

1. INTRODUCTION

This report was conducted to assess the condition of the City of Globe's Community Center Swimming Pool

2. BACKGROUND

In the late 1950's community volunteers and community leaders got together on land donated by the Hagen family to build a community swimming pool. Materials were donated by local businesses and contractors, and it was also rumored that individuals working at the local mines supplied some of the expensive plumbing supplies without clear knowledge that the mines were donating these items.

The Community Center pool has been the gathering place for the youth of the community for all these years, most natives of the area learned to swim in this pool and for many years it was the gathering area for the big 4th of July celebration with pool activities, softball games and evening fireworks. The Piranha Swim team had its start at this pool and has had very good participation from the youth of the community.

The history of the failure of the pool's infrastructure started back at the beginning, just after construction. Through interviews with one of the original volunteers that helped build the pool, it was learned that the circulation gutter running around the pool leaked from the start. Another problem that occurred sometime in the 1980s was the failure of the piping below the pool. This piping failure was fixed by placing new pipe on the floor of the pool and pouring new concrete over the new pipes, making a new floor that reduced the depth of the pool.

Issues with the pool are not just limited to the adult swimming pool, there are also major problems with the adjacent baby pool. Leaking pipes and gutter system forced the City to close the baby pool 7 years ago.

Currently, the leaks in the gutter system of the main pool have eroded the concrete to the point that the loss of water has reached a level of an average of 12,000 gallons of water a day when in use. This is more water than 3 households use in a month. The water leaking from the circulation gutter has caused even further damage to the structure of the pool due to the leaking water running through the pump room. This lost water has corroded the metal support beams holding the roof of the pump room. These beams support the deck of the pool on the West side of the pool.

In addition to the damage caused due to water leaking, there are cracks in the shell of the pool that are also a source to water loss in the pool. Not only does the water erode the concrete shell of the pool as it passes through the pool shell, the water washes the dirt away under the pool as it percolates through the soil. This percolation process creates voids under the pool that compromise the structure of

the pool shell. As far as staff can tell the Community Center pool has never had a proper plaster liner. Another problem with the cracks in the pool is that the cracks have jagged edges. These jagged edges have caused swimmers to cut their feet, and the City has had insurance claims and threats of claims filed.

3. POOL CLOSES

Due to the condition of the swimming pool, the City of Globe staff recommended to not open the pool for the 2014 summer season. Further, the City of Globe hired the consulting team of Architekton and Aqua Design International to analyze the following;

The Facility Condition Assessment shall determine the current physical condition and the projected life cycle costs associated with the current Globe Community Center Pool, provide options for moving forward to provide aquatic activities and programs in the City, and provide a cost benefit analysis between developed options. In addition, this report should document all required mitigation activities, provide the baseline data utilized to make recommendations, describe benchmarks and metrics by which the City can effectively plan and execute highly efficient and cost effective:

- Capital funding, strategic planning, and risk analysis.
- Program oversight, budget projections, scenarios planning, facility disposal.
- Condition management, project planning, needs prioritization.

Firm(s) proposing on Facility Condition Assessment Services must provide the following.

A. Facility Condition Assessment

The Facility Condition Assessment shall include inspections and accurate analyses of all critical components and elements of the Community Center Pool requiring maintenance, replacement, or planned action.

The Facility Condition Assessment shall at a minimum:

1. Capture and record physical building characteristics and information as identified by the City.
2. Identify the current physical condition of each component or element and any deficiencies.
3. Identify maintenance/capital projects required to return the asset to functionality or to a minimum standard condition in order to preserve asset value.
4. Identify all code and all regulatory violations and all deficiencies.

5. Recommend corrective action for all violations and all deficiencies.
6. Prioritize capital repair projects.
7. Estimate the cost to correct, improve or reduce further deterioration of the physical assets.
8. Identify corrective measures required to ensure that the facility operates as designed.
9. Collect data from inspections and document the results.
10. Provide order of magnitude costs to mitigate facility needs and to bring the facility up to modern standards.

Major components for Facility Condition Assessment shall include all of the following unless not applicable:

1. Site work (utilities; roads, parking, paving, sidewalks, signage, fencing, storm water, retaining walls, sanitary sewer/drainage systems; erosion control, landscaping, lighting systems, etc.).
2. Site Amenities (diving boards, swim lanes, starting blocks, wading pool, competition pool)
3. Structural elements (foundations, structural joists, decking, columns and supports)
4. Building Exterior (roofs, roofing structures, balconies, breeze-ways, stairs, exterior walls, exterior windows, doors, & hardware)
5. Building Interior (furniture, appliances, finishes, floors, ceilings, walls, casework, fixtures, doors and hardware)
6. Mechanical (heating, ventilation and air conditioning, vents, ductwork, piping, pumps)
7. Plumbing (domestic water and sanitary systems, piping, plumbing fixtures)
8. Electrical (power, lighting)
9. Fire/Life Safety (fire alarm, fire protection/suppression systems)
10. Security Systems (intrusion alarms, motion detectors, door locks, access control, CCTV)
11. ADA (ingress/egress, handicapped accessibility, compatibility)
12. Environmental/Health (hazardous materials, air quality, water, noise, etc)}
13. Compliance with Codes & Regulations (Federal, state, local, ANSI, ASHRAE, EPA, etc.)

B. Additional Options for Providing Community Aquatic Programs

Once the Facility Condition Assessment is underway, the consultant team should develop at least three alternatives for providing community aquatic programs going forward. One of the alternatives should be retrofit and repair of the existing

community pool. The alternatives should be general in nature but should include valuable and useful information, data and metrics, and order of magnitude costs.

The Additional Options Section shall at a minimum:

1. Develop at least three alternative scenarios to provide aquatic programs.
2. Provide usage and demand projections for the region.
3. Provide metrics and site selection protocols to help with development feasibility.
4. Provide list of recommended amenities, facility requirements, and design standards.
5. Recommend a list of potential community partners and inclusive operational formats.
6. Provide order of magnitude costs for each alternative.
7. Discuss financing/partnership options.

