

## MEMORANDUM

**TO:** Board of Trustees

**THROUGH:** Indra Winqest  
Interim General Manager

**FROM:** Nathan Chorey, P.E.  
Engineering Manager

**SUBJECT:** Review, discuss and possibly select a preferred option for the Burnt Cedar Swimming Pool Improvement Project – Fund: Community Services; Division: Beaches; Project 3970BD2601.

**STRATEGIC PLAN:** Long Range Principle #5 – Assets and Infrastructure

**DATE:** August 5, 2020

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### **I. RECOMMENDATION**

That the Board of Trustees move to review, discuss, and approve the community group's preferred option (Option #1 with no wading pool play equipment and no fixed shade structures) for the Burnt Cedar Swimming Pool Improvement Project – Fund: Community Services; Division: Beaches; Project 3970BD2601.

### **II. DISTRICT STRATEGIC PLAN**

Long Range Principle #5 – Assets and Infrastructure – The District will practice perpetual asset renewal, replacement, and improvement to provide safe and superior long term utility services and recreation activities.

- The District will maintain, renew, expand, and enhance District infrastructure to meet the capacity needs and desires of the community for future generations.
- The District will maintain, procure, and construct District assets to ensure safe and accessible operations for the public and the District's workforce.

### III. BACKGROUND

The Burnt Cedar swimming pools are one of the most popular facilities operated by IVGID. From May to September Incline Village residents and guests frequent the Burnt Cedar Beach property and the Burnt Cedar Pool experiences significant utilization throughout the season. The Burnt Cedar Pool is one of the most popular and utilized IVGID facilities by parcel owners and their guests. It's considered an inter-generational venue that is enjoyed by all ages and demographics.

Over the past several years, overall visits to the Burnt Cedar Beach property has been approximately 65,000 visits. Staff estimates at least fifty percent (50%) of these visits utilize the Burnt Cedar Pool. Staff estimates that peak summer June – August, the Burnt Cedar Pool experiences between on average approximately 200 - 300 daily visits depending on the day of the week. During the shoulder season months, visits are estimated to be between 100 – 150 visits daily depending on the day of the week. The Burnt Cedar Pool is also highly desired and utilized for Aqua Fitness and Swim Lessons for IVGID Pass holders. Additionally, it is heavily utilized by a core group of lap swimmers. Generations of community members have enjoyed the Burnt Cedar Pool and it has provided for priceless experiences and memories

The Burnt Cedar swimming pools were originally constructed in 1968 and include a 25-meter (82-ft) x 42-ft lap pool and a 24-ft diameter wading pool. In 1980, the pools were renovated to replace all the copper piping with PVC piping and refinishing the pool surface. Since then there have been minor upgrades to the equipment and mechanical systems but the dated design and skimmer water collection system no longer perform to industry standards. During periods of peak use the swimming pool occasionally needs to close due to cloudy water which can be attributed to sunscreen use and inadequate turnover rates. For these reasons a need to renovate the existing pools was identified and a capital improvement project was established.

In 2018 Terracon Consultants, Inc. was retained to evaluate the pool shell and deck at the Burnt Cedar Beach Swimming Pool and Wading Pool. Their finds are presented in their *Swimming Pool Evaluation Study*, dated December 4, 2018, and attached to this memorandum for your reference. Based upon Terracon Consultants, Inc. findings, they recommended a plan of action to include the following:

1. Swimming pool replacement including perimeter overflow gutter system
2. Wading pool replacement or spray pad in lieu of wading pool
3. Pool deck replacement including rails and anchors and deck drains
4. ADA compliance of Pool and deck area.

The cost estimate provided by Terracon Consultants, Inc. neglected to provide the complete cost of reconstruction. As such, IVGID staff no longer relies on this estimate for budgeting purposes.

At the September 25, 2019 Board Meeting, (Item H.2.) The Burnt Cedar Swimming Improvement Pool Project was identified as a Community Service Master Plan Priority Project (Top Tier Recommendation) by the District Board of Trustees.

On March 13, 2020 a request for proposals was issued for qualified architectural consulting firms for involvement in IVGID's Burnt Cedar Swimming Pool Improvement Project. After an extensive evaluation period and interview process that included four (4) IVGID staff members and one (1) IVGID Trustee, the TSK Architects' design team (Design Team) was selected and awarded a preliminary design contract on May 20, 2020. The agreement and scope of work is included for your reference.

