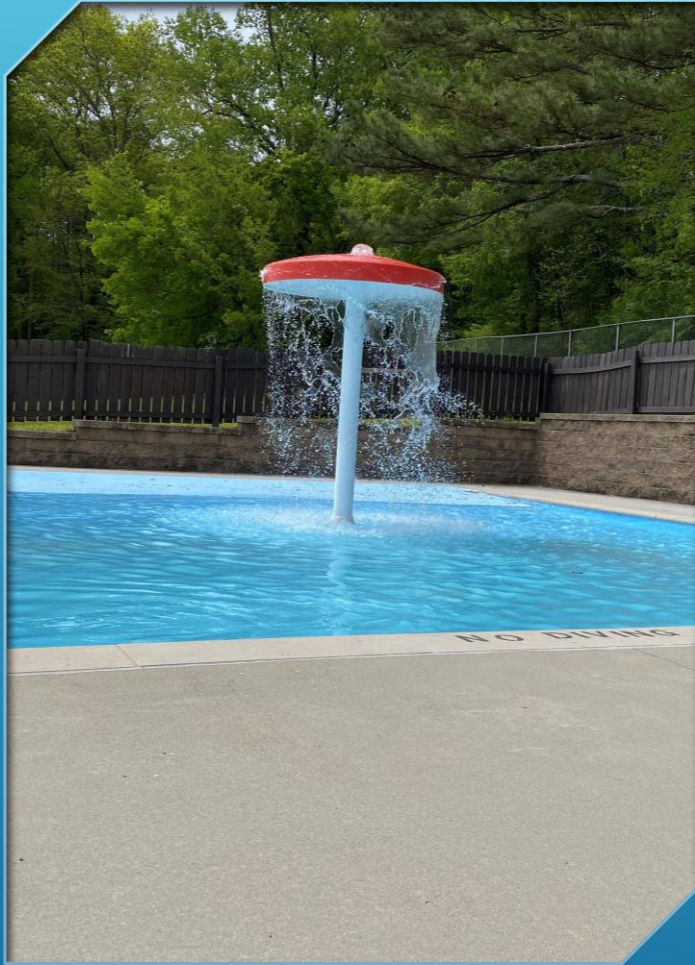


A BRIEF HISTORY OF THE OAK RIDGE OUTDOOR POOL





- Construction of the Oak Ridge Outdoor Municipal Swimming Pool by the Army Corps of Engineers began in 1944, converting the spring-fed Cross Springs Lake to a public pool. The new pool opened on July 4, 1945.
- The pool, still spring-fed and supplemented with municipal water, holds approximately 2.2 million gallons of water with over an acre of surface area.
- The pool last underwent a major renovation in 1992-1993 and reopened for the 1994 summer season.



TODDLER POOL ADDITION

The Little Pool for toddlers was added in 2008. This pool contains 5,000 gallons of water. With a maximum depth of 18 inches, it has a zero depth entry and a spray feature.

POOL AUDIT

As maintenance needs for the pool increased and the pool approached its 30-year design life, city staff began to evaluate the pool to determine what would be needed to ensure the pool remained an asset to the community for generations to come.

Since the 1992 renovation, repairs have been on an as-need basis. In March 2016, aquatics consultants Counsilman - Hunsaker performed a facility audit to determine, in order of importance, items that needed to be addressed. The audit provided additional guidance for ongoing major maintenance.



FILTER REPAIR

In April 2017, all four pool filters underwent repairs, replacing broken laterals, installing new valve handles, and replacing the sand filtration media at a cost \$97,332.00. In addition, shade structures were installed over the filters to protect the equipment from UV degradation and other effects of weather.





LOCKER ROOM FACELIFT

In 2017, the locker rooms were given a fresh coat of paint and a breastfeeding/changing room was added.



POOL SHELL REPAIR



In the spring of 2018, the City spent \$195,620.00 for repairs to the concrete shell. Soft spots and cracks throughout the shell were repaired. Deterioration of the concrete was found to go deeper than expected.

After inspection, the contractor found significant corrosion of exposed rebar in the concrete, indicating that the shell is deteriorating below the surface and is approaching the end of its useful life.