C. Cost Benefit Analysis

As part of this study it is important to provide comparative lifecycle costs. These costs, once determined, can be used by Globe staff and the City Council to guide decisions on current and future infrastructure investments. The costs to repair versus replace the Community Center pool and the risk associated with renovation work and ongoing wear and tear should be evaluated. As such, ultimately a decision must be made as to whether the capital expenditure provides an acceptable return on investment in a cost benefit analysis.

4. STUDY FINDINGS AND RECOMMENDATION

NEEDS ASSESSMENT STUDY:
CITY OF GLOBE
COMMUNITY CENTER SWIMMING POOL
JUNE 5, 2014

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I. SCOPE

Architekton and Aqua Designs visited the City of Globe Community Center public pool in Globe, Arizona to perform a Needs Assessment Study. The Community Center and swimming pool were not open for use during my visit. The City of Globe Community Center swimming pool is an outdoor swimming pool. The pool is managed by City of Globe Department of Public Works staff.

The following report is a summary of the existing conditions, code violations, deficiencies and proposed improvements for rehabilitation of this swimming pool. The scope of this report includes the swimming pool, pool deck area, pool shells, pool mechanical spaces and handicap accessibility both in terms of access of the facility as well as path of travel to the pool. Evaluation of the architecture of the pool area buildings is also included in the scope of this report.

This report identifies any violations of codes that were found. Some of these violations may currently be operating on a grandfathered exemption. It is important to note that though some “grandfatherable” exemptions by the Arizona Department of Environmental Quality (ADEQ) may allow the pool to legally operate in non-compliance of current Title 18 standards, the liability of any health and safety risks to the public may still remain. We recommend these issues be reviewed on an individual basis for determination of disposition and possible remedy for each violation.

Certain violations of the State Administrative Code may be due to deterioration and material failures in which the code requires that these violations be rectified immediately or the facility is to be shut down. Other violations may be due to modifications to the code over the years. Providing that the violation is not deemed an immediate health or safety risk the ADEQ may allow the violation to exist as a “grandfatherable condition”. These grandfathered conditions are normally allowed to exist until such time as when the facility is having work done in which the scope of the work will allow for the violation to be remedied.

If such work were going to take place then the AZDEQ would demand that the violation be brought into compliance.

In addition to the code violations being of concern to the AZDEQ they can also be of concern to the City's pool manager as well. If a facility is in violation of the current State Code, the liability exposure alone may warrant the remedy of the violation. Given the subjective nature of the interpretation of the code, violations that may be deemed a "grandfatherable" violation at one point may not be allowed at another time or by a different inspector. It is important to keep in mind that any significant work done on this facility triggers the requirement for the facilities to meet the American Disabilities Act (ADA). This includes access to the facilities, restrooms, and the swimming pools. A significant component to make this facility comply with the ADA is that every swimming pool must have a means of handicap access to the pool. This can include a wheelchair ramp into the pool or a handicap lift to allow access to the pool. Access into the pool at the pool area is reviewed in this report.

The estimated opinion of costs identified in the itemized sections of this report includes materials and labor for the repair, but they do not include any architectural, engineering or Construction Management pre-construction costs that may occur. Those costs could add an additional 13-15% to the total project costs. No destructive testing was performed for this report and as a result Structural analysis of the pool structures, pool mechanical spaces, or other spaces is estimated based upon the observations made by the team.

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II. CODES

No as-built plans exist for the facility. There is no building or health department approved plans that are available that would allow us to determine what codes were used for the construction of the pool. For the purpose of this report the facilities' compliance with current codes will be examined. The current codes that apply are:

- 2003 International Building Code
- 2003 International Plumbing Code
- 2003 International Mechanical Code
- 2002 National Electrical Code – Article 680
- 2002 International Fire Code – Chapter 27
- Arizona Department of Environmental Quality – Title 18
- Arizona Department of Health Services – Title 9
- 2011 Arizona Administrative Code – Article 8
- 2010 ADA/ABA Titles II and III
- 2012 ISPSC Code

Article 680 of the NEC is the electric code that pertains to swimming pools. Chapter 27 of the IFC is the article that pertains to hazardous material storage and use. Title 18 of the

Arizona Administrative code, Chapter 5, Article 2 provides the regulations for the design and operation of public swimming pools. Title 9 of the Arizona Administrative Code, Chapter 8, Article 8 provides health and safety regulations for public swimming pools.

III. FACILITY DATA

The City of Globe Community Center pool facility has two outdoor pools with a bath house that includes restrooms facilities, shower/changing rooms, a concession area and pool mechanical room spaces. The data and cost information found in this report were derived from estimates based on known or similar, recently completed facilities, notes and observations from our site visits, and from input provided by City Public Works staff.

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Destructive testing has not been conducted to confirm the workmanship and conditions of the pools, decks, and other structures. The assumptions and conclusions in this report are based solely on the visual evidence found during our site visit, as-built information and comments provided by the staff.

The City of Globe Community Center located at 1276 South Jesse Hayes Road consists of:

☐☐ +/- 2,500sf Bath House (men's, women's restrooms and showers; admittance area; small staff storage)

☐☐ +/- 1,054sf Concessions/patio Building (kitchen, janitor's closet, single occupant restroom, and storage)

☐☐ General Storage Building near the north east corner of the pool deck

☐☐ one 31-foot long by 48-foot wide wading pool

☐☐ one 120-foot long by 48-foot wide competition pool

☐☐ a small Chlorine storage structure (south west edge of the pool deck

☐☐ a small acid storage structure (south west edge of the pool deck)

☐☐ pool equipment room (under the south west corner of the pool deck)

Pools

The smaller wading pool has not been operational for many years and is not feasible to bring it back on line as it would require a total rebuild with a new shell and pool equipment.

The popularity of wading pools has greatly diminished and it is not recommended to replace this pool with a similar body of water. However this appears to be an excellent location for a splash pad with several water play features. These facilities are wildly popular and almost an essential component of a modern aquatic facility. It is highly recommended to remove the wading pool and replace it with a new splash pad with features selected by the community's youth.