Since engaging TSK Architects, IVGID staff, TSK's pool consultant (Aquatic Design Group), and a community group of interested stakeholders has met multiple times on site and via Zoom to evaluate the existing condition, understand project objectives, and develop conceptual design options for pool reconstruction.

The staff and residents participating in the group include:

- Meagan Ballew
- Justin Bluhm
- Nathan Chorey
- Gwynne Cunningham
- Dan Vargas
- Indra Winquest
- Cliff Dobler
- Margie Hemphill
- Debbie Moore
- Hal Paris
- Maureen Toner - Kelly
- Sherwin Walker

Based on input received during these meetings, the Design Team produced the *Burnt Cedar Swimming Pool Improvement Project - Aquatic & Architectural Design Report* (Design Report) to document their findings.

#### **IV. Existing Pool Issues and Project Goals**

The Design Report identifies existing issues, states project goals, and presents two (2) Burnt Cedar Pool conceptual designs with associated cost estimates.

The identified Issues and Project goals include:

- **Pool finishes are delaminating and need replacement:** This will eventually become a health concern and can result in the closure of the pools.
- **Pools are leaking an estimated 50,000 gallons per month:** The source(s) of the leak are unknown. In addition to the added cost of water, chemicals, and heat; chlorinated water into ground or lake is undesired.
- **Pool main drains are not compliant with the Federal VGB law:** Federal Virginia Graeme Baker Pool and Spa Safety Act requires all public swimming pools to have certified anti-entrapment drains, facilities not in compliance are to be closed.
- **Pool water clarity and quality is a problem during peak use:** The existing pool configuration and mechanical equipment cannot keep-up with body oils, sunscreens and organic matter resulting in poor water quality and clarity during peak use times, which can result in pool closure due to health and safety concerns.
- **Maintenance of tree droppings into pool water a problem:** Pine needles and other debris cannot be maintained properly with the current pool configuration and equipment resulting in poor water circulation and affecting water quality.
- **Grass areas are problematic to maintain properly:** Grass areas are underutilized and a problem and added expense to maintain.
- **Patron access into mechanical and chemical storage areas is a safety concern:** Existing pool and pool equipment configuration requires daily maintenance during pool operating hours. Since this equipment is open to the pool deck patrons including children have unauthorized access to these areas at times that may be a safety concern.
- **Existing pool and deck layouts make it difficult for patrons to supervise children:** The existing pool and site layout make it difficult for parents to supervise multiple children between the two pools and the lake.
- **Wading pool is not ADA compliant:** Federal law requires all public pools including the wading pool to provide ADA access. The wading pool does not provide such access.
- **Existing pool lanes are narrow.** Industry standard 8-ft lanes allow lap swimmers to share lanes and pass without contact. The larger pool will provide more shallow end for families to congregate during open swim and a larger deep end for aqua aerobics.
- **Provide an additional deck space that is principally a dedicated space for eating and drinking and a quiet area.** The expanded deck area will be an a slightly elevated area and provide improved sightlines to both pools. Operationally deterring food and drinking at the pool does take additional staffing and oversight. This expanded deck area will provide a more manageable solution.

## **V. CONCEPTUAL DESIGN OPTIONS**

Based on the input from IVGID Staff and the Community Group, the Design Team developed two (2) conceptual design options (In-Place and Rotated) for the Burnt Cedar Swimming Pool Improvement Project to address the identified issues and stated project goals. Both options also include a pathway to connect the east and west sides of Burnt Cedar Beach. This improvement is identified in the IVGID Beaches Recreation Enhancement and Opportunities Plan. Constructing the pathway as part of this project will allow the designer to integrate the pathway in to the final design and take advantage of a contractor mobilized on site.

Conceptual design options are included on page 15 and 17 of the Design Report.

### **Option #1 Estimated Total Project Cost= **\$5,623,480****

Option #1 includes:

- New 75 feet x 52 feet (3,900 SF total) Rec Pool in new location to improve lake views from pool deck (oriented NW/SE)
- Continuous stairs on north edge of pool
- Six (6) 8-ft lap lanes
- Southern two lap lanes are 7'-0" depth
- New Slide
- ADA Lift Access at east end
- ADA secondary handrail access at east end
- New zero entry 32 feet x 24 feet Wading Pool with water features
- Barrier between Wading Pool & Recreation Pool
- All new/expanded exterior concrete pool deck
- Elevated Terrace - removing trees and rock
- New Pathway connecting the East and West portions of the Burnt Cedar Beach Property as recommended in the Beaches Facility Master Plan
- Shade structures

Option #1 addresses all of the existing pool issues and identified project goals.

