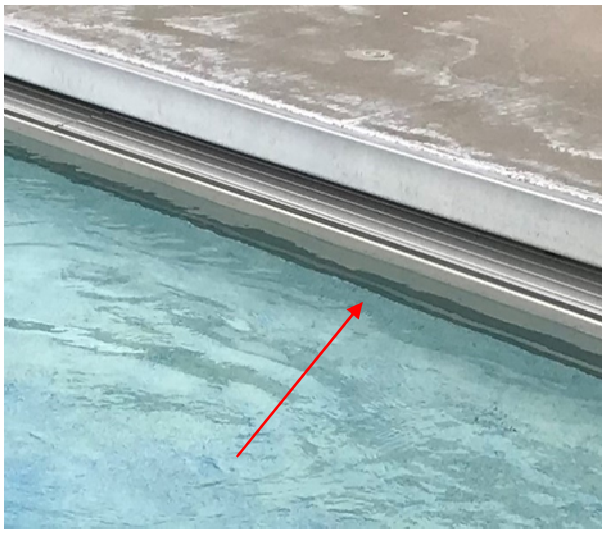
Install VGB compliant main drain covers.

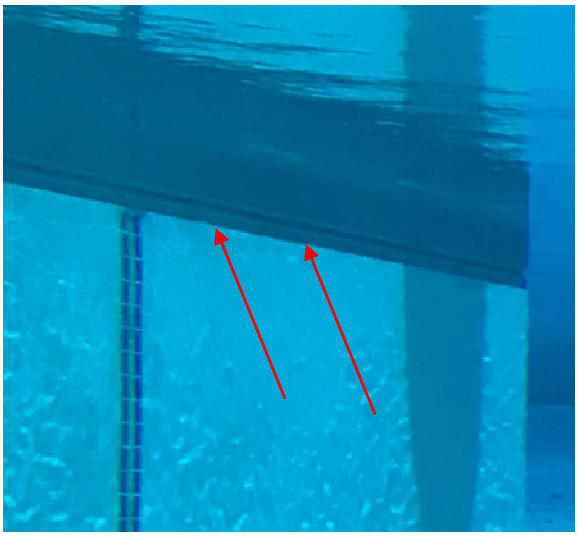
Opinion of probable cost: $2,800

1.5 Inlets

The Lap/Recreation pool water is treated and returned to the pool through a pressure tube integral to the pool gutter system. The pressure tube consists of multiple 5/16" holes around the perimeter of the pool at the base of the gutter introducing treated water back to the pool. This limits treated water distribution to areas near the pool gutter often starving the center of the pool of chemically treated water, particularly during high bather load. Pool staff noted that a wet area on the pool deck was related to a leak in the pressure tube on the stainless-steel gutter system.

Pool drawings provided by city staff note that all floor inlets were "capped and abandoned" in 2002. It is not indicated how these inlets were capped and verified as "water tight", to avoid future leakage. The original piping was cast-iron and the potential exists that this piping has now corroded to the extent that is has collapsed and created leak points and/or voids under the pool slab.





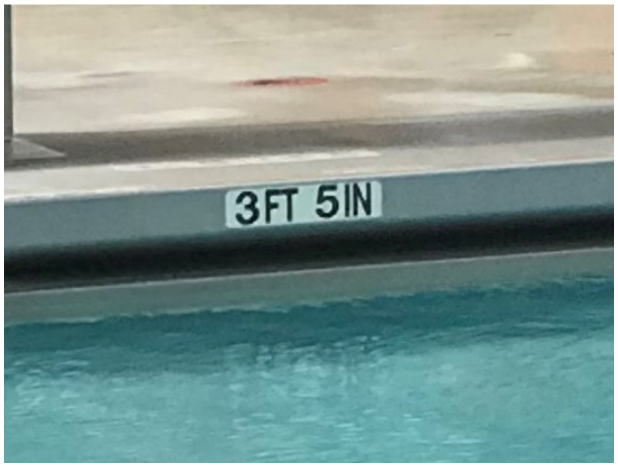
<u>Recommendations</u>

Immediate:
Pressure test stainless-steel gutter pressure tube system to pinpoint leak locations. Typically, leaks occur where the gutter changes direction, weld joints, and flange locations.

