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INTRODUCTION

The city of Pelican Rapids Community Pool and Bathhouse facility has provided swimming and recreation opportunities to the residents of Pelican Rapids and their neighboring communities since 1978. As a result of natural wear and tear over the past 34 years of operations, new building code regulations and ADA accessibility standards, the pool and bathhouse facility is in need of repairs and renovations/enhancements.

Swimming pool patrons have also been requesting greater diversity of swimming pool related amenities / activities for a broader range of ages. They have asked for these amenities / activities be incorporated into a new or renovated facility. Some of the amenities requested include: New improved diving board, expanded pool deck, slides, lap lanes, shade structures, zero entrance, concessions, lazy river, etc.

In order for the City of Pelican Rapids to assess whether to renovate the existing bathhouse, pool and deck or to remove the existing facilities and replace with a new outdoor community pool facility the Design Intent Architects Team will:

- Assess the nature, scale and physical issues associated with the existing bathhouse building, community swimming pool area and other site related conditions.
- Evaluate the economic impacts associated with the renovation/enhancement of the existing bathhouse building, community swimming pool area and other site related enhancements.
- Outline the associated goals/recommendations needed for code compliance, accessibility, maintenance, and operation associated with the bathhouse and pool facility construction and programming.
- Provide pool layout options; one depicting renovated / expansion of existing facility on existing site, and one depicting a new facility on the existing site.

The design team's findings are contained in the following pages.



DEMOGRAPHIC CONTEXT

2010 Demographic Analysis for Pelican Rapids, MN					
				Percent of Total	
	Median Family Income	\$32,014			
	Per Capita Income	\$15,195			
	Median House Value	\$78,300			
	Gender	M	F	M	F
1,221		1,243	49.55%	50.45%	
PERSONS	Age 0-5	208		8.40%	
	Age 6-19	563		22.85%	
	Age 20-24	162		6.57%	
	Age 25-44	590		23.94%	
	Age 45-64	519		20.78%	
	Age 65+	422		17.13%	
ETHNICITY	White alone	1,400		56.82%	
	Hispanic	776		31.49%	
	Black alone	142		5.76%	
	Amer. Ind.	16		0.65%	
	Asian alone	79		3.20%	
	Native Hawaiian	13		0.53%	
	Other	38		1.54%	

Between the years 2000 and 2010, Pelican Rapids population increased 3.8%.

BATHHOUSE ASSESSMENT

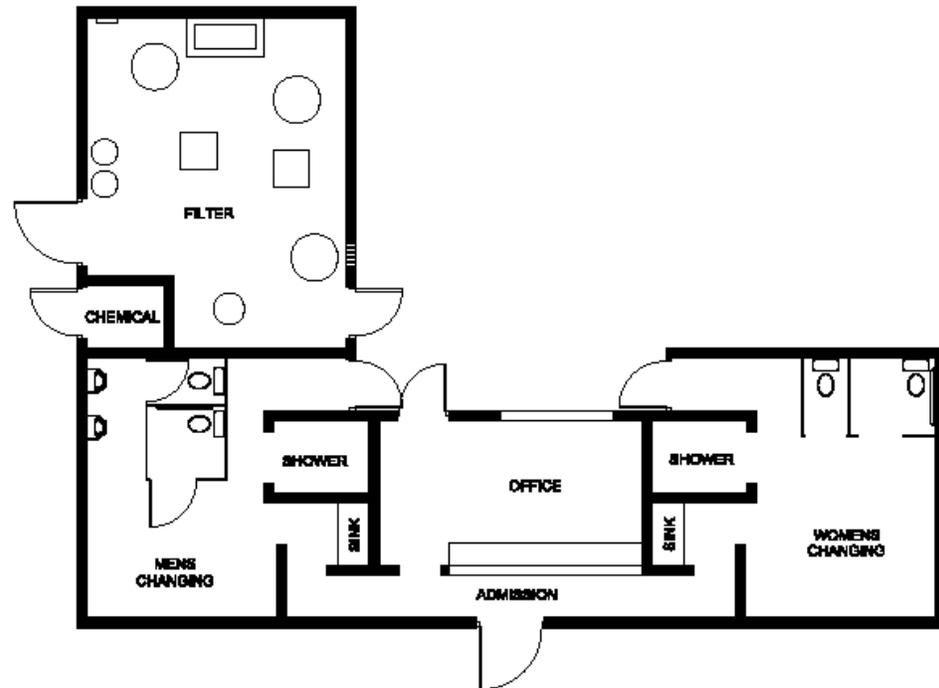
The existing bathhouse facility has provided many years of service for the residents of Pelican Rapids. As the results of natural wear and tear over the years, as well as, new building code regulations and accessibility standards, the bathhouse facility is in need of repairs and renovations.



Image 1: *Exterior view of existing bathhouse and pool*



Image 2: *Interior view of existing pool filter room*



Drawing 1: Existing Floor Plan of Bathhouse

Given the building's age, it was found to be in fair condition. Investigation of the interior found minor cracking at wall intersections and floor penetrations which is common for a building of this age.



Image 3: Interior Sink View
Minor cracking on floor

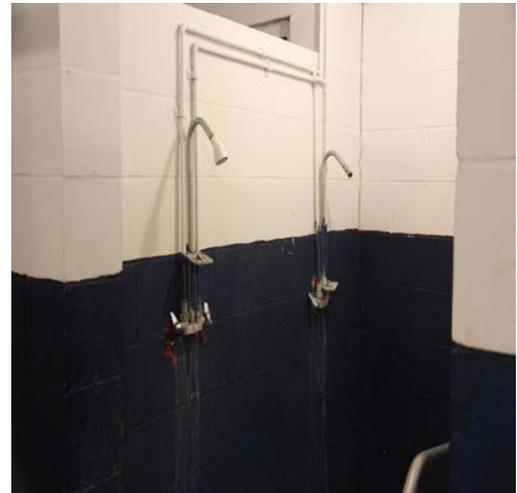


Image 4: Interior Shower View
Minor cracking in corner

Investigation of the exterior discovered the walls are not placed squarely on the foundation, or possibly the foundation block are wider than the exterior wall block of the bathhouse leaving the cores of the foundation block open to the elements and susceptible to premature structural failure. Currently there is no noticeable foundation damage and or structural failure occurring.



Image 5: *Transition from foundation at exterior corner*



Image 6: *transition from foundation to exterior wall*

ACCESSIBILITY SURVEY

The following is a list of accessibility deficiencies with the Pelican Rapids bathhouse building. Deficiencies are based on compliance with Title III regulations at 28 CFR part 36, subpart D; and the 2004 ADAAG at 36 CFR part 1191, appendices B and D which equal the 2010 ADA Standards for Accessible Design. In the few places where requirements between the two differ, the requirements of 28 CFR part 36, subpart D, prevail.