### **Option #2**

Seven (7) value engineering reductions from Option #1 were identified to provide the BOT with a less expensive option.

### **Estimated Total Project Cost= **\$4,296,932****

Option #2 includes:

- New 75 feet x 44 feet (3,300 SF total) Rec Pool in existing location/orientation

- Continuous stairs on east edge
- Five (5) 8-ft lap lanes
- Western two lap lanes are 7'-0" depth
- New Slide
- Existing Slide at west edge
- ADA Lift Access at north
- ADA secondary handrail at NE corner
- New zero entry 35 feet diameter Wading Pool in new location
- Barrier between Wading Pool & Recreation Pool
- Western landscape area and rocks remain
- Primary areas around pool deck are replaced with new
- New Pathway connecting the East and West portions of the Burnt Cedar Beach Property as recommended in the Beaches Facility Master Plan

Option #2 shortfalls when compared to Option #1

- Smaller pool. Option #1 provides six (6) 8-ft lanes, Option #2 provides five (5) 8-ft lanes.
- Pool and deck layout limit views of lake. A significant portion of Option#2's deck is on the south side looking north towards the pool house.
- Areas of existing deck will be less aesthetically pleasing and match old with new materials and life spans. Does not address existing uprooting of concrete and current hazards remain within limited deck replacement within Option #2.
- Smaller deck with no dedicated areas for food or to escape the pool side action
- No site lighting along pathway, may present a safety issue.
- No play equipment in wading pool
- No shade structures.

**V. FINANCIAL IMPACT AND BUDGET**

The Burnt Cedar Swimming Pool Improvement Project (3970BD2601) is a 2021 and 2022 capital improvement project and has a total project budget of \$2,925,000.

The table below presents the estimated total project budget for each option.

Description of Improvements	Option #1	Recommended Option	Option #2
Construction Costs	\$4,553,425	\$4,368,218	\$3,479,297
Soft Costs	\$1,070,055	\$1,026,531	\$817,635
<b>Total</b>	<b>\$5,623,480</b>	<b>\$5,394,749</b>	<b>\$4,296,932</b>

Please note the costs stated above are estimated costs based on conceptual design exhibits. As we proceed through final design, the actual project costs will be provided by the Construction Manager at Risk Contractor (CMAR) Contractor. CMAR project delivery method (NRS 338.1685) was chosen to provide greater insight in to the construction costs during the design phase and obtain the best possible project value. Construction needs to occur during periods of peak usage at Burnt Cedar Beach, it is critical the chosen contractor works with IVIGD community to minimize the disruption.

Funding to support the Burnt Cedar Swimming Pool Project will require additional funding, beyond what is currently provided for in the Beach Capital Improvement Plan. The current plan, including the one-year flip of Facility Fee from Community Services Fund to Beach Fund is now estimated to result in an estimated year-end excess fund balance within the Beach Fund of \$4.4 million, available to support priority Beach capital projects.

Funding to support either of the options presented in this report will require additional funding, beyond what is currently projected, through either a) continuing to collect the current \$500 Beach Facility beyond FY2020/21, b) increase the Beach Facility fee beyond the \$500 level established for this year, c) pursue debt financing for all or a portion of the cost of the pool renovation project.

A typical funding plan for projects such as the Burnt Cedar Pool Improvement Project would include a debt financing component that spreads the cost of the capital improvement over the useful life of the asset.

To inform the Board’s consideration of appropriate scope relative to affordability, it should be noted that:

- The District has the ability to finance all or a portion of the project through debt financing
- The District has ample debt capacity to incur additional debt for this project (as well as other Beach or Community Services capital project priorities).
- Using conservative debt financing terms, the annual cost of issuing debt is estimated as follows:

Principal Debt	20 - year		30-Year	
	Annual Debt Service		Annual Debt Service	
To Be Financed	Total	Per Parcel	Total	Per Parcel
\$ 3,000,000.00	\$ 220,745	\$ 28.49	\$ 173,490	\$ 22.39
\$ 4,500,000.00	\$ 331,118	\$ 42.74	\$ 260,235	\$ 33.59
\$ 6,000,000.00	\$ 441,490	\$ 56.98	\$ 346,980	\$ 44.78

By way of example, the Board could choose to fund renovation of the Burnt Cedar Pool through a combination of cash-on-hand and debt financing, necessitating approximately a \$3.0 million debt obligation. Funding the entire project via debt financing would require a roughly \$6.0 million debt obligation.