Opinion of probable cost: *$3,500 (Leak Detection)*
$12,000+ (Leak Repair)

1.6 Warning Signs and Depth Markings

Horizontal depth markers are 6” x 6” tiles with 4” lettering located on the pool deck behind the recesses gutter. No diving markers are located on the pool deck at depths of 5’-0” and less. Vertical depth markers are located on the face of the stainless-steel gutter.



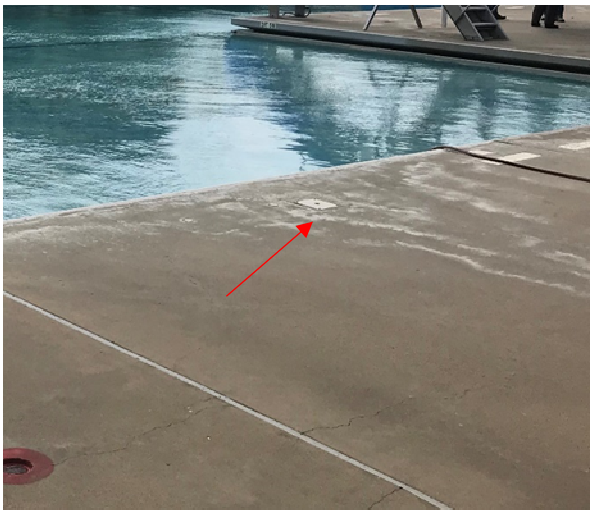
Recommendations

No action needed. Current depth markers meet all code and safety requirement.

1.7 Ingress and Egress

The Lap/Recreation Pool is equipped with four (4) sets of grab rails and one stair location with two entry rails. Pool Ladders and rails were removed and stored at the time of my review.

The only means of ADA compliance was a hydraulic handicap lift that was stored at the time of my review. Per the ADA requirements, any pool with a perimeter length more than 300 Linear Feet must have two (2) means of access. This can be accomplished by adding a third rail to the entry steps, adding a second pool lift or a portable stair.



Recommendations

Immediate:
Install a 3rd rail to the pool stair entry that meets ADA dimensional requirements.

Opinion of probable cost: *$2,400*

Optional: Add a second pool lift to meet ADA accessibility requirements

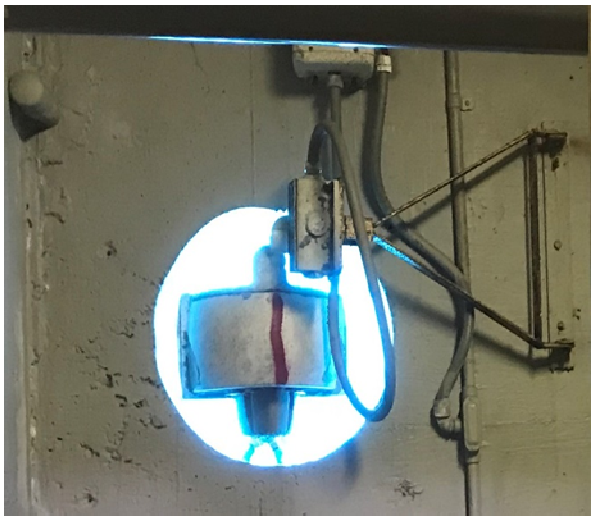
Opinion of probable cost: *$7,200*

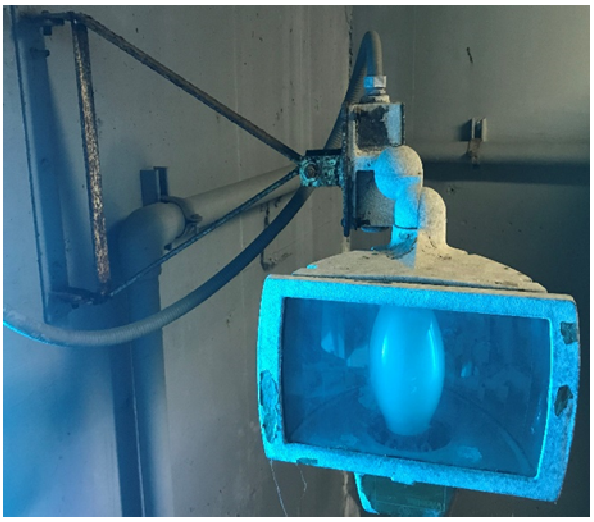
1.8 Underwater Lights

The Lap/Recreation Pool is equipped with one underwater light located at the deep end of the pool. The light is a dry-niche style light located within the filter room pump and piping pit. The view port for the light is watertight with no visible leaks. The light swing arm is operational and functions as designed. Pool staff relayed that the light is operational and is used occasionally.