It was reported to the review team that the larger pool is approximately 50 years old which is remarkable. The pool has seven lanes that are 120-foot long. The larger pool has

undergone at least one major renovation where a new pool concrete shell was constructed inside the original shell presumably to eliminate a leak issue. This reduced the depth of the pool to the point where diving was no longer allowed. The diving boards have been eliminated as a result of the shallower diving well depth. There were no plans available for review of any of the pool renovations.

It was reported to the reviewers that the original pool had water depths ranging from 3'-6" to 12'-0". The existing deck depth markers indicate that the current pool depths range from 3'-6" to 10'-0". Depth markers and "no diving" signage around the pool do not meet State of Arizona health codes. The pool has been surveyed to confirm the dimensions and elevations of the as-built conditions and this information is included in this report.

The original cast concrete pool gutter is still in place (50 years old). The pool has a continuous perimeter precast concrete gutter for surface water collection. The pool utilizes one main drain sump to recirculate pool water from the bottom of the pool. The swimming pool has a plaster and tile finish. The original pool filtration system had been replaced. The pool floor slopes from 3' deep to 10' deep. The pool is currently operated with one circulation pump of unknown horsepower and one horizontal high rate sand filter of 38 sq. ft. of filter surface area. The filter is currently backwashed into a nearby creek. The pool is currently disinfected with tablet (calcium hypochlorite) chlorine and uses muriatic acid for pH control. This is automatically controlled with the use of a chemistry controller.

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The pool has two main drains that are not VGB (Virginia Graeme Baker safety act) compliant. The filtered water enters the pool through floor returns that had been installed in the cove of the pool and do not meet State of Arizona design guidelines. The water is not conditioned.

Pool Deck

The condition of the deck is poor with cracks and spalling evident throughout. The pool deck is a natural concrete color and fairly smooth texture. The deck had been painted originally, however the finish has degraded over time. The pool deck is drained via regularly spaced weep holes in the perimeter wall/fence. The water is dispersed to the environment. It is recommended to replace the entire concrete pool deck with the reconstruction of the pools.

An acrylic pool deck coating should be applied to the new deck. At that time, new pool deck gutters should be installed so the deck runoff water can be collected and disposed of properly.

Pool Equipment Room

The pool mechanical equipment is located in a below grade vault located below the pool deck adjacent to the diving well. The pool mechanical space is a single room that houses the

pool mechanical equipment, etc. The pool filter and chemical treatment related equipment are located at grade above and adjacent to the mechanical room. Chemical storage and related equipment are located outside of the pool enclosure. No plans for the mechanical equipment are available. The original pool pump pit has been reconfigured to serve as a drain sump. The staff reports that there are severe leaks from the gutter well into the pump room – often to the point where half of the pump room is covered by water as it sheets toward the drain sump and eventually into the nearby watershed. The pool recirculation pump is located on the pump room floor outside the drain sump. The mechanical room floor is some 8 to 9-feet lower than the pool deck at grade above. The pool equipment room located under the south west pool deck has visible signs of extreme corrosion at the shear points of the steel beams presumable supporting the roof/pool deck.

The deck above has settled or its sub-grade/structure has been undermined to the point where there are differential grades on the deck creating tripping hazards. This room is in very unsafe condition. This alone is cause to keep the pool closed. This area must be completely rebuilt.

Bath House

The shower rooms and bathrooms appear to be the original configuration and to a degree, provide ADA compliant access within the facility. There are accessible toilet stalls in both the men's and women's restrooms, however, the stall in the men's room does not afford the required 60" of clear width (off by +/-1"). No accessible urinals are provided in the men's restroom.

The existing finish of the restrooms and shower rooms is concrete. It is apparent that the concrete floors used to be painted, however the majority of the paint has worn off.

A light broom finish on the concrete slabs in the locker rooms and restrooms has been provided due to slip and fall issues. The building is a masonry building and can therefore be remodeled within the walls to a variety of new conditions. The restrooms and showers in the bathhouse are designed to very old standards. There is no privacy for the showers and urinals. The facility lacks current ADA compliant features. It is recommended that the bathhouse be gutted of its interior improvements and designed to new standards that afford more privacy for its users, especially children.

Concession/Patio Building

The concession building appears to be in the original configuration and has some severe deficiencies and inherent problems regarding general access, etc. The floor of the concession kitchen area is below the datum of the pool deck that is adjacent. The door into the kitchen from the deck is not accessible. An existing cooktop and smoke hood that are located directly in front of and adjacent to the entry door, which limits the available doorway width. The requirement for the cooktop and smoke hood are in question as it is unknown as to what extent food is being prepared. A grease interceptor would need to be provided if other than prepackaged food is being prepared. Various plumbing leaks were

found throughout the kitchen. Condensate floor sinks are provided as required.

No ADA height service counter has been provided on the kitchen or the dining area side of the service window. The employee bathroom is not ADA accessible. Both the door onto the pool deck and the rear receiving door do not seal properly. The finish ceiling is showing signs of water damage and is sagging in areas. It is recommended that the concessions kitchen be gutted and designed to new standards that afford the required accessibility and improved levels of kitchen operability and cleanliness.

The covered patio is currently being used as a storage area for chlorine tablet bins, lifeguard stands, lane markers and associated equipment. The roof structure covering the patio is in fair shape with no obvious signs of degradation or failure. No improvements are required at this time.

General Storage Building

The general storage building located adjacent to and accessed from the pool deck appears to be of original construction. The building is of masonry construction with wood framed roof structure with a shingle roof. A hollow metal door/frame is provided. The building is used as general storage for some pool chemicals, pool party decorations, paint and other supplies. Building appears to function as intended and there do not appear to be any deficiencies that require correction.