Parking and Drop-off Areas

Off street parking for the pool facility is not provided on site, there is however, space for two accessible parking stalls directly to the east of the pool bathhouse within the property boundaries. This space will be required to be striped to show 2 identifiable accessible parking stalls, one being Van Accessible and posted with signs. Pool patrons are also utilizing the adjacent yet convenient church parking lot during their stay at the pool. This lot holds approximately 150 vehicles.

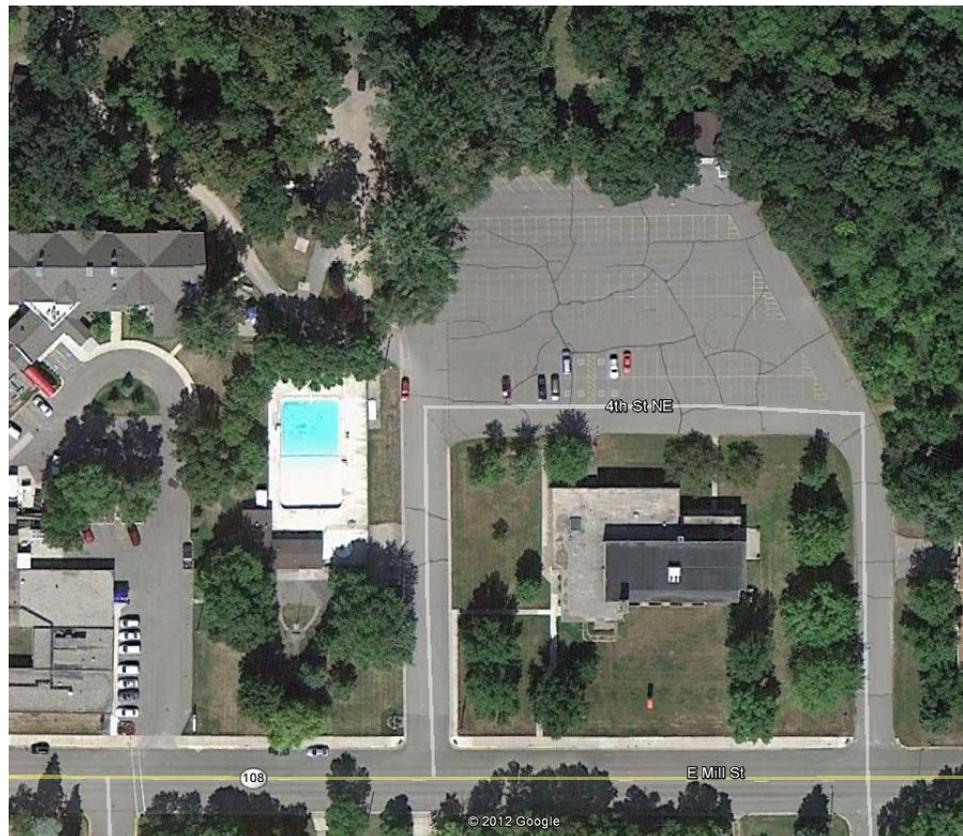


Image 7: Site image taken from google earth

Accessible Route of Travel

The existing route from the accessible parking stalls to the front of the bathhouse is a firm, stable and slip resistant concrete surface with minor to moderate cracking and slab uplift at control joints that will need to be addressed by either removal of damaged concrete or grinding to level off uneven control joints.



Image 8: *accessible route from accessible parking to front entrance*

Accessible Parking Signage

Appropriate signage with the international symbol of accessibility is required to be posted either on a sign post / building / or fence directly in front of the parking stall, centered on said stall at a height of 6 feet from pavement to bottom of sign. One sign should be labeled with “van accessible” below the international symbol of accessibility.



Image 9: *view of accessible parking stalls with signage*

Building Entrances

There are three (3) entrances to the building. The South Entrance is the “main” entrance and is for the admission of pool patrons. This door is four feet wide and held open during operating hours. The threshold is ½” high or less. The other two entrances are for entering or exiting the changing rooms from the pool. They are 3 feet wide and are not held open during operating hours. The thresholds are ½” high or less.



Image 10: view of front entrance



Image 11: Boys Changing Exit

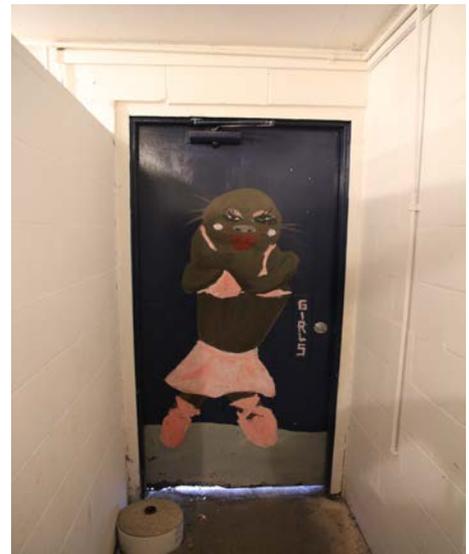


Image 12: Girls Changing Exit

Horizontal Accessible Circulation

The minimum requirement for an accessible route is 36" wide. Currently there are no accessible routes within the Pelican Rapids Pool Bathhouse. All corridors are 32-3/4" wide or less. In the two locations where the corridor width is greater than 36", the required width is 60" for proper door swing clearance. Current clearances of these corridors are 41 inches.



Image 13: View of admissions and corridor to women's changing room



Image 14: View of men's changing room

Incandescent Lighting

The Incandescent lighting with the vapor proof fixtures should be replaced with more efficient fluorescent or LED style lighting. A cost conscience option is to replace the incandescent lamp with a screw-in compact fluorescent lamp.

Doors

All doorways meet the minimum clearance requirement of 32 inches wide when fully opened. However, the doors entering and exiting the changing rooms from the pool side of the building do not meet the required 12/18 inch push/pull clearance requirements. The Front entrance (south side) meets the push/pull requirements, but does not have sufficient clear floor area on the interior side of the door. Doors entering/exiting the chemical room and the filter room are not required to be accessible. The door exiting/entering the office area from the pool does meet accessible guidelines.



Image 15: View of filter room



Image 16: View of office & changing room dr's



Image 17: View exterior doors to chemical room and filter room (west)

Rooms and Spaces

Men's & Women's Changing Room:

Lav's: Countertop height met accessible requirements along with knee and toe clearances. Fixture controls are of the knob style which does not meet accessibility requirements. Dispensers are within accessible parameters. Mirror does not meet accessible requirements nor does the allowable side to side clearances for sink placement within the confined space. New lavatories with ADA controls/faucets installed to ADA specifications should be installed.



Toilets: Do not meet accessible clearances to accommodate a wheelchair. Toilets should be replaced with low consumption commercial type, flush valve toilets

Toilet Stall: Size of stall is too small to accommodate a wheelchair according to the accessibility guidelines.