In ultimately, the appropriate funding strategy for either option for renovation of the Burnt Cedar pool should be developed in conjunction with any other Beach or Community Services priority capital improvement projects to ensure that the District can develop a comprehensive funding plan to support planned and needed projects, rather than determining the appropriateness of any funding strategy on a project-by-project basis.

## **VI. ALTERNATIVES**

This memo is requesting the Board to provide direction to Staff on the preferred option for the Burnt Cedar Swimming Pool Improvement Project. Alternatives include selecting Option #1 with any of the value engineering reductions, selecting Option #2, or providing new direction for this project.

## **VII. BUSINESS IMPACT**

This item is not a "rule" within the meaning of Nevada Revised Statutes, Chapter 237, and does not require a Business Impact Statement.



## Project Summary

<b>Project Number:</b>	3970BD2601
<b>Title:</b>	Burnt Cedar Swimming Pool Improvements
<b>Project Type:</b>	D - Capital Improvement - Existing Facilities
<b>Division:</b>	70 - Beach Aquatics
<b>Budget Year:</b>	2021
<b>Finance Options:</b>	
<b>Asset Type:</b>	BD - Buildings & Structures
<b>Active:</b>	Yes

<b>Project Description</b>				
<p>The Burnt Cedar Swimming Pool and Toddler pool fiberglass surfaces require periodic replacement. Over time, discoloration, cracking and surface failure will create health and safety impacts to continued use of the pools. Breakdown of the pool surface will allow materials to cloud the water and make it unsanitary and cloudy water will not meet health dept safety code requirements. It has been determined the pool has reached the end of its service life. This project is for full swimming and toddler pool replacement, associated mechanical systems improvements, and pool deck replacement.</p> <p>A consultant will be selected to complete an alternative layout analysis and evaluate existing mechanical systems. Consideration will be given to reducing the maximum depth of the pool, providing a zero-entry pool edge for improved ADA access, maintaining a water slide, and a second toddler pool or splash pad.</p>				
<b>Project Internal Staff</b>				
<p>Engineering will manage the project. The Director of Parks and Recreation will determine the needs for the project and coordinate project timing because the pool will need to be out of service during the summer season to complete the work.</p> <p>A community interest committee will be convened by the General Manager.</p>				
<b>Project Justification</b>				
<p>This project will reconstruct the swimming and toddler pool, mechanical equipment and pool deck. The cost estimate is a placeholder at this time because the exact scope of work has not been identified for the replacement Burnt Cedar pool facility. The General Manager will lead a community group to received input on community desires and needs for a new pool facility. It is anticipated at this time that construction will occur in the summer of 2021. The impact to the facility will be substantial during the summer operation period. Construction will require the closing of the pool facility for the whole summer or a portion of the summer.</p>				
<b>Forecast</b>				
<b>Budget Year</b>	<b>Total Expense</b>	<b>Total Revenue</b>	<b>Difference</b>	
2021				
Design	225,000	0	225,000	
Year Total	225,000	0	225,000	
2022				
Construction Management	225,000	0	225,000	
Construction Reserves	225,000	0	225,000	
Placeholder - Construction	2,250,000	0	2,250,000	
Year Total	2,700,000	0	2,700,000	
	<b>2,925,000</b>	<b>0</b>	<b>2,925,000</b>	
<b>Year Identified</b>	<b>Start Date</b>	<b>Est. Completion Date</b>	<b>Manager</b>	<b>Project Partner</b>
2012	Jul 1, 2019	Jun 30, 2022	Engineering Manager	

December 4, 2018

Charles Miller, P.E.  
Principal Engineer  
Incline Village Public Works  
1220 Sweetwater Road  
Incline Village, NV 89495  
(775) 832-1372  
charley\_miller@ivgid.org

Proposal #: PBE186068

**SUBJECT: Burnt Cedar Beach Swimming Pool and Wading Pool**  
665 Lakeshore Boulevard  
Incline Village, Nevada 89451

Dear Mr. Miller,

Per your request, members of the Terracon staff visited the subject site on October, October 17th and then again on Thursday and Friday, October 25<sup>th</sup> and 26<sup>th</sup>, 2018. The purpose of the visits was to complete two tasks relating to the pool shell and deck evaluation for the swimming pool at the Burnt Cedar Beach Swimming Pool and Wading Pool. The tasks were limited to 1) a visual evaluation of the existing pool shells to determine prospective cause(s) of differential settlement, if any and to develop recommendations for additional destructive or non-destructive testing; and 2) a geophysical inspection of the exposed pool deck, pool shells, walls and floors.