Acid/pH Storage Building

The acid storage building appears to be the original construction as is little more than a shed with masonry walls to 4'-0" and wood framing with plywood sheathing above. Roof structure is a simple shed roof with shingles. Building is not properly sealed for weathertightness. Acid needs to be stored in a non-corrosive room/building. Building will need to be mechanically ventilated and currently has no ventilation. Exterior door is currently plywood. Building requires a corrosive resistant door and frame with a closer and weatherproof seals. Building does not have an emergency eyewash/shower station as required by current code.

Chlorine Storage Building

The chlorine storage building appears to be the original construction. Building is comprised mainly of masonry exterior walls and a wood framed roof structure, which are open to the exterior on the ends of the building. This does not meet the two-hour rating requirements for the building. Exterior door is rated at 20 minutes. Existing door/frame are showing signs of oxidation and needs to be replaced with a 90-minute rated assembly. Exterior door is missing weather seals and a closer as required per code. Building does not have mechanical ventilation as required by code. Building does not have an emergency eyewash/shower station as required by current code. A power strip mounted to the wall appears to be used as convenience power. It is recommended that the chlorine storage building be gutted and designed to new standards in order to satisfy all applicable code requirements. It is also recommended that the chlorine storage and acid/pH storage areas be consolidated into one structure.

IV. POOL DATA

A. City of Globe Community Center Swimming Pool Data:

- Perimeter: 337 feet

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- Pool Depth: 3'-0" to 10'-0"
- Pool Surface Area: 5,784 square feet
- Pool Volume: 304,000 gallons

- Surface Water Collection: Open trench gutter
- Bottom Water Collection: Two main drains
- Pool Water Inlets: In cove plumbed as perimeter inlets
- Pool Ingress/Egress: Six (6) pool ladders
- Design Turnover Rate: State code minimum 8 hours
- Design Flow Rate: 633 gpm per State code
- Actual Turnover Rate: Unknown
- Actual Flow Rate: Unknown
- Circulation Pump: Unknown
- Filtration: One (1) horizontal tank 38 sq. ft. surface area
- Filter Flow Rate Capacity: 570 gpm
- Sanitation: Calcium Hypochlorite
- pH Feed: Acid
- Chemical Control: Strantrol System 5
- Heater: None

V. PROGRAMMING

Architekton and Aqua Design met with City of Globe staff to identify the current and desired programs offered at the Community Center Pool and the levels of service available. The pools have two defined programs: one is for specific school use and the second is for community use. We had a site review to determine the physical capabilities of the facility pursuant to the programs. The swimming pool has an irregular length of 120-feet, which does not meet the requirements for any competitive swimming federation rules. Therefore the pool has limited use for the high school competition or practice.

The Globe pool has provided summer activity for thousands of youth over a 50 year period. The Globe Arizona swim team, the Piranhas, offers summer recreation and fitness

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opportunities for children aged 5-18. At this time the swim team is temporarily stationed at the Miami, Arizona city pool. The swim team is associated with the Copper Cities Youth Sports association.

The following is a list provided by the facility staff of the current programs that the facility is expected to serve.

Additional users for swim classes and training will be:

The Gila Community College-Wellness Center

The Globe Unified School District

The San Carlos Apache Indian Nation

Boys & Girls Club of Globe

Desired swim programs are:

Physical education

Adult fitness programs

Water aerobics

Lap swimming

CPR classes

Staff training

Physical therapy

Pool rentals

Recreation swimming

Family swim

Birthday parties

Movie night

Private lessons

VI. OPERATIONAL ISSUES

Architekton and Aqua Design met with City of Globe staff to determine the current means of operation of the facility and to target issues and desired changes to the operations of the

Community Center Pool facilities. In general, the facility was found to be in reasonably good condition for a facility of its age and nature. The staff is most concerned with potential means to provide better services in the most reliable and economical way.

The pool leaks approx. 12,000 gallons of water per day when the water level is maintained at the level of the overflow gutter. When the water level is kept below the gutter the water loss per day is approx. 5,000 gallons. Normal evaporation on a typical summer's day would be approx. 3,000 gallons.

The problem here is the pool must have the water at the lip of the gutter. In a swimming pool the greatest liability to a swimmer is the water at the very top surface, the place where you are breathing and ingesting some pool water.

Generally, pools take water (skimming) off of the top surface, the area affected most by the loss of residual chlorine due to UV and wind blowing across the surface. In fact, good pool design typically targets 75% of the total flow rate of the system to be drawn into the filter system from the top and the remaining 25% is taken from the main drains at the bottom of the pool.

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As a result of the leaking and decaying concrete gutter, the City of Globe must operate the current pool very inefficiently and at great water and chemical consumption levels.

Additionally, the leaking water is making its way down to the creek adjoining the park site. We would expect some serious erosion under the pool shell and under the pool deck from years of this pool leaking.

The extent of this erosion to the sub surface would only be known by core drilling into the floor of the pool in several places and doing a geotechnical investigation and report.

VII. CODE VIOLATIONS:

The following items are noted as not complying with current code standards. A description of the condition is given along with a reference to the code that applies. An opinion of probable cost is given for each individual item. These itemized estimates do not include general condition costs that are typically added to any construction project. At the end of this report the itemized costs are totaled and a pro-forma construction estimate is given.

ITEM DESCRIPTION

1.1 ENTRY AND POOL ACCESS (ADA)

1.2 WATERTIGHTNESS OF POOL CONSTRUCTION AND CLEANABLE SURFACE OF POOL

1.3 POOL DECK AND COPING

1.4 POOL AND DECK ILLUMINATION

1.5 POOL DEPTH

1.6 POOL MARKINGS

1.7 WATER CIRCULATION SYSTEMS

1.8 POOL FILTERS

1.9 POOL PUMPS AND MOTORS

1.10 OVERFLOW GUTTER

1.11 POOL ENCLOSURES

1.12 MAIN ENTRY STEPS

1.13 RESTROOM/SHOWER FACILITIES (ADA)

1.1 The pool does not meet entry and exit standards in violation of AZDEQ R18-5-213 and DOJ/ADA Title II Sections 405, 406, 502 and 1009. Pool must have at least one set of steps with a handrail. The remedy is to install two ADA compliant handicap lifts and correct any deficiencies in the access path from the handicap parking through the bathhouse and out to the pool deck. This scope of work includes the provision of

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a curb ramp or flush condition adjacent to ADA parking stalls/aisleways, ADA parking spaces and aisleways with the correct dimensions and the correction of cross-slopes on the pool access route between the pool house and the main pool deck.