CHEMICAL CHANGE

The outdoor pool water was treated with gaseous chlorine until 2019, when the chemical used was changed to a solid form of chlorine. This led to a significant increase in material cost but was necessary due to the risks involved with the storage and use of the gas. It created a risk of dangerous exposure to pool staff and first responders, should a leak occur in the system. In addition, these risks contributed to increasing difficulty in finding a supplier for the gaseous form of the chemical and required substantial annual coordination with the Federal Government, including the Department of Homeland Security.

WATER LOSS AT THE POOL

- ▶ In the summer of 2021, it was determined that the pool was losing a substantial amount of water. The spring feeding the pool could not keep up with the demand; supplemental City water continues to be necessary to maintain the water level in the pool. Measurements showed that pool was losing about two inches of water per day, equivalent to roughly 75,000 gallons.
- ▶ No specific source of water loss has been identified, such as a large hole or broken pipe. It is believed that water loss is through cracks and soft concrete in the shell. Maintenance is done annually to address these areas, but they continue to develop over the tremendous surface area of the pool floor.



- ▶ The pool shell requires pressure washing, concrete repair, caulking and painting every year to supplement the previous repair work. With a limited window for maintenance before the pool is re-opened for the season, only a portion of the shell can be repainted each year. Approximately $\frac{1}{3}$ to $\frac{1}{2}$ of the entire pool shell (58,815 sq. ft.) is repainted, depending on weather and other scheduling limitations.
- ▶ Despite this regular attention to the shell, the water loss continues.
- ▶ Geotechnical investigations done in 2021 and 2023 show substantial saturation of the soils under the pool. This is likely a combination of a high water table at the spring and the ongoing water loss of the pool.

THE FUTURE OF THE OAK RIDGE OUTDOOR POOL

The Oak Ridge community has an opportunity to address the aging pool structure and its mechanical systems, while also improving support facilities such as locker rooms, restrooms, parking and concessions. This important community amenity can be updated to meet all current safety and accessibility standards.

A redesign would take advantage of advances in aquatic mechanical systems to enhance the efficiency of pool operations.

Pool updates also provide a chance to enhance recreational opportunities and improve the competitive swimming infrastructure.

It is uncertain how long the pool can continue to operate safely without major investment. By fully developing a plan for the work now, an extended closure can be avoided. Beginning the planning process after the pool is closed could lead to years without an outdoor pool, as has happened in many communities across the country. Proactive planning can prevent this from happening in Oak Ridge.

Kimley-Horn, with their sub-consultant Counsilman-Hunsaker, have provided three options for consideration. These options are based on a robust public input process. These concepts have been presented with the engineers estimate of probable construction cost for all facets of the project.

The next step is to determine whether to pursue further development of one of the concepts provided or to request that the consultants consider design alternatives based on additional criteria, such as a construction cost cap.



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AQUATICS FOR LIFE

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Oak Ridge Outdoor Pool Renovations

Council Work Session – March 26, 2024





Alisha Eley, PLA,
LEED AP, ASLA



Cary Dennis,
M.S.M.E., P.E.