This letter presents our observations, opinions and recommendations.

## PROJECT INFORMATION

ITEM	DESCRIPTION
Location	The site is located at 665 Lakeshore Boulevard, Incline Village, NV 89451
Facility Description	The Burnt Cedar Beach Swimming Pool and Wading Pool serves as the home to the outdoor aquatic facility for Incline Village Improvement District for the Incline Village community. The swimming pool was constructed in the 1970's, measures approximately 85-feet by 45-feet and is constructed of reinforced concrete shell that ranges in depth from 4- to 10-feet and features a skimmer type recirculation system, an original plaster finish that has since been fiberglass coated and a wide concrete deck. The pool was designed to accommodate recreational type programs and lap swimming. Additionally, the center features a wading pool, approximately 25-foot diameter with similar type construction for toddlers or children's programs.

## PROVIDED INFORMATION

### From the Staff

- Explanation of intentions with regard to a future pool renovation estimated for between 1-2 years out from 2018.
- Explanation of system problems / responses / repairs / issues
- Reported loss of water (quiescent) in 24 hours
- Owner / Operator's "wish list" for features or changes desired in the system
- Overview of construction / issues

## OBSERVATIONS

At the time of our initial visit, the swimming pool and surrounding areas were observed with a few bathers in the pools that were taking advantage of a swim lesson session and recreation swim. During our second visit, done for the single purpose of completing the geophysical inspection of the pool shells and decks, the pools were empty to accommodate the GPR equipment. On our final visit Terracon personal collected samples from the pool deck and pool shells. On each occasion Terracon observed the different pool related spaces and recorded notes and photographs. Please refer to the following information:

### Visual Evaluation of the Pool Shell

In the initial evaluation many things were noted and examined as well as our intended areas of concern relating to the levelness of the pool, differential settlement of the pool deck relative to the pool shell, and potential deficiencies of the pool system.

While examining the Burnt Cedar swimming pool and wading pool it was apparent that neither pool was equipped with current code complaint access lift or a ramp to allow access to the pools. Compliance with current ADA access laws requires that each pool must have at least one fixed pool lift and or a sloped entry which meets specific requirements. Neither the Swimming Pool nor the wading pool have a fixed lift or a sloped entry. Wading pools, due to their shallow depth must have a sloped entry.

The pool deck is comprised of concrete with varying widths and finishes. The distances between control and expansion joints also varies widely. It is apparent that many of the slabs have been replaced over time and slopes and elevations are inconsistent in many areas exhibiting trip hazards as well as being non-compliant for slope with regard to ADA requirements.

The piping system and turnover times were mentioned as issues the operating staff felt was below required standards. Difficulties in properly maintaining the pool were discussed as multiple efforts have been tried to increase flow and water circulation. Based upon the efforts taken it is apparent that the piping systems are undersized to code requirements and restrictive to any above ground improvements that would improve water circulation.

The pools have been coated in a fiberglass material in efforts to minimize water loss and seal off cracking in the cast in place concrete shells in each pool. Fiberglass liners often hide damage or structural failures that may be contained in the original structure. At first glance the shell appeared solid and without fault. Upon closer examination many issues were discovered and include: 1) Fiberglass delamination from the host plaster surface was noted in both the swimming pool and wading pool; 2) Gel-coat surface wear which exposes fiberglass strands that can present potential injuries with loose fiberglass strands becoming embedded in pool user's feet. Gel-coat is the glossy surface finish visible from the surface; and 3) Plaster delamination from the original concrete shell. After the core samples were taken, closer examination in the core hole exposed delamination where the fiberglass surface was bonded to the plaster, but the plaster had delaminated from the concrete.

Observation of the pool deck exhibited signs that the deck had been replaced around the locations of the pool surface skimmers. It is apparent that the skimmers had been replaced, most likely to improve the circulation system performance. Despite the repairs, the staff informed the Terracon personnel that the system still provided poor circulation.