Showers: Do not meet accessible clearances to accommodate a wheelchair. The shower controls present a burn hazard.



Urinals: Mounting height of urinal is not within the specified parameters to be accessible. Clear floor space in front of urinal is insufficient. Urinals could be reused if mounted to ADA specifications.

Routes: There are currently no accessible routes to or from the men's or women's changing areas.

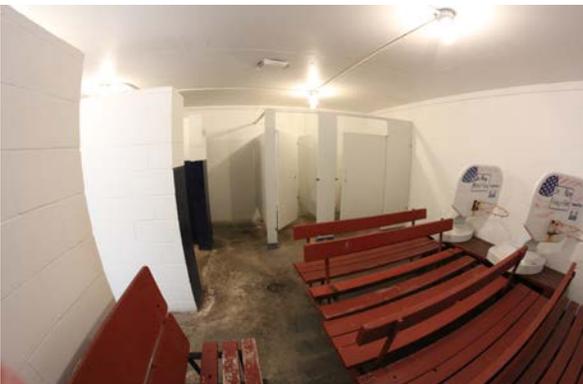


Image 18-21: Interior views of the changing rooms

Office & Admissions:

Admissions Counter: Height of counter top is approx. 3'-2". A portion of the counter is required to be at 36" high for a minimum of 3 feet long. Clear floor area in front of counter is insufficient to meet accessibility requirements.



Image 22: Interior view of admissions counter



Image 23: Interior view of admissions office pool side window

Filter Room:

Chemical area: *not required to be accessible.*

Filter area: *not required to be accessible.*

Plumbing: *Plumbing systems in this area appear to be adequate for the existing pool system and facility's needs, however, these systems appear to be in below average condition.*

Natural Gas: *Natural gas service and piping appear to be in operable condition and meet current needs.*

Water Heaters: *Water heaters are residential tank type heaters and should be replaced with commercial style water tanks.*

Electrical Panel: *Poor condition and should be replaced.*



Image 24 & 25: Interior views of the filter room



Image 26 & 27: Interior views of the filter room



Image 28 & 30: Interior views of the filter room

Pool Deck

The Concrete Deck that surrounds the pool is a firm, stable and slip resistant concrete surface with minor to moderate cracking with some slab uplift at control joints that will need to be addressed by either removal of damaged concrete or grinding to level off uneven control joints. At this time there are many areas around the pool deck that could possibly contribute to physical injury of users by uneven slabs becoming tripping hazards and toe stubbers. Pool deck will need to be removed if the city decides to repair the underground piping and pool perimeter coping.

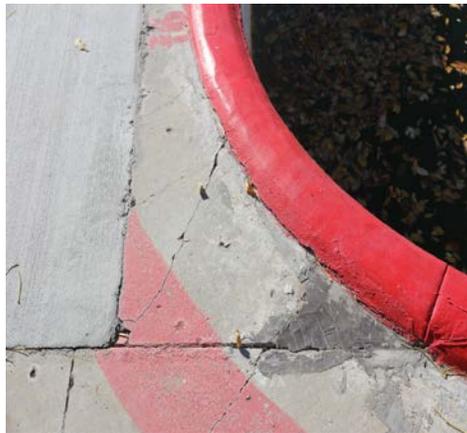


Image 31: Perimeter coping of Pool



Image 32: Concrete Pool deck

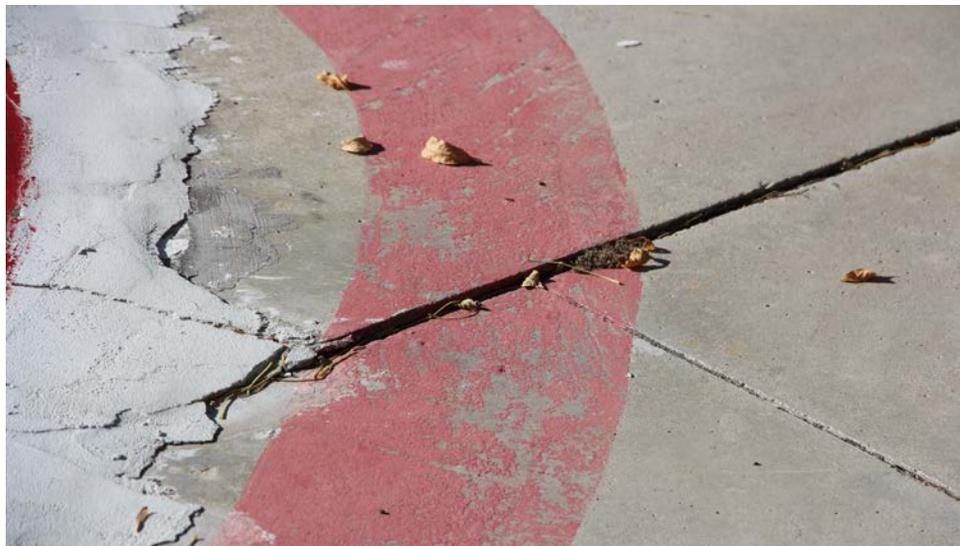


Image 33: Concrete Pool deck

POOL ASSESSMENT

The pool was built in 1978 and is approximately 34 years old. The standard life expectancy of a stainless steel wall panel pool, which is how the Pelican Rapids pool is constructed, is 35 to 45 years. The City of Pelican Rapids has been experiencing difficulties with the pool as of late. The city asked the Design Intent Architects team to inspect the pool and develop recommendations to rectify the reoccurring difficulties. Our inspections uncovered a multitude of concerns, these concerns being:

- a. Age of the stainless steel wall panel system and integrity of its structural tieback system.



- b. Poor condition of the pool floor structure with extensive cracking.



- c. Loss of water due to cracks and potential underground pipe leaks. The city estimates 1,000 gallons of water is lost per day.



- d. Pool is not in compliance with industry safety standards, Americans with Disabilities Act (ADA), Pool and Spa Safety Act – Anti Entrapment (VGB), Minnesota State Health Code and 10 State Aquatic Design Standards.



- e. The existing pool is outdated and does not meet today's construction standards or leisure water amenities / components that communities are expecting from swimming pools.



- f. Increased costs associated with current operation and maintenance under existing conditions.