Counsillman-Hunsaker
AQUATICS FOR LIFE

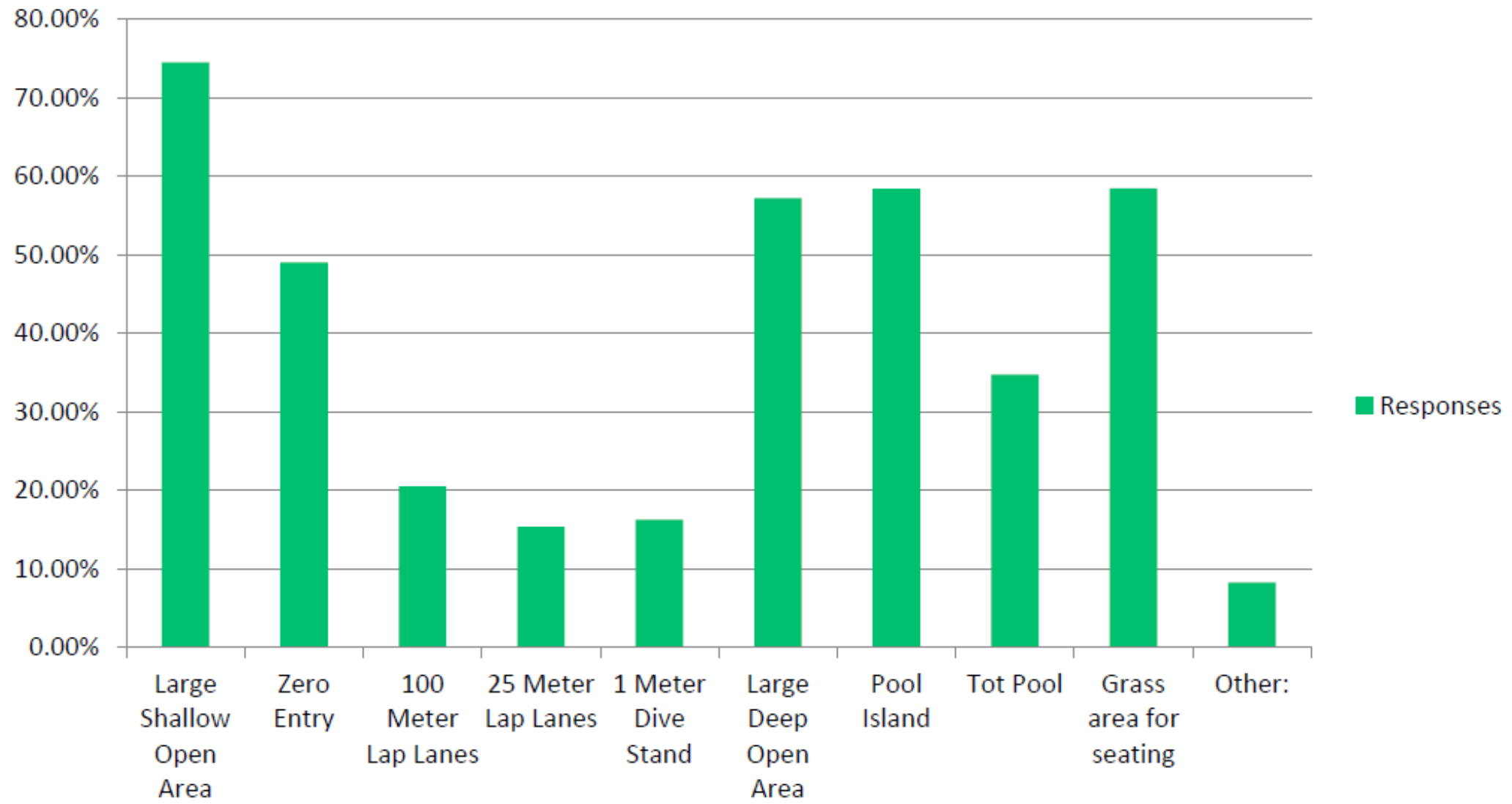
Kimley»Horn

Public Input

- Project website
- Public survey
 - 491 responses
 - Who took it?
 - 65% Oak Ridge residents
 - 15% Anderson County residents
 - 20% Other – Knox Co, Knoxville, Roane Co, Morgan Co, Farragut
 - 35% use the pool weekly, 25% use it monthly



What are the best assets to the current pool:

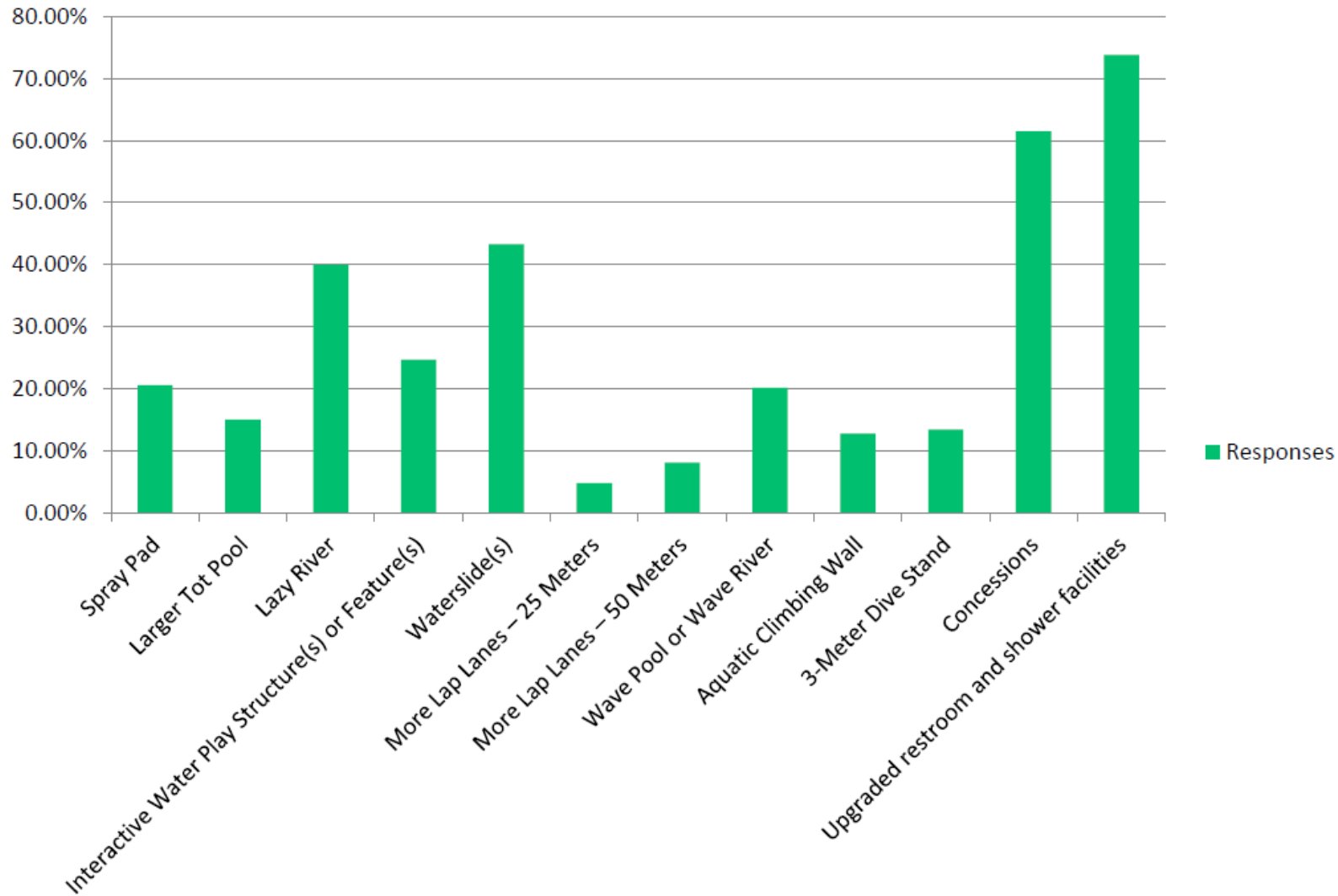


Public Input - Survey

- What items are lacking?
 - Lack of amenities
 - Short open season
 - Lack of shade
 - Parking
 - Concession stand



What are your preferred amenities if the existing pool is to be modified?



Public Input - Website

- 464 comments submitted
 - 52 want it to stay the same
 - 411 request changes/upgrades
 - 78 slides
 - 45 lazy river
 - 36 new equipment
 - 25 concessions
 - 14 shade