### **Geophysical Inspection of the Exposed Pool Shell**

The purpose of the GPR survey is to investigate selected portions of the concrete floors, walls, and decking for the following characteristics:

- The presence of steel reinforcing
- The type of reinforcing (if present)
- The spacing and depth of reinforcing (if present)
- The approximate thickness of the concrete

Terracon's approach was to survey the designated areas using Ground Penetrating Radar (GPR). This geophysical method provides a continuous, high resolution graphical image of the shallow subsurface. These images, or records, can then be examined for reflection patterns that are characteristic of the subsurface structures listed above. The GPR methodology, our data acquisition and analysis procedures and the methods limitations are described in Appendix A.

The scope of work for this project was to conduct GPR surveys in 10 selected portions of the two pools. For the shell and decking areas of the swimming pool, the locations consisted of

eight proposed core sample locations designated **CS-1** through **CS-8**. For the wading pool, the locations consisted of two proposed core sample locations designated **WP-1** and **WP-2**.

The GPR surveys consisted of the following steps which were conducted in real-time:

- Examine the GPR data for data quality as the radar unit was pushed along the surface.
- Examine the reflection patterns for indications of steel reinforcing.
- Interpret the GPR records to estimate the thickness of the concrete.
- Use lumber crayons to mark the locations and spacing of rebar indicated by the GPR records.

Prior to data collection, we established survey grids centered on the proposed core sample locations. These grids were used to guide the GPR data acquisition. For the swimming pool shell, GPR data was collected along a series of six bi-directional, mutually perpendicular traverses measuring approximately 10-feet long each. Three of the traverses consisted of south-to-north traverses spaced approximately 3- feet apart and the other three consisted of west-to-east traverses spaced 5-feet apart. For the decking area east of the swimming pool, the survey consisted of a single, 28-foot long, south-to-north traverse and two west-to-east traverses that were approximately 10-feet long. In the wading pool the survey consisted of nine bi-directional traverses spaced approximately 1- to 2-feet apart ranging in length from 7- to 15-feet.

Once the data were collected and uploaded to a computer, they were processed using the computer program **RADAN 7**. This program provides a means to view the results in cross-sectional (2D) format and to refine the results, as necessary. We reviewed the results as a series of 2D profiles which we evaluated for reflection patterns suggestive of steel reinforcing and the bottom surface of the concrete. We then tabulated the interpreted results.

The results of the GPR surveys are presented in Table 1 below. This table lists the following:

1. The proposed Coring Sample designation.
2. The spacing (in inches) of any rebar detected.
3. The interpreted depth (in inches) of any rebar detected.
4. The interpreted thickness of the concrete (in inches) at the coring location.
5. The interpreted range of concrete thicknesses (in inches) seen along the traverses crossing each coring location.

Table 1

Proposed Coring Sample	Rebar Spacing (in)*	Rebar Depth (in)**	Concrete Thickness (in)**	Range of Concrete Thickness (in)**
<b>CS-1</b>	no rebar	no rebar	3.8	3.8 to 4.0
<b>CS-2</b>	no rebar	no rebar	3.9	3.8 to 4.0
<b>CS-3</b>	11.6	4.0	8.0	6.5 to 8.0
<b>CS-4</b>	10.8	4.2	8.8	8.4 to 10.0
<b>CS-5</b>	13.5	5.1	9.7	9.4 to 10.0
<b>CS-6</b>	11.8	5.4	9.0	9.0
<b>CS-7</b>	12.4	3.9	5.8	5.5 to 8.0
<b>CS-8</b>	12.4	5.4	6.8	6.2 to 8.2
<b>WP-1</b>	11.5	4.1	6.2	6.2 to 6.5
<b>WP-2</b>	12.2	4.0	6.6	6.5 to 6.7

\* spacing value represents average obtained from two perpendicular directions

\*\* estimated values based on assumed dielectric permittivity of 6.5 for concrete

Sample images from two typical GPR 2-D profiles are presented on Plate 2. The upper image presents a 2-D profile from CS-1 showing a lack of rebar. The lower image presents a 2-D profile from CS-4 showing the presence of rebar. Both images depict the top and bottom of the concrete sequence.