Recommended renovations to existing pool

1. Cover existing stainless steel wall panels with 3-4 inches of shotcrete while using the existing stainless steel wall panels as a backform. (overall pool size will be reduced)
Estimated Cost: \$120,000
2. Replace existing skimmers with new skimmer inlet recirculation system along with piping / wall inlets to filter room. Install new mortex formed coping edge / waterline tile to tie in with new concrete perimeter deck construction. (main pool and wading pool)
Estimated Cost: \$125,000
3. Sandblast existing concrete pool floor, fill cracks and apply an epoxy paint finish to the floors and walls to both main pool and wading pool.
Estimated Cost: \$70,000
4. Replace existing main drains with Anti Entrapment VGB compliant sumps, grating and underground piping to filter room. (main and wading)
Estimated Cost: \$35,000
5. Remove existing pool mechanical equipment and replace with new recirculation pump, disinfection system, chemical controller and water level controller with piping and valves for both main pool and wading pool.
Estimated Cost: \$52,500
6. Install battery operated ADA access lift and one set of walk-in-steps in corner of shallow end of pool. Install ramp with rail into wading pool.
Estimated Cost: \$24,000
7. Install four new ladders, two new life guard chairs, dive tower with board and anchors as required.
Estimated Cost: \$30,000
8. Aquatic Design / engineering / permits and contingency.
Estimated Cost: \$60,000
9. Mobilization, taxes, warranty, and Owner training.
Estimated Cost: \$26,000

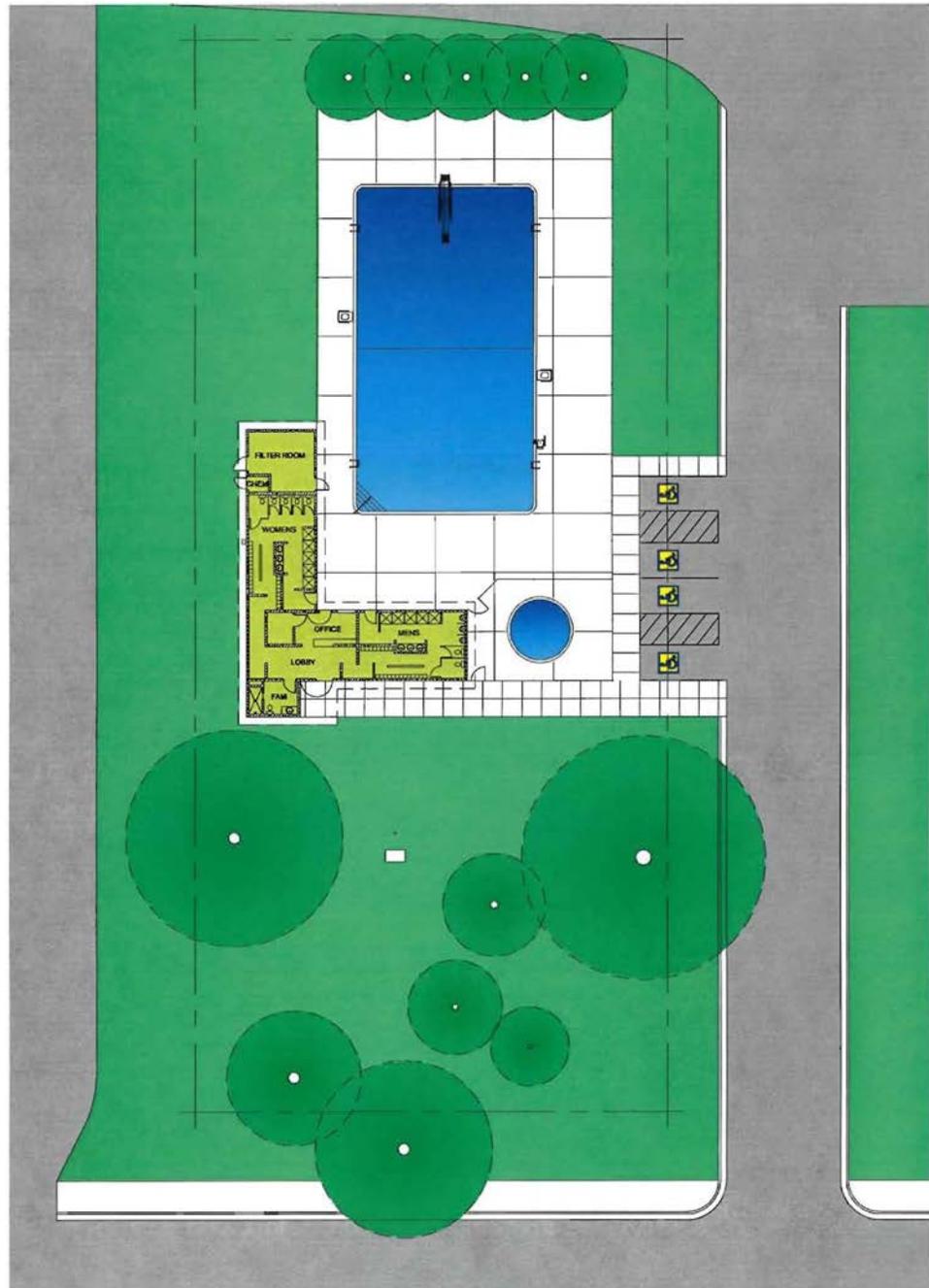
Total estimated cost of pool renovations \$542,500

A new pool of similar size and shape to the existing wading (700s.f.) and swimming pool (3,500s.f.) would have an estimated cost of \$860,000 and would come with a new warranty. A renovated pool would only have a warranty on new equipment. The Design Intent Architect's Team recommends complete removal of pool deck and pool. Options A,B and C are as follows:

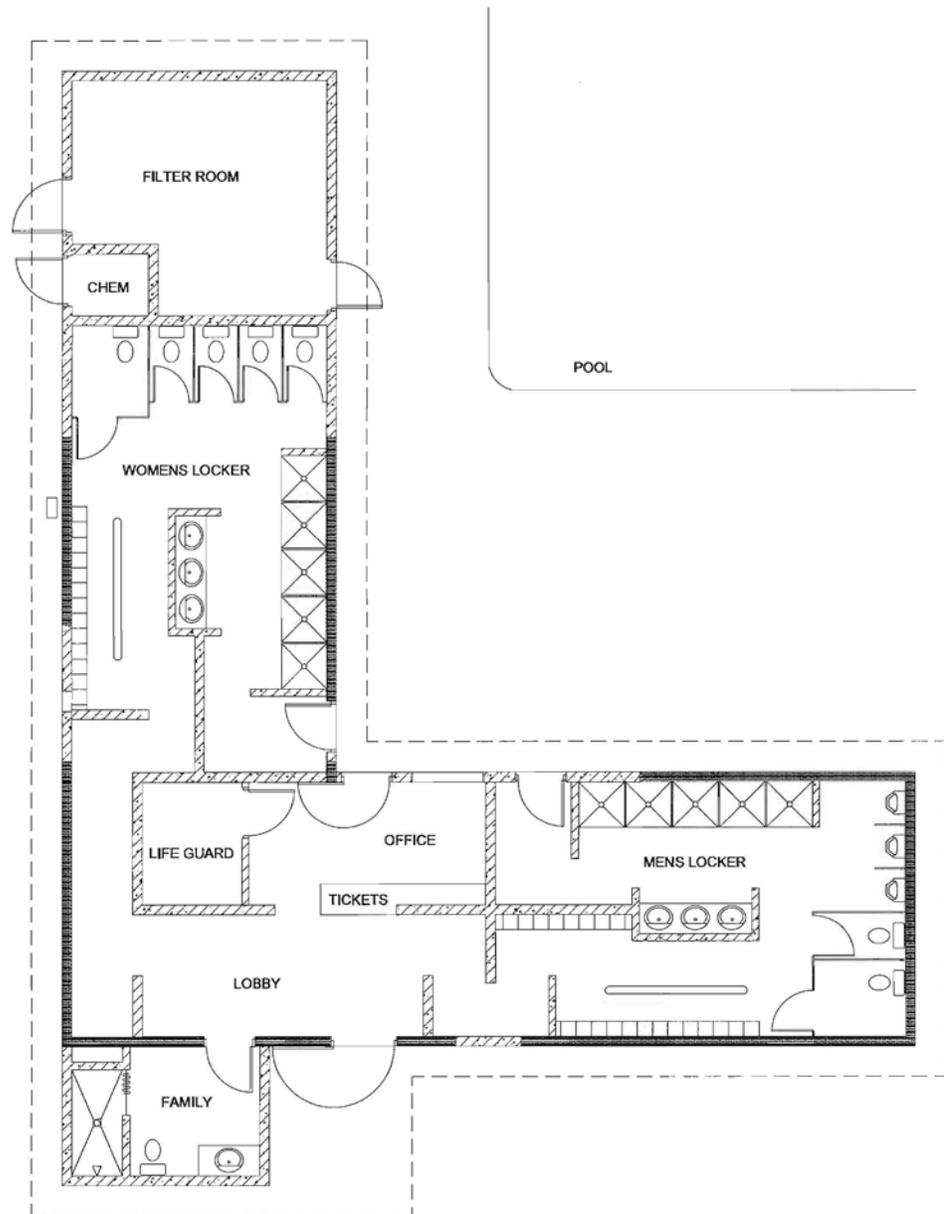
Bathhouse Design, Costs & Options

Renovated Aquatic Center Option "A"

Renovated existing pools (4,200s.f.) and renovated bathhouse (1,950s.f.) with improved ADA Parking.



Drawing 1: Proposed site layout for renovated pool and bathhouse – option "A"



Drawing 2: Proposed bathhouse floor plan – option “A” (1,950 square feet)

The above proposed renovated bathhouse floor plan, accessible parking area with accessible route and accessible pool have been developed based upon community “base” needs and building code / ADA accessibility compliance standards. Costs have been computed based upon upgrades to the existing building, pool, as well as providing accessible circulation routes in building and to accessible parking area. Detailed costs of these renovations have been provided below:

Cost of Work Estimate (Option "A")

Pool and Deck Demolition	10,228 SF @	\$ 4.00 =	\$ 45,003
Selective Bldg. Demolition	1,325 SF @	\$ 25.00 =	\$ 33,125
Site Remediation	32,700 SF @	\$ 0.45 =	\$ 14,715
Site work:	21,333 SF @	\$ 7.00 =	\$ 149,331
<i>(includes pool deck, parking & site utilities)</i>			

Building General Construction:

Renovation	1,325 SF @	\$ 80.00 =	\$ 106,000
New Constr.	600 SF @	\$ 150.00 =	\$ 90,000

Building Mechanical:

Renovation	1,325 SF @	\$ 40.00 =	\$ 53,000
New Constr.	600 SF @	\$ 65.00 =	\$ 39,000

Building Electrical:

Renovation	1,325 SF @	\$ 25.00 =	\$ 33,125
New Constr.	600 SF @	\$ 35.00 =	\$ 21,000

Subtotal Building Renovation / Addition Cost \$ 584,299

Architectural and Engineering fees 10% <i>(bathhouse & site)</i>	\$ 58,429
Contingency 12% <i>(bathhouse & site)</i>	\$ 70,116
Testing, permits 2% <i>(bathhouse & site)</i>	\$ 11,289
Pool Renovation/Construction: 4,200 SF @ \$ 129.16 =	\$ 542,500
<i>(includes all mechanical systems, diving board, wheel chair lift, stair entry, four lane lap pool, separate wading pool w/ ramp, pool accessories, design & engineering fees as listed on page 20)</i>	

TOTAL PROJECT COST ESTIMATE – OPTION "A" \$ 1,266,633

Financing Proforma for Option "A"

\$ 278,966	site work
\$ 445,167	bathhouse
\$ 542,500	Community Swimming pool

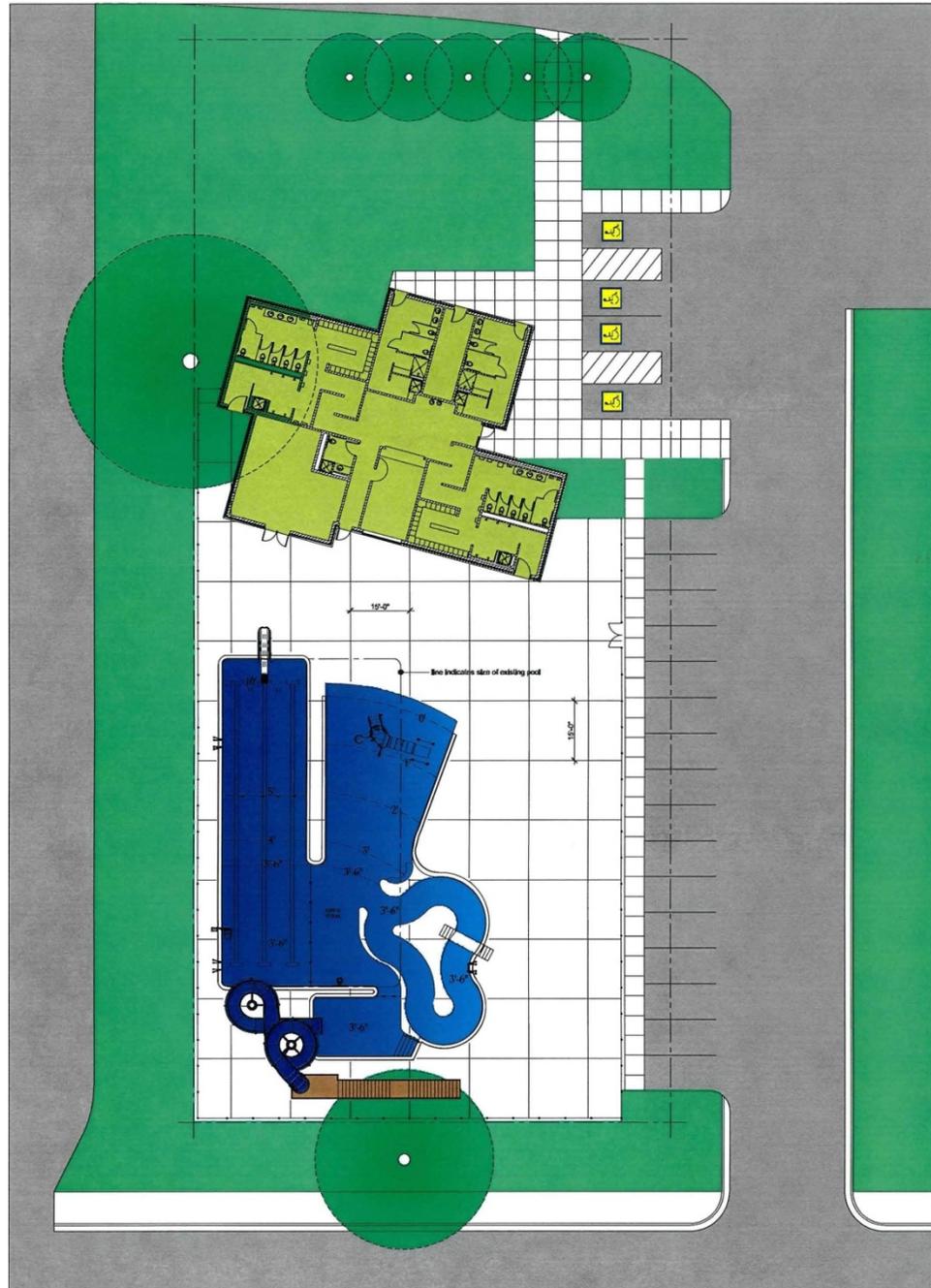
\$1,266,633	Principal
15	Year Bond
3%	Estimated Bond rate
(\$106,017)	