Option #1



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Option #1

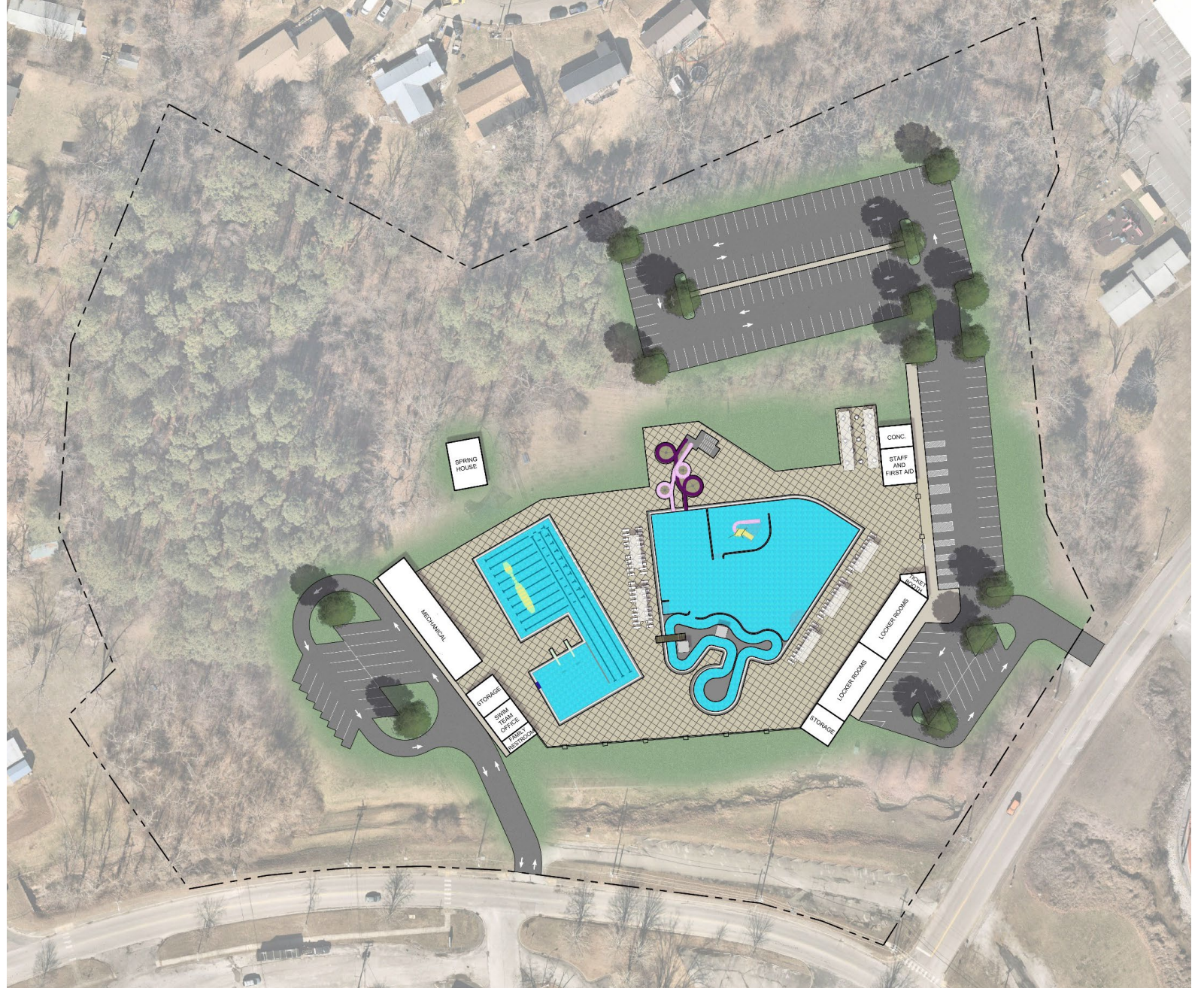
<i>Item Description</i>	<i>Unit</i>	<i>Unit Price</i>	<i>Qty</i>	<i>Total</i>
Mobilization	ea	\$ 300,000.00	1	\$ 300,000.00
Demolition	ls	\$ 250,000.00	1	\$ 250,000.00
Erosion Prevention and Sediment Control	sf	\$ 50,000.00	1	\$ 50,000.00
Grading	ls	\$ 100,000.00	1	\$ 100,000.00
Pool	ls	\$ 16,200,000.00	1	\$ 16,200,000.00
Decking	sf	\$ 15.00	30,000	\$ 450,000.00
Parking Lot Improvements	ls	\$ 1,000,000.00	1	\$ 1,000,000.00
Buildings	sf	\$ 375.00	13,000	\$ 4,875,000.00
Utilities	ls	\$ 350,000.00	1	\$ 350,000.00
Fencing	lf	\$ 20.00	400	\$ 8,000.00
Site Lighting	ls	\$ 150,000.00	1	\$ 150,000.00
Sidewalk	sf	\$ 4,000.00	12	\$ 48,000.00
Shade structures	ea	\$ 20,000.00	10	\$ 200,000.00
Benches, Tables and Chairs	ls	\$ 100,000.00	1	\$ 100,000.00
Cabanas	ea	\$ 40,000.00	0	\$ -
Subtotal		\$	24,081,000.00	
20% Contingency		\$	4,816,200.00	
Opinion of Probable Construction Cost		\$	28,897,200.00	