(Estimated cost: \$32,100.00)

1.2 The pool must be constructed of water tight materials to comply with AZDEQ R18-5-207. The pool has serious leaks in the gutter and possibly in the main drain sumps. This is difficult to accurately predict the cost of repair so a range will be applied in this portion of the estimate cost of repair. The pool must have a smooth and easily cleaned surface, without cracks or joints to comply with AZDEQ R18-5-207. It is not recommended to use the existing shell for any future use but we have inserted a cost to plaster this existing pool.

(Estimated cost: \$72,252.00)

1.3 The pool must have a coping that overhangs the pool by no less than 1", or more than 2". The pool deck shall be sloped to effectively drain either to perimeter areas or to deck drains, without leaving standing water to comply with AZDEQ R18-5-210. The deck would have to be replaced, new forms and concrete edge poured to replace the existing. It is obvious that certain areas of the deck do not drain properly; a line item in the budget to remove the existing deck, grade the area and pour new concrete is added to the cost estimate.

(Estimated cost: \$189,905.00)

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Pool deck showing obvious signs of age

1.4 If the pool is intended to be used at night the lighting would have to be designed so that all parts of the pool and deck can be seen without glare to comply with AZDEQ R18-5-218. No underwater lights exist in the pool today. There is currently lighting provided for the pool deck, however, the height of the pole mounted fixtures more than likely produce a large amount of glare and do not produce adequate light levels at the surface of the pool deck. Currently there are no emergency lighting on the deck directing people to the exits. A qualified lighting designer would have to recommend the needed remedy if the City intends on using the pool at night.

(Estimated cost: \$45,000.00)

1.5 The pool must have depth markers on the top vertical surface to comply with AZDEQ R18-5-219. A small cost item that is added into the cost estimate of replacing the pool interior coating.

(Estimated cost: \$1,080.00)

1.6 If a pool has racing lanes it must be 6' deep (5' vertical wall and 1' radius) to comply with AZDEQ R18-5-220. The only remedy here is to replace a portion of the existing pool shell, again not a recommended direction for the City to undertake but for purposes of comparison we are including an estimated cost.

(Estimated cost: \$180,424.00)

Markings that are provided are missing tiles, etc.

1.7 The main drains in the pool must be VGB (Virginia Graeme Baker Safety Act) compliant to comply with AZDEQ R18-5-223. The current main drains are not

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compliant with this Federal law. The cost estimate includes the replacement of the drains.

Piping systems must be labeled to comply with AZDEQ R18-5-223. A small cost item that is added to the cost estimate for replacing the mechanical filtration equipment.

The spacing of the main drains can be no more than 15 feet from each side wall and not greater than 20 feet on center to comply with AZDEQ R18-5-223. This cost is added into the modification of the depth of the pool to meet State code for competition pools.

(Estimated cost: \$25,000.00)

1.8 All components of the filter system must be NSF approved to comply with AZDEQ R18-5-227. The cost estimate includes replacement of the mechanical filtration system and related plumbing. The filter return water is being piped into a perimeter pipe system that is not compliant to the State Code to comply with AZDEQ R18-5-

227. This is almost impossible to repair correctly without replacing the entire floor of the pool. We would have to apply for a variance to use a perimeter inlet system similar to what is currently in use in the pool.

(Estimated cost: \$125,000.00)

1.9 The circulation pump must have an emergency stop switch located within the pool enclosure to cut off power is someone is entrapped by a drain to comply with AZDEQ R18-5-225. This cost is added into the replacement of the mechanical filtration equipment.

(Estimated cost: \$3,000.00)

1.10 With an overflow gutter the surge tank shall not be less than one gallon for each square foot of swimming pool surface area to comply with AZDEQ R18-5-232. This will require a new surge tank be added, or the gutter to be made completely operable for use as a surge gutter.

(Estimated cost: \$42,000.00)

1.11 The pool's enclosure shall be a minimum of 5' high, non-climbable to comply with AZDEQ R18-5-240. Wading pools shall be separated from a public swimming pool by a minimum of 4' high fence or partition with a self-closing, self-latching gate to comply with AZDEQ R18-5-244. Existing enclosure is climbable due to the low wall and the chain link fence dimension. A cost has been added to remove/ replace the enclosure. The existing fence around the wading pool will need to be replaced as it does not meet the requirements.

(Estimated cost: \$20,250.00)

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Pool's perimeter fence at right; wading pool barrier at left

1.12 The main entry steps do not comply with the adopted building code and are in violation of IBC Section 1009.4.4. The stair riser heights are not of a uniform height and the tolerances between the risers exceed the minimum 3/8". Stairs will to be corrected by removal and replacement.

(Estimated cost: \$12,500.00)

Steps at main entry showing non-consistent riser heights

1.13 The restroom facilities do not comply with accessibility standards in violation of DOJ/ADA Title II Sections 603, 604, 605 and 610. The restrooms must make provisions to accommodate all ADA requirements. ADA toilet stalls will need to be reconfigured to allow for turning radii, flush valves will need to be replaced for opposite-handed valves, at least one accessible urinal will need to be provided and ADA benches (foldable or other) will need to be provided in shower rooms.

The existing bathhouse/dressing room/bathroom facilities do not currently meet code. Additional plumbing fixtures will be required to be provided.

Drinking water from an approved source and dispensed through one or more drinking fountains shall be located on the deck of each public swimming pool per

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AZDEQ R18-5-243. Currently there are no drinking fountains on the pool deck. One ADA compliant fountain is located in the pool house.