\$1,372,650	Total debt service
984	Total Households

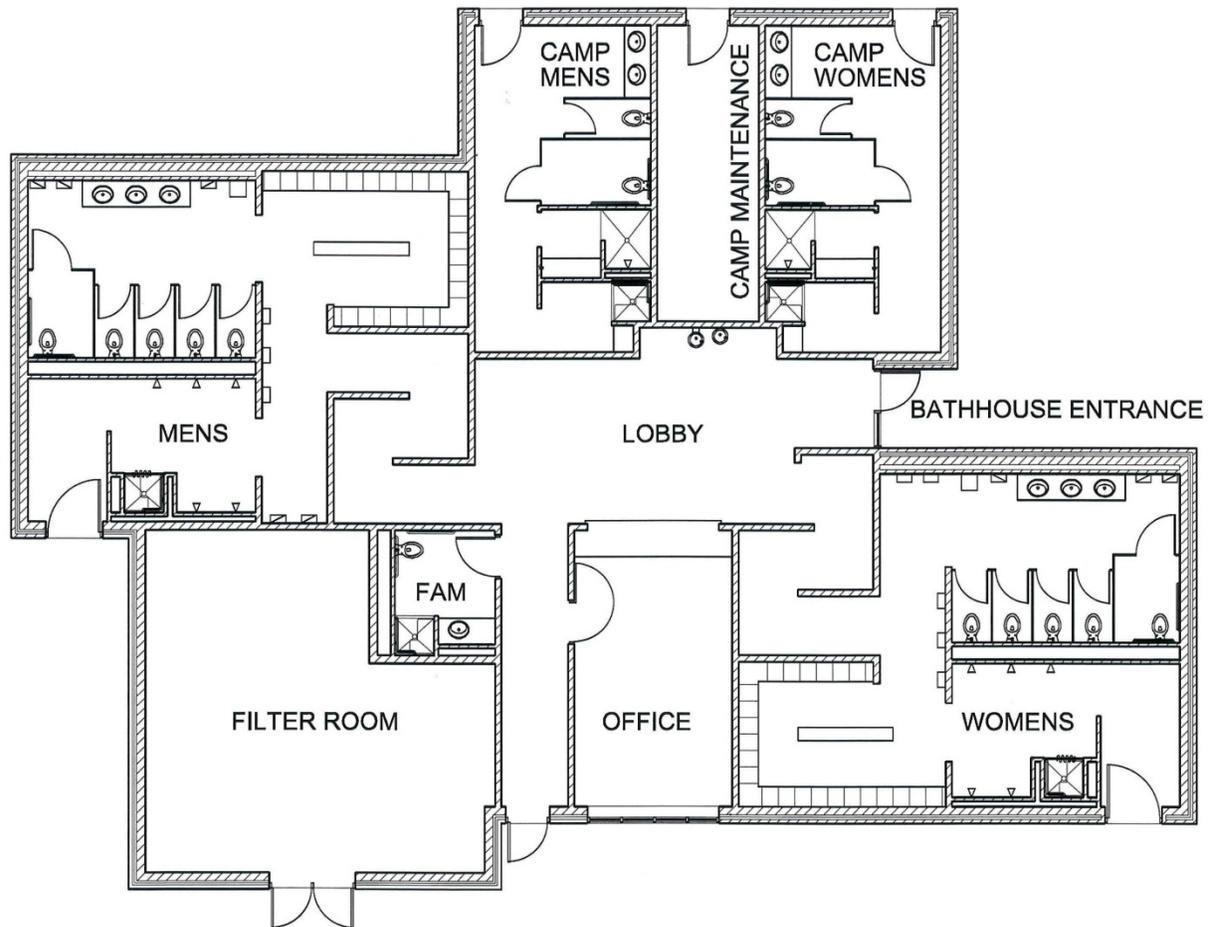
(\$93) Total annual household cost

Aquatic Center Option "B"

relocated pool (4,500s.f.) and bathhouse (3,500s.f. + 1,000s.f.):
New bathhouse location affords the option of adding a convenience
toilet / shower facility for the city campground.



Drawing 3: Proposed site layout for new pool and bathhouse – option "B"



Drawing 4: Proposed bathhouse floor plan – option “B” (4,500 square feet)

The above proposed option “B” bathhouse floor plan includes a 1000 square foot (s.f.) Camp ground convenience toilet / shower addition, 1100s.f. men and 1100s.f. women changing rooms with toilet and shower amenities, 92 quarter size lockers, 340s.f. lobby, 250s.f. staff office with admissions counter, 110s.f. family changing room and a 600s.f. pool filtration room. Exterior amenities include accessible parking area and accessible route with accessible pool, all have been developed based upon community “upgraded” wants and building code / ADA accessibility compliance standards. Costs have been computed based upon upgrades to building, pool, as well as providing accessible circulation routes in and around building and to the accessible parking area. Detailed costs of these renovations have been provided below:

Cost of Work Estimate (Option "B")

Pool & Deck Demolition	10,228 SF @	\$ 4.40 =	\$ 45,003
Building Demolition	1,325 SF @	\$ 10.00 =	\$ 13,250
Site Remediation	32,700 SF @	\$ 0.45 =	\$ 14,715
Site work:	28,200 SF @	\$ 7.00 =	\$ 197,400
<i>(includes pool deck, parking & site utilities)</i>			

Building General Construction:

Bathhouse	3,500 SF @	\$ 110.00 =	\$ 385,000
Camp Bath	1,000 SF @	\$ 110.00 =	\$ 110,000

Building Mechanical:

Bathhouse	3,500 SF @	\$ 40.00 =	\$ 140,000
Camp Bath	1,000 SF @	\$ 40.00 =	\$ 40,000

Building Electrical:

Bathhouse	3,500 SF @	\$ 25.00 =	\$ 87,500
Camp Bath	1,000 SF @	\$ 25.00 =	\$ 25,000

New Building Construction \$ 1,057,868

New Pool Construction: 4,500 SF @ \$ 266.66 = \$ 1,200,000
(includes all mechanical systems, slide, zero entry wade pool, diving board, wheel chair lift, lazy river, two lane lap pool and small feature play package as shown on page 24)

Design and engineering fees	7.0% (bathhouse & pool)	\$ 158,050
Contingency	5.0% (bathhouse & pool)	\$ 112,893
Testing, permits	0.5% (bathhouse & pool)	\$ 11,289

TOTAL PROJECT COST ESTIMATE – OPTION "B" \$ 2,540,100

Financing Proforma for Option "B"

\$ 327,676	site work
\$ 696,308	bathhouse
\$ 245,558	Campground Convenience Toilet/Shower Pod
\$1,270,558	Community Swimming pool

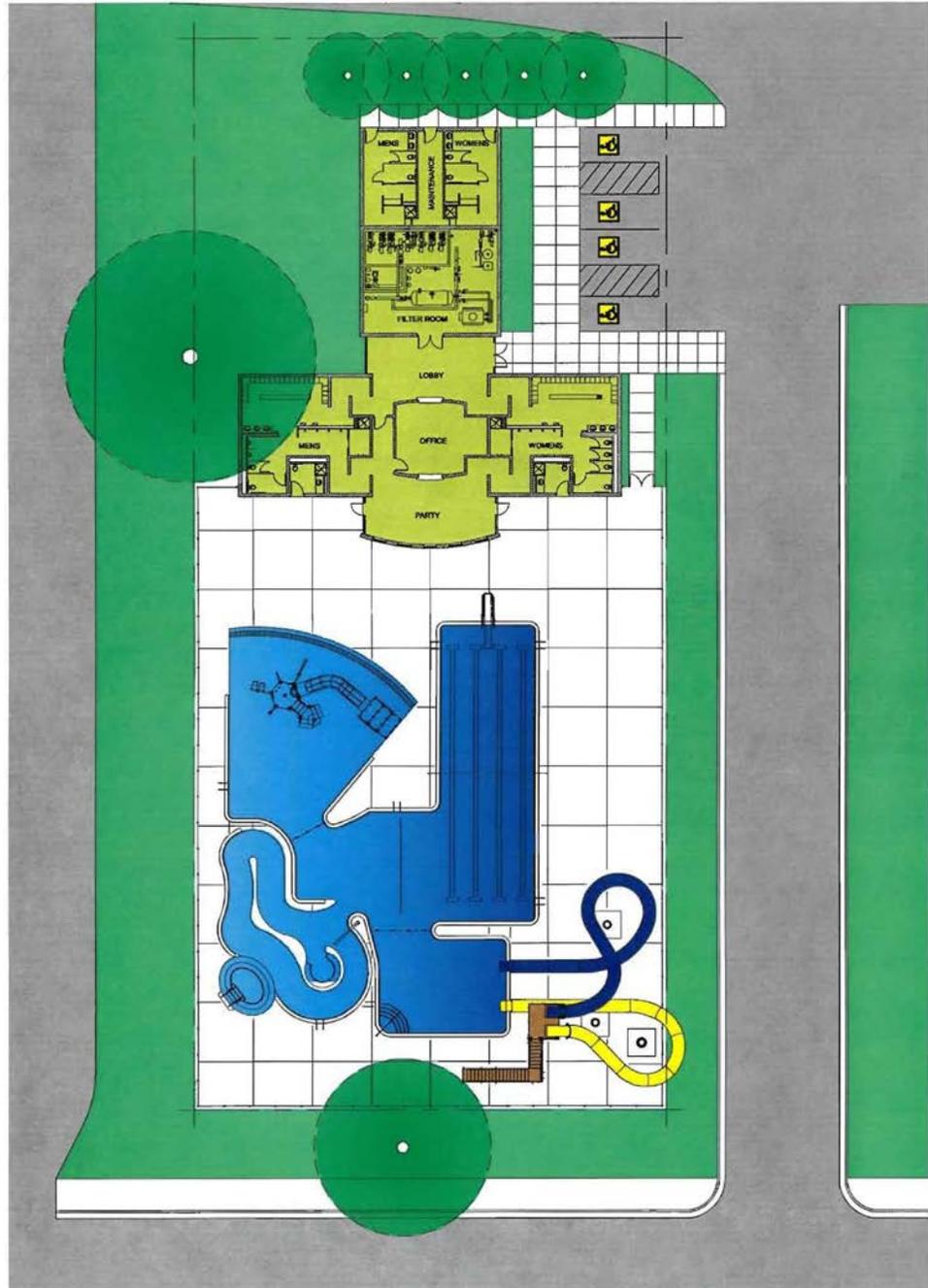
\$2,540,100	Principal
15	Year Bond
3%	Estimated Bond rate
(\$212,606)	