Rule 265.192 (o) of the Texas Administrative Code Notes the following:

Electrical safety of underwater lights in post-10/01/99 and pre-10/01/99 pools and spas. Underwater lights are not required in post-10/01/99 and pre-10/01/99 pools and spas. If the lights have no epoxy insulation, have cracked insulation, have spliced connection cords, or have been modified in violation of an applicable electrical code, they shall be replaced with lights complying with this section.





Recommendations

Immediate:

Confirm underwater light are properly bonded as per NEC 680.

B. DECK EQUIPMENT AND STRUCTURES

2.1 Waterslide

The Lap/Recreation pool is equipped with one (1) small closed flume waterslide. This waterslide is in the shallow area (4'-0") of the pool. The waterslide appears to be in good condition. Water is supplied to the slide via a pressure hose tapped into the stainless-steel gutter pressure tube supply system. The slide steel is required to be grounded per NEC 680. No grounding wire was visible.

Recommendations

Immediate:
Verify that waterslide is bonded to an electrical grid as required by NEC 680. "All metal objects in a pool or within 5 ft. of the pool must be bonded.

Opinion of probable cost: *$1,500*

2.2 Deck, Maintenance, and Safety Equipment

At the time of my review, all deck, maintenance, and safety equipment had been stored for the winter season in the bathhouse and the pool mechanical spaces.

Recommendations

Immediate:
The aquatic safety protocol was not discussed at the time of the site visit. It is recommended to take inventory of the present equipment to ensure compliance with all local and state codes. The following safety equipment items should be found throughout the facility and its support spaces.

According to the Texas Administrative Code, *If the pool has between 2,000 and 4,000 square feet of water surface area, an additional reaching pole and throwing rope with*

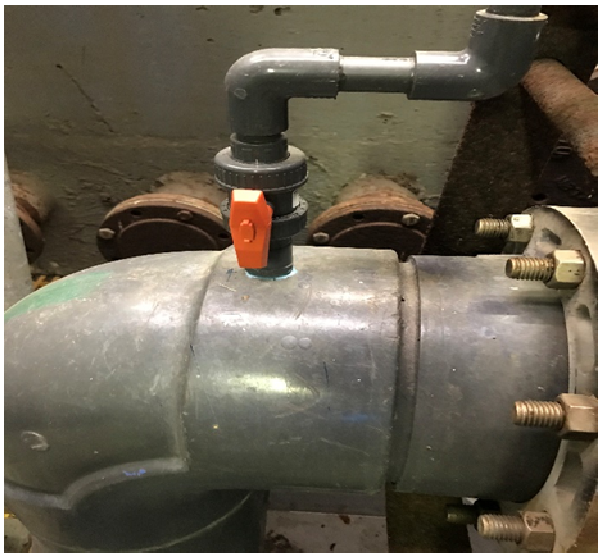
ring buoy, as described in subparagraphs (A) and (B) of this paragraph shall be provided. If the pool has over 4,000 square feet of water surface area, an additional reaching pole and throwing rope with ring buoy as described in subparagraphs (A) and (B) of this paragraph shall be provided for each 6,000 square feet of water surface area or portion thereof over 4,000 square feet. All such lifesaving equipment shall be mounted in conspicuous places around the pool deck within 20 feet of the pool. All lifesaving equipment shall be kept in good repair and ready condition.
(2) Backboards at post-10/01/99 and pre-10/01/99 pools. Post-10/01/99 and pre-10/01/99 Class A and B pools and Class C pools that have a diving board, slide, or lifeguard shall have one or more backboards with a minimum of 3 tie down straps and head immobilizer for back and neck injuries. (3) First aid kits at post-10/01/99 and pre-10/01/99 pools. Post-10/01/99 and pre-10/01/99 Class A and B pools and other pools with lifeguards shall be equipped with a first aid kit meeting OSHA requirements. First aid kits shall be a standard 24-unit kit and housed in a durable weather resistant container and kept filled and ready for use (including disease transmission barriers and cleansing kits that meet OSHA standards.