Notes:

1. This estimate does not include design and permitting fees.
2. The Consultant 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 Consultant at this time and represent only the Consultant's judgment as a design professional familiar with the construction industry. The Consultant cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.
3. This OPC is based on a sketch and no preliminary grading or erosion control measures have been flushed out.



Option #2



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Option #2

<i>Item Description</i>	<i>Unit</i>	<i>Unit Price</i>	<i>Qty</i>	<i>Total</i>
Mobilization	ea	\$ 300,000.00	1	\$ 300,000.00
Demolition	ls	\$ 250,000.00	1	\$ 250,000.00
Erosion Prevention and Sediment Control	sf	\$ 50,000.00	1	\$ 50,000.00
Grading	ls	\$ 100,000.00	1	\$ 100,000.00
Pool	ls	\$ 10,600,000.00	1	\$ 10,600,000.00
Decking	sf	\$ 15.00	45,000	\$ 675,000.00
Parking Lot Improvements	ls	\$ 1,000,000.00	1	\$ 1,000,000.00
Buildings	sf	\$ 375.00	13,000	\$ 4,875,000.00
Utilities	ls	\$ 350,000.00	1	\$ 350,000.00
Fencing	lf	\$ 20.00	400	\$ 8,000.00
Site Lighting	ls	\$ 150,000.00	1	\$ 150,000.00
Sidewalk	sf	\$ 4,000.00	12	\$ 48,000.00
Shade structures	ea	\$ 20,000.00	10	\$ 200,000.00
Benches, Tables and Chairs	ls	\$ 100,000.00	1	\$ 100,000.00
Cabanas	ea	\$ 40,000.00	2	\$ 80,000.00
Subtotal			\$	18,786,000.00
20% Contingency			\$	3,757,200.00
Opinion of Probable Construction Cost			\$	22,543,200.00

Notes:

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AQUATICS FOR LIFE

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Option #3



Counsleman · Hunsaker
AQUATICS FOR LIFE

Kimley»Horn

Option #3

<i>Item Description</i>	<i>Unit</i>	<i>Unit Price</i>	<i>Qty</i>	<i>Total</i>
Mobilization	ea	\$ 300,000.00	1	\$ 300,000.00
Demolition	ls	\$ 250,000.00	1	\$ 250,000.00
Erosion Prevention and Sediment Control	sf	\$ 50,000.00	1	\$ 50,000.00
Grading	ls	\$ 100,000.00	1	\$ 100,000.00
Pool	ls	\$ 10,100,000.00	1	\$ 10,100,000.00
Decking	sf	\$ 15.00	45,000	\$ 675,000.00
Parking Lot Improvements	ls	\$ 1,000,000.00	1	\$ 1,000,000.00
Buildings	sf	\$ 375.00	13,000	\$ 4,875,000.00
Utilities	ls	\$ 350,000.00	1	\$ 350,000.00
Fencing	lf	\$ 20.00	400	\$ 8,000.00
Site Lighting	ls	\$ 150,000.00	1	\$ 150,000.00
Sidewalk	sf	\$ 4,000.00	12	\$ 48,000.00
Shade structures	ea	\$ 20,000.00	10	\$ 200,000.00
Benches, Tables and Chairs	ls	\$ 100,000.00	1	\$ 100,000.00
Cabanas	ea	\$ 40,000.00	2	\$ 80,000.00
Subtotal		\$	18,286,000.00	
20% Contingency		\$	3,657,200.00	
Opinion of Probable Construction Cost		\$	21,943,200.00	

Notes:

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