The following is a matrix outlining the existing number of plumbing fixtures as compared to the minimum required to comply with AZDEQ R18-5-241:

NO. DESCRIPTION

1.0 Bather Load Calculation

1.1 Total Water Surface Area 7,248 SF

1.2 Total Pool Deck Surface Area 11,370 SF

1.3 Bather Load (1:15 for deck / 1:50 for pool)

903

1.4 Male Bathers @ 50% of Total 452

1.5 Female Bathers @ 50% of Total 452

2.0 Minimum Women's Toilet Fixtures CODE MIN.

REQ'D

EXISTING

PROVIDED

2.1 Toilets @ 1:50 10 3

2.2 Lavatories @ 1:150 5 3

2.3 Showers @ 1:50 10 2

3.0 Minimum Men's Toilet Fixtures CODE MIN.

REQ'D

EXISTING

PROVIDED

3.1 Toilets @ 1:100 5 2

3.2 Urinals @ 1:100 5 2

3.3 Lavatories @ 1:200 5 2

3.4 Showers @ 1:50 10 3

4.0 Minimum Drinking Fountains

4.1 Drinking Fountains (main pool) 1 -

4.2 Drinking Fountains (wading pool) 1 -

The following is an estimate to partially renovate the shower/changing room and toilet room facilities. It assumes that the toilet fixtures are relocated to provide ADA accessibility and the floor and wall finishes renovated to comply with code. The following estimate assumes a renovation cost of \$125 per square foot for such a renovation.

(Estimated cost: \$227,500.00)

14

Men's toilet facilities

Men's shower/changing facilities

Women's toilet facilities

15

Women's shower/changing facilities

VIII. MAINTENANCE AND OPERATIONS:

The following seven items are noted maintenance or operation issues found at the City of Globe Community Center pool. An opinion of probable cost is given for each individual item. These itemized estimates do not include general condition costs that are typically added to any construction project. At the end of this report the itemized costs are totaled and a proforma

construction estimate is given.

ITEM DESCRIPTION

2.1 PUMP ROOM

2.2 CHLORINE ROOM

2.3 CHEMICAL (ACID/pH) STORAGE AREA

2.4 CONCESSIONS

2.1 The facility's mechanical spaces include a combination of a below deck equipment space housing the pump and piping with the filter being mounted above at deck level. This is a list of several items that need addressing:

- There is evidence of serious water leakage in the below deck equipment space. Pool staff has communicated that this is a result of a leaking gutter well and the amount of water in the pump room is often 2" to 3" in depth.

- The concrete steps down into the pump room are chipped and/or broken. This presents potential life safety issues and need to be replaced.

- Several electrical issues:

- All electrical panels, switches and enclosures need to be NEMA 3R enclosures since the pump room is not an interior/enclosed space. All

electrical panels, switches and enclosures will need to be removed and upgraded to current codes.

- Miscellaneous electrical junction boxes are not secured in place. These need to be secured.
- Flexible conduit from electrical junction box to light fixture does not meet code for electrical fixtures in a non-conditioned space.
- Electrical outlets are not in weatherproof enclosures. This is a code requirement for damp areas.

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- Electrical junction boxes located in the pump room are showing extensive oxidation and some have completely rusted away. These will also need to be replaced.
- Sand filter backwash outlet currently empties onto the floor of the pump room and then sheet drains into the backwash basin. Sand filter backwash needs to empty directly into the backwash basin. Backwash discharge drains directly into nearby creek without chance to de-chlorinate, posing an environmental issue. System needs to be upgraded to current code requirements.
- All steel structural beams supporting the ceiling/concrete pool deck above the room are corroded and rusted through at the bearing points of said beams. Beams will need to be replaced.
- Oxidized concrete reinforcement (rebar) exposed in walls and ceiling.
- Support for overhead piping is with threaded rod attached to the bottom flange of the beams. Attachment needs to be from the top flange of the beam. Holes are too close to the edge of the flange to properly support the weight of the pipe when full of water.
- Floor supports for the backwash pipe are rusted through and need to be replaced.
- Connection of underground discharge pipe and pit pipe is badly rusted and needs replacement.
- Backwash pipes are not supported correctly from the floor. One section has a loose piece of CMU supporting it and the rest have tire jacks.
- Head clearance for overhead pipe does not meet code (80" min.). Will need to be relocated.
- There is evidence that water is leaking out of the pool and finding its way to the backwash basin via the old pool piping. Structural integrity of pool and soils below pool shell may be compromised.
- Water pours down pump room side of wall that faces the diving well. Likely origin is a deteriorated concrete surge gutter and associated gutter well.

(Estimated Cost \$52,000.00)

2.2 The facility's chlorine storage space is little more than a masonry block and wood framed shed located at deck level. This does not meet current codes. This is a list of several items that need addressing:

- Per the hazardous materials being stored, this room is required to be a two (2) hour rated room. The walls are masonry block to +96" and a wood framed pitched roof with shingles is provided. Ends of building are open above the masonry walls. Construction does not meet the two (2) hour rating requirement.
- Exterior door securing room has a 20 minute label. Door needs to have a 90 minute rating.
- Door needs a closer, seals for weatherproofing and a concrete stoop on the exterior side.
- Room needs to be mechanically ventilated. Building currently has an attic vent. Needs to be brought up to code.

- Room needs to have an emergency shower and eyewash station.
- Hazard signage on exterior needs to be updated to current requirements.
- Loose power cord appears to be located for plugging in equipment. This is not code compliant.

(Estimated Cost \$14,000.00 in addition to item 2.1 above)

2.3 The facility's acid/pH storage space is little more than a masonry block and wood framed shed located at deck level. This does not meet current codes. This is a list of several items that need addressing:

- Storage of acid needs to be in a sealed non-corrosive room. The walls are masonry block to +48" and a wood framed shed roof with shingles is provided. Building is skinned with plywood on the exterior. Room is not sealed properly.
- Room needs to be mechanically ventilated. There is currently no ventilation provided.
- Door is a piece of plywood. Need to provide a corrosive resistant door/frame assembly. Door also needs to have closer and seals.
- As this storage area is separate from the chlorine storage, it too will require an emergency shower and eyewash station.