\$2,752,706	Total debt service
984	Total Households

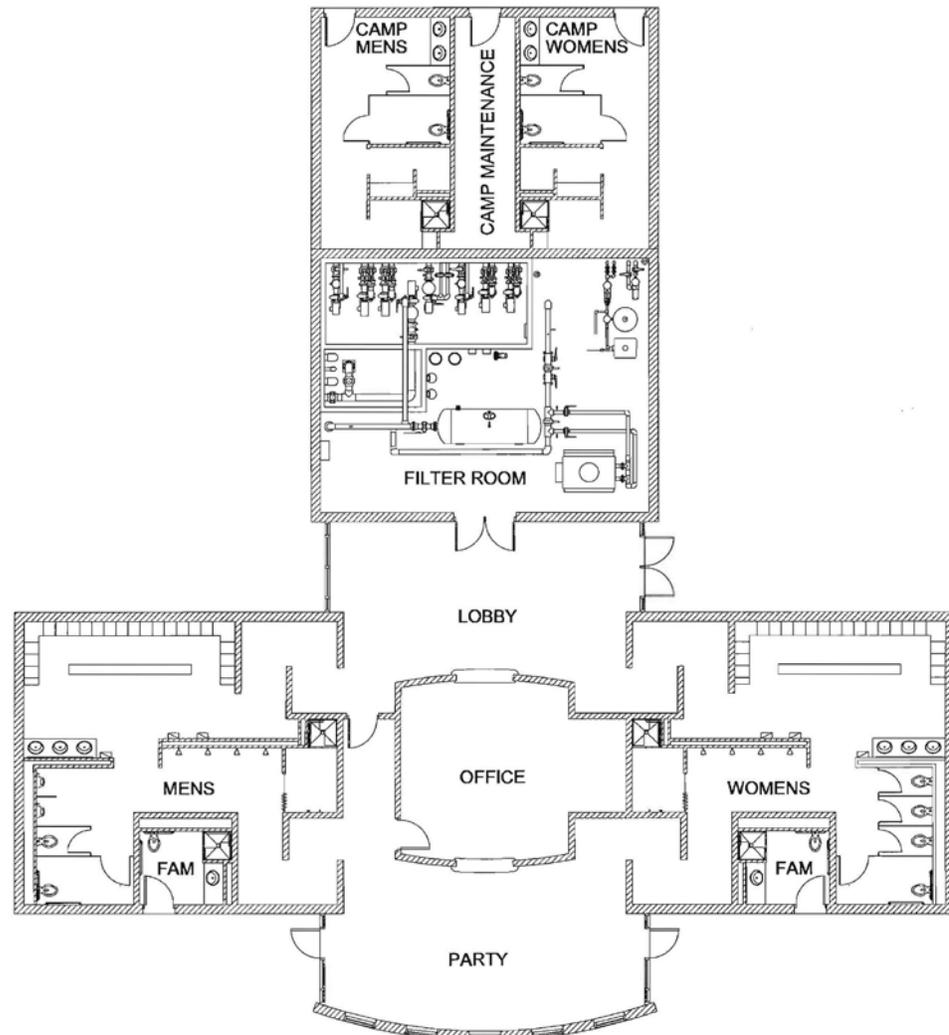
(\$187) Total annual household cost

Aquatic Center Option "C"

relocated pool (6,200s.f.) and bathhouse (4,700s.f. + 1,000s.f.):
New bathhouse location affords the option of adding a convenience
toilet / shower facility for the city campground.



Drawing 5: Proposed site layout for new pool and bathhouse – option "B"



Drawing 6: Proposed bathhouse floor plan – option “C” (5,700 square feet)

The above proposed option “C” bathhouse floor plan includes a 1000 square foot Camp ground convenience toilet / shower addition, 1060s.f. men and 1060s.f. women changing rooms with toilet and shower amenities, 128 quarter size lockers, 505s.f. lobby, 375 s.f. staff office with admissions counter, two 110s.f. family changing rooms, 580s.f. party space and a 900s.f. pool filtration room. Exterior amenities include accessible parking area and accessible route with accessible pool, all have been developed based upon community “upgraded” wants and building code / ADA accessibility compliance standards. Costs have been computed based upon upgrades to building, pool, as well as providing accessible circulation routes in and around building and to the accessible parking area. Detailed costs of these renovations have been provided below:

Cost of Work Estimate (Option "C")

Pool & Deck Demolition	10,228 SF @	\$ 4.40 =	\$ 45,003
Building Demolition	1,325 SF @	\$ 10.00 =	\$ 13,250
Site Remediation	32,700 SF @	\$ 0.45 =	\$ 14,715
Site work:	27,000 SF @	\$ 7.00 =	\$ 189,000
<i>(includes pool deck, parking & site utilities)</i>			

Building General Construction:

Bathhouse	4,700 SF @	\$ 110.00 =	\$ 517,000
Camp Bath	1,000 SF @	\$ 110.00 =	\$ 110,000

Building Mechanical:

Bathhouse	4,700 SF @	\$ 40.00 =	\$ 188,000
Camp Bath	1,000 SF @	\$ 40.00 =	\$ 40,000

Building Electrical:

Bathhouse	4,700 SF @	\$ 25.00 =	\$ 117,500
Camp Bath	1,000 SF @	\$ 25.00 =	\$ 25,000

New Building Construction \$ 1,259,468

New Pool Construction: 6,200 SF @ \$ 290.33 = \$ 1,800,000
(includes all mechanical systems, two slides, zero entry wade pool, diving board, wheel chair lift, lazy river, four lane lap pool, spa and large feature play package as shown on page 27)

Design and engineering fees	6.0% (bathhouse & pool)	\$ 183,568
Contingency	5.0% (bathhouse & pool)	\$ 152,973
Testing, permits	0.5% (bathhouse & pool)	\$ 15,297

TOTAL PROJECT COST ESTIMATE – OPTION "C" \$ 3,411,306

Financing Proforma for Option "C"

\$ 342,478	site work
\$ 929,510	bathhouse
\$ 245,558	Campground Convenience Toilet/Shower Pod
\$1,893,760	Community Swimming pool

\$3,411,306	Principal
15	Year Bond
3%	Estimated Bond rate
(\$285,526)	

\$3,696,832	Total debt service
984	Total Households

(\$251) Total annual household cost

Final Recommendations

Bathhouse and Pool:

1. Provide ADA compliant parking spaces.
2. All path of travel openings (doorway) shall have a minimum of thirty two (32) inches side to side clearance.
3. All path of travel surfaces (isle) shall have a minimum of forty two (42) inches of side to side clearance (60 inches is necessary at pull side of doorways) and a vertical slope no greater than one to twenty throughout complex.
4. Provide ADA compliant drinking fountains.
5. Changing rooms must meet all ADA requirements, this includes upgrades to water closets, urinals, lavatories, mirrors, shower stalls, grab bars, shower seats, bench seats and lockers.
6. ADA compliant interior and exterior signage.
7. Based upon initial observations, the current bathhouse configuration does not meet required accessibility standards. The entire interior of the current bathhouse will need to be demolished and reconfigured per "option A" to meet Accessibility requirements, additional square footage will also need to be constructed to accommodate needed space.
8. Core boring analysis of the pool basin is recommended to assess the integrity of the concrete structure to help identify extent of necessary repairs / replacements if renovation of pool is desired.
9. Based upon initial observations, the concrete / stainless steel structure of the pool along with its recirculation system looks to be in a state of advanced structural and mechanical decay. Although a rehabilitation of the pool is possible, Design Intent Architects recommends the replacement of the main pool, wading pool, pool decking and recirculation systems.
10. Based upon initial observations, the current pool configurations do not meet required accessibility standards. Substantial modifications to the main pool and wading pool are required to meet accessibility standards.
11. A new pool design such as option "B" would provide equal opportunities for educational, social, and recreational types of programs for all age groups and activity levels.
12. The addition of the Camp ground convenience toilets/showers would provide the opportunity to increase camping sites with the removal of the existing toilet facilities just north of the pool property.

Again, thank you for allowing us this opportunity. We look forward to partnering with the City of Pelican Rapids. We can assure you that we will respectfully lead you through this exciting project while responding to your needs.

Feel free to contact us for any additional information needed. “Let us make your project worry-free”.

218.736.4733 – Office or
scottd@di-arch.com – email

DESIGN INTENT ARCHITECTS



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President