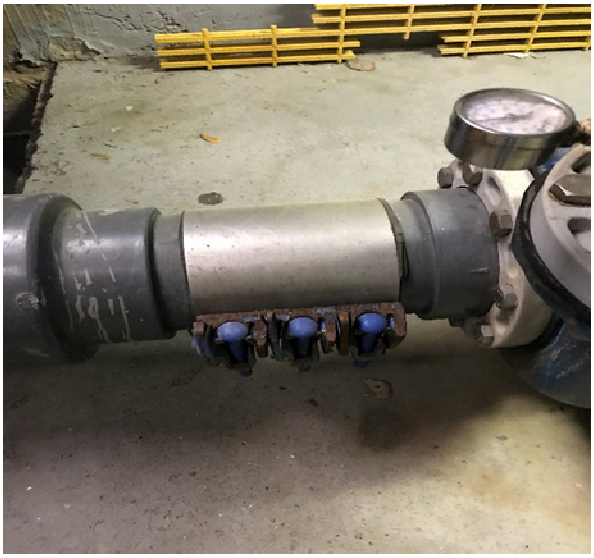
C. POOL MECHANICAL ITEMS

3.1 Piping and Valves

The visible piping in the mechanical/filter area was observed to be in fair condition. It is assumed this piping was placed in 2002 during the renovation. There are numerous locations where the piping has been compromised with drilled holes chemical monitoring and injection. Drilled holes generally lead to leaks over time. Additionally, there are multiple locations where repair couplings have been used. Repair couplings are designed to be a temporary fix until permanent pipe replacement can be installed. The piping in the mechanical/filter area was not color coded and did not have directional flow arrows. Per Texas Administrative Code, "*The piping system shall have direction of flow arrows indicated on the pipes.*"

Overall, the filter room valves appear to be in working condition. There is one valve on the filter face piping that requires a new handle. Additionally, all valve hardware is corroding and replacement is recommended. Hardware on the repair couplings also need to be replaced.





Recommendations

Immediate:
Replace all valve, flange and repair coupling hardware with stainless steel hardware.

Opinion of probable cost: *$3,200*

Future:
Replace valves as needed.

Opinion of probable cost: *$800 (per valve)*

3.2 Pumps

The filtration area is equipped with one (1), 1750 RPM, 208/460 Volt, 3 phase, 700 GPM, 70 TDH 20 HP recirculation pump. The pool pump motor was running warm, which is normal for a TEFC pool pump. No vacuum gauge was present on the intake side of the pump. The pump has a bonding wire wrapped around the electrical conduit mounted to the pump electrical box. Pool pumps are required to be bonded per NEC 680.

<u>Recommendations</u>
Immediate:

Continue to monitor pump flow and pressure. Install a vacuum gauge on the suction side of the pump. Verify that the pump system is properly bonded as per NEC 680.

With the replacement of a new recirculation pump, it is recommended to provide a variable frequency drive (VFD) to the pump to increase pump efficiency and provide energy savings. A VFD should be a product manufactured for the commercial aquatics industry like a Pentair Acu-Drive (Danfoss) or a H20-Technologies Smart Pump Control System (SPCS).

Opinion of probable cost: $7,000

3.3 Filtration System

Currently, the filtration system consists of two (2) 48x84 horizontal high rate sand filters originally manufactured by Stark and now supported and produced by Paragon. The filters appear to be in good condition and according to pool staff, operate as designed. Pool staff was uncertain as to when the filtration sand was last replaced. Typically, filter sand is replaced every 10 years.

Recommendations

Immediate:
If the filter sand is older than 10 years, it is recommended to replace the sand. After filter sand is removed, carefully inspect the filter laterals to confirm no cracks or material failures. It is also removed to replace the manway gaskets at the same time the sand is replaced.

Opinion of probable cost: *$4,000*

3.4 Chemical Treatment System

Currently, the pool sanitizer is Calcium Hypochlorite (dry chlorine) that is fed with a new Accu-Tab Model 3150 Chlorination System. The pH is controlled with muriatic acid that is pumped with two peristaltic pumps located next to the chemical controller. The chemical controller is a Chemtrol PC2000 which appears to be working as required.

Recommendations

Immediate:
Maintain probe life by cleaning with a soft tooth brush and dish detergent. It is also recommended to have extra probes in preparation of eventual probe failure.

Install a Y-Strainer on the intake side of the flow sensor to avoid getting dirt clogged in the flow sensor.

Opinion of probable cost: $150

3.5 UV System

The pool UV system was not functioning at the time of my review. Pool staff reported that the UV system is not operational and has not been functional in recent years.