(Estimated Cost \$14,000.00 in addition to item 2.1 above)

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2.4 It is unknown as to what extent the facility's concessions area is utilized. This is a list of several items that need addressing:

- Steps from pool deck down into concessions kitchen do not meet code. 13" deep treads and railing required per code. Door is partially blocked by the range and smoke hood in the kitchen. Doors do not seal properly.
- As evidenced by the cooktop range and smoke hood, if food preparation is taking place, a grease interceptor will be required.
- There is evidence of leaking plumbing within the kitchen.
- Finish ceiling is deteriorating and will need to be replaced with new, cleanable ceiling product.
- It is unknown as to what regulations exist in terms of a dining facilities being located on the pool deck. There are currently fixed tables/seating adjacent to the concessions stand. This area may need to be physically segregated from the rest of the pool deck.

(Estimated Cost \$40,000.00)

Interior views of concession area showing sink service window

Interior views of door out to pool deck and cooktop and smoke hood

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Exterior view of door between pool deck and concessions; interior view of ice maker and floor sink

Interior views of concessions showing water-damaged ceiling; exterior view showing dining area adjacent to wading pool

Views of ill-fitting rear exterior door and service sink in concessions back-of-house

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Interior views of restroom in concessions area; electrical gear in concessions

IX. ENHANCEMENTS:

The following items are noted enhancements that could be provided to the City of Globe Community Center Pool. These enhancements are based upon industry standards, staff comments and our observations. An opinion of probable cost is given for each individual item. These itemized estimates do not include general condition costs that are typically added to any construction project. At the end of this report the itemized costs are totaled and a pro-forma construction estimate is given.

ITEM DESCRIPTION

3.1 COMPLETE POOL REPLACEMENT

3.2 CHILDREN'S SPLASH PAD

3.3 TIMING/SCORING SYSTEM

3.1 In review of all of the many items that need correcting for the existing pool, deck and associated mechanical systems, it is being proposed that the existing pool be completely demolished and a new pool constructed. The new pool cost includes:

- Demo of the existing pool and deck
- Grading, forming for new pool structure
- Reinforced concrete shell
- Deep channel surge gutter
- 75'x 60' pool
- Rim-flow competition gutter
- Racing lane tile and targets
- Set of steps
- All hand rails, ladders and stanchion posts with associated anchors
- Starting platforms
- Anti-wave lane dividers
- Storage reel for lane dividers
- Handicap lifts for ADA compliance
- Life guard stands
- New Schedule 80 piping

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- VGB compliant main drains
 - Floor inlet fitting distribution for filtered water
 - Mechanical filtration system
 - Circulation pump
 - Hair and lint trap
 - Variable frequency drive for pump motor
 - High rate sand filter
 - Chlorinator
 - CO2 regulator for pH control
 - Chemistry controller
 - Flowmeter
 - All valves and fittings
 - Electric panel and wiring to pump and controls
 - Emergency stop switch
 - All piping labeled
 - White plaster interior coating
 - New concrete deck
 - Deck signage tiles
- (Estimated Cost \$1,325,000.00)**

3.2 The City of Globe may consider adding a children's splash pad to generate more interest with younger kids in the Globe area. A splash pad would be far more desirable than a wading pool and would create a huge draw for the City. A splash pad would start at approximately \$80,000 using ground sprays and low profile toys. The splash pad cost would go higher with the addition of tall vertical play toys such as dumping buckets, etc. Most fully outfitted splash pads would be budgeted in the \$150-\$200,000 range, including several of the larger vertical toys.

(Estimated Cost Range \$80,000 - \$200,000.00)

3.3 Optional accessories would be the timing/scoring system. System would include touch pads, caddy, cables, timing consol and scoreboard. This system is not built

into the structure and could be added at a later date.

(Estimated Cost \$45,000.00)

X. SUMMARY

1.0 CODE VIOLATIONS

1.1 Entry and Pool Access (ADA) \$32,100.00

1.2 Watertightness/Cleanable Surface of Pool

\$72,252.00

1.3 Pool Deck and Coping \$189,905.00

1.4 Pool and Deck Illumination \$45,000.00

1.5 Pool Markings \$1,080.00

1.6 Pool Depth \$180,424.00

1.7 Water Circulation Systems \$25,000.00

1.8 Overflow/Surge Gutter \$78,795.00

1.9 Pool Enclosures \$20,250.00

1.10 Main Entry Steps \$12,500.00

1.11 Restroom/Shower Facilities \$227,500.00

TOTAL CODE VIOLATIONS \$884,806.00

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2.0 MAINTENANCE AND OPERATIONS

2.1 Replacement of Mechanical Equipment \$190,000.00

2.2 Replacement of Pump Room \$52,000.00

2.3 Emergency Pump Stop Switch \$4,000.00

2.4 Chlorine Room \$14,000.00

2.5 Chemical (Acid/pH) Storage Area \$14,000.00

2.6 Concessions \$40,000.00

TOTAL MAINTENANCE AND OPERATION \$342,000.00

3.0 ENHANCEMENTS

3.1 Complete Pool Replacement \$1,325,000.00

3.2 Children's Splash Pad \$80,000.00

3.3 Timing/scoring \$45,000.00

The pool does not meet the dimensional requirement for any swim federation. The pool is too long for any short course events. The pool is too short for any long course events. The pool is too shallow at the 3' end to meet the State code for pools with racing lanes.

One of the leading users of the pool is the Piranha's Swim Team. This pool could not host any sanctioned swim meet for any federation since it is not configured for any type of meet. The pool is over 50 years old. The pool has undergone previous renovations that have included changing the filtration system from vacuum diatomaceous earth to high rate sand, changing the chlorine system from gas to tablet, changing the floor of the pool in the deep end, removing the diving boards for safety reasons and continued resurfacing of the interior with chlorinated rubber base paint.