The opinion of probable costs provided for all the options listed are strictly "ball park" numbers and are meant as a starting point for budgetary and planning purposes to schedule repairs in the future. Counsilman-Hunsaker highly recommends soliciting multiple bid quotes for each item prior to contracting any work to ensure the most competitive and up to date bid numbers.

Long-term considerations of possible pool replacement: Counsilman-Hunsaker can offer multiple services to assist with designing a new pool or an entire new facility to fit the needs to the College Station community.

	Immediate Recommendations	
1	Pressure test and repair stainless steel gutter system which may include deck replacement	$40,500.00
2	Repair pool structural issues including structural inspection, crack and expansion joint repairs	$55,000.00
3	Replace main drains with VGB compliant main drain sumps and Covers and seal main drain sumps	$ 6,600.00
4	Install a second means of egress for ADA accessibility	$ 2,400.00
5	Ground pool slide per NEC 690	$ 1,500.00
6	Replace pool piping hangers, supports and flange hardware	$ 3.200.00
7	Install new VFD for pool pump	$ 7,000.00
8	Replace filter sand	$ 4,000.00
9	Install new Y-strainer for chemical controller	$ 150.00
10	Install new UV system	$53,000.00
	Total	**$173,350.00**
	20% Contingency	$ 34,670.00
	Total (2018 USD)	**$208,020.00**

	Long Term/Future Recommendations	
1	Replace Lap/Recreation Pool*	$1,063,920.00
	Total	$**1,063,920.00**
	20% Contingency	$ 212,784.00
	Total (2018 USD)	**$1,276,704.00**

*This item is for the pool only. It does not include any deck replacement, drainage piping, etc.

Summary of Opinion of Probably Costs

	Summary of Opinion of Probable Costs	
1	General Site	
2	Parking Lot	$ 15,000.00
3	Pool Deck	$ 3,000.00
4	Pool Enclosure	$ 12,000.00
5	Hose Bibs	$100,000.00
6	Bathhouse	$267,875.00
7	Pool and Pool Mechanical	
8	Pressure test and repair stainless steel gutter system which may include deck replacement	$40,500.00
9	Repair pool structural issues including structural inspection, crack and expansion joint repairs	$55,000.00
10	Replace main drains with VGB compliant main drain sumps and covers and seal main drain sumps	$ 6,600.00
11	Install a second means of egress for ADA accessibility	$ 2,400.00
12	Ground pool slide per NEC 690	$ 1,500.00
13	Replace pool piping hangers, supports and flange hardware	$ 3,200.00
14	Install new VFD for pool pump	$ 7,000.00
15	Replace filter sand	$ 4,000.00
16	Install new Y-strainer for chemical controller	$ 150.00
17	Install new UV system	$ 53,000.00
18	Total	**$571,225.00**
19	20% Contingency	$114,245.00
20	**Total (2018 USD)**	**$685,470.00**

Conclusion and Final Recommendations

The items and observations in this report reflect only the observable conditions during the site visit. Renovation costs to bring this facility up to code will exceed $600,000 and potentially more as there are some unknown conditions regarding the pool shell. It is recommended to perform further structural tests on the pool shell to determine if the structure needs repair. It is also suggested that the report be amended and/or expanded as necessary by individuals that have been involved with the day-to-day operation of the facility. Their experience and knowledge of the pool's history is vital in preparing a comprehensive appraisal of the facilities shortcomings and specific defects.

The observations during the audit at Thomas Park Pool were in line with many same aged facilities studied across the state and the country. Factors such as weather, years of physical use, and maintenance practices can attribute to the facilities reaching the end of their life cycles in 30 to 50 years.

While the facility has reached its physical obsolescence, the *functional*ity of the facility has also reached obsolescence. Most traditional style pools across the country have seen a decline in annual attendance as trends in the aquatic industry have been leaning toward providing more recreational value in aquatic facilities. Features such as lazy rivers, water slides and children's play structures have been incorporated adding value while increasing attendance numbers and helping to offset operations costs.

The decision to make the necessary repairs to this facility depends on the overall goals of the City. Rehabilitating a facility that has such low functionality relative to today's aquatic trends will not increase the attendance of the facility, thus limiting any increase in revenue. Operations costs may improve slightly by reducing the amount of water loss and corresponding chemical use. If the aquatic programming needs of the citizens are being met by other facilities in the City, it may be more cost effective to better utilize the site by providing different aquatic programming elements, such as a spray ground or splash pad.