Commercial pools will typically be constructed for a 30 year economic life. With great and continued efforts to maintain this investment the 30 years can be stretched to 40 years.

This pool is 50+ years old. The pool has many code deficiencies that are listed in detail above. If all of the repairs were to be undertaken you would still have 2/3 of the pool with a 50 year old shell and you would have a gutter and perimeter inlet system that is as ancient. Architekton and Aqua Design International would strongly recommend the City demo this existing pool and surrounding deck.

Upon the completion of the demo work a geotechnical investigation should be performed to determine the condition of the sub surface soils. Work can then begin on a new pool in the place of the old shell. This new pool would meet the State code in every respect and will offer the City and the wide array of users a pool to meet all of the current and future needs for competition swimming, teaching and exercise.

The following images that are exemplary of the new pool as described above: Architekton and Aqua Design International feel that while the pool and associated equipment could be refurbished to meet applicable codes, the removal of the existing pool and replacement with a facility that is very flexible in terms of use is highly recommended. At the same time, by making the necessary improvements to the pool house and concessions area, the City of Globe is not only making the facility more user friendly, but also more appealing, which would lead to a broader user group and increased revenues. By upgrading the pool to a facility that meets the needs of competition swimming, this could result in the facility being used by a wider field of athletes, etc.

Sincerely,

ARCHITEKTON and AQUA DESIGNS INTERNATIONAL

Proforma Existing Facilities

Facility Upgrades and Swimming Pool Remediation

Opinion of Probable Cost

ITEM DESCRIPTION QTY EXTENDED

1.0 CODE VIOLATIONS

- 1.1 Entry and Pool Access (ADA) LS \$32,100.00
- 1.2 Watertightness/Cleanable Surface of Pool LS \$72,252.00
- 1.3 Pool Deck and Coping LS \$189,905.00
- 1.4 Pool and Deck Illumination LS \$45,000.00
- 1.5 Pool Markings LS \$1,080.00
- 1.6 Pool Depth LS \$180,424.00
- 1.7 Water Circulation Systems LS \$25,000.00
- 1.8 Overflow/Surge Gutter LS \$78,795.00
- 1.9 Pool Enclosures LS \$20,250.00
- 1.10 Main Entry Steps LS \$12,500.00
- 1.11 Restroom/Shower Facilities LS \$227,500.00

TOTAL CODE VIOLATIONS \$884,806.00

2.0 MAINTENANCE AND OPERATIONS

- 2.1 Replacement of Mechanical Equipment LS \$190,000.00
- 2.2 Replacement of Pump Room LS \$52,000.00
- 2.3 Emergency Pump Stop Switch LS \$4,000.00
- 2.4 Chlorine Room LS \$14,000.00
- 2.5 Chemical (Acid/pH) Storage Area LS \$14,000.00
- 2.6 Concessions LS \$40,000.00

TOTAL MAINTENANCE AND OPERATIONS \$314,000.00

3.0 ENHANCEMENTS

- 3.1 Complete Pool Replacement LS
- 3.2 Children's Splash Pad LS \$80,000.00
- 3.3 Timing/scoring LS \$45,000.00

TOTAL ENHANCEMENTS \$125,000.00

Demolition Activity LS \$145,000.00

TOTAL CONSTRUCTION COSTS \$1,468,806.00

4.0 SOFT COSTS

- 4.1 General Contractor Mark-up/Overhead 15% \$220,320.90
- 4.2 Contingency Costs 15% \$220,320.90
- 4.3 Architecture & Engineering/ CMAR Pre-con 12% \$176,256.72
- 4.4 Permits and P&Z N/A
- 4.5 Planning & Zoning Fees N/A

TOTAL SOFT COSTS \$616,898.52

TOTAL PROJECT COSTS \$2,085,704.52

Proforma Existing Facilities

Facility Upgrades and Swimming Pool Replacement

Opinion of Probable Cost

ITEM DESCRIPTION QTY EXTENDED

1.0 CODE VIOLATIONS

- 1.1 Entry and Pool Access (ADA) LS
- 1.2 Watertightness/Cleanable Surface of Pool LS
- 1.3 Pool Deck and Coping LS
- 1.4 Pool and Deck Illumination LS \$45,000.00
- 1.5 Pool Markings LS
- 1.6 Pool Depth LS
- 1.7 Water Circulation Systems LS
- 1.8 Overflow/Surge Gutter LS
- 1.9 Pool Enclosures LS
- 1.10 Main Entry Steps LS \$12,500.00
- 1.11 Restroom/Shower Facilities LS \$227,500.00

TOTAL CODE VIOLATIONS \$285,000.00

2.0 MAINTENANCE AND OPERATIONS

- 2.1 Replacement of Mechanical Equipment LS
- 2.2 Replacement of Pump Room LS \$52,000.00
- 2.3 Emergency Pump Stop Switch LS
- 2.4 Chlorine Room LS \$14,000.00
- 2.5 Chemical (Acid/pH) Storage Area LS \$14,000.00
- 2.6 Concessions LS \$40,000.00

TOTAL MAINTENANCE AND OPERATIONS \$120,000.00

3.0 ENHANCEMENTS

- 3.1 Complete Pool Replacement LS \$1,325,000.00
- 3.2 Children's Splash Pad LS \$80,000.00
- 3.3 Timing/scoring LS \$45,000.00

TOTAL ENHANCEMENTS \$1,450,000.00

Demolition Activity LS **\$145,000.00**

TOTAL CONSTRUCTION COSTS \$2,000,000.00

4.0 SOFT COSTS

- 4.1 General Contractor Mark-up/Overhead 15% \$300,000.00
- 4.2 Contingency Costs 15% \$300,000.00
- 4.3 Architecture & Engineering/ CMAR Pre-con 12% \$240,000.00
- 4.4 Permits and P&Z N/A
- 4.5 Planning & Zoning Fees N/A

TOTAL SOFT COSTS \$840,000.00

TOTAL PROJECT COSTS \$2,840,000.00