Based on our analysis and interpretation of the GPR data our general conclusions are as follows:

- The concrete comprising the deck area (CS-1 and CS-2) appears to be approximately 3.8- to 4.0-inches thick and is not reinforced (no rebar or wire mesh detected).
- The floor of the pool (CS-3; CS-4; CS-7; CS-8) appears to have an average concrete thickness ranging from 6.5- to 10-inches.
- The average center-to-center spacing of the rebar in the pool floor appears to be approximately 11.8- inches.
- The average depth to rebar in the pool floor appears to range from 3.9- to 5.4-inches.
- The pool walls (CS-5 and CS-6) appear to have an average concrete thickness ranging from 8.8- to 9.7-inches.
- The average center-to-center rebar spacing of the pool walls appear to range from approximately 11.8- to 13.5 inches.
- The average depth to rebar in the pool walls appears to range from 5.1- to 5.4-inches.

## Swimming Pool Evaluation Study

Burnt Cedar Beach Swimming Pool and Wading Pool  
Incline Village, NV  
December 4, 2018 ■ Terracon Project No. BE186068



Subsequent to the GPR, Terracon collected cores in various locations in the pool shells and pool deck. Based upon the rebar spacing, the samples were taken in areas intended to exclude rebar that was installed in the original construction. The samples were delivered to Terracon's Concord, California office for capping and testing per ASTM C617/C617M and ASTM C39/C39M.

Test results indicated that the pool deck concrete varied in strength between 5,210-PSI and 8,400-PSI. Special interest in the deck cores was not of the tested strength of the concrete but the lack of rebar and thickness of the concrete which measured between 4-in and 5-in.

The compressive strength of the pool shell varied between 5,870-PSI and 12,600-PSI. Special interest in the swimming pool cores was not of the tested strength of the concrete but the lack of thickness of the concrete which measured between 4-in and 5-in with one taken at the shallow/deep transition which measured 12-in.

The wading pool samples were not tested as the thickness, approximately 3-in, was not thick enough to provide accurate results based upon ASTM standards. Special interest was noted in the thickness of the floor slab.

Assuming the ten survey locations surveyed with GPR are representative of the greater whole, the qualitative results presented above are believed to be reasonably accurate. However, the quantitative results presented above, particularly the depth to the top of the reinforcement and the concrete thicknesses, are based on certain assumptions made during processing. Paramount among these results are the dielectric permittivity of the concrete. This property determines radar signal propagation velocity within a given material, and hence the interpreted depth to a reflector. Without ground truth, this parameter must be based on published values for concrete and our own experience. For this investigation, we assumed a dielectric value of 6.5 for the concrete. Conversely, the horizontal spacing of identified features, such as the reinforcing bars, can be ascertained reliably, if the spacing is not too small.

In conclusion, most of the wall appears to be fairly uniform, with some localized zones of differing reflection. These zones of differing reflection may represent areas of anomalous concrete.

## **SUMMARY**

Terracon was tasked with providing professional aquatic design and swimming pool engineering consulting services to conduct a pool shell and deck evaluation for the Burnt Cedar Swimming Pool and Wading Pool and prepare a written response with regards to any potential issues or concerns.

After review of the test results and based upon the visual examinations done at the aforementioned times and dates, it is Terracon's professional opinion that the current staff desires to provide a gutter type recirculation system, the existing pool shell and wading pool shell lack the required thickness to make proper structural repairs or alterations for adequate concrete coverage of the rebar in the joining areas. With regard to urgency of repairs, it is our opinion that the pool shells and deck will continue to perform as it has for the past few years. The greater contributor to the urgency of the project stems from the scheduling of the facility, weather related construction issues and available times to complete the work with a minimal of down time experienced by the aquatic center. For these reasons greater consideration should be given to proceed with the project to meet the timing deadlines.

The pool deck, although not a major contributor to the issues experienced by the center, should be replaced to accommodate piping upgrades and eliminate potential trip hazards while bringing the facility into ADA compliance. A new slip resistant deck with proper drainage, and re-caulked joints will minimize potential for future shrinkage crack and settlement problems.

Based upon the findings of the study we recommend a plan of action for a future project in the 1-3-year time frame, as determined by the Incline Village General Improvement District, to include the following:

- 1) Swimming pool replacement including perimeter overflow gutter system
- 2) Wading pool replacement or spray pad in lieu of wading pool
- 3) Pool deck replacement including rails and anchors and deck drains
- 4) ADA compliance of Pool and deck area.

Estimates on the time needed to accomplish a project of this magnitude are largely dependent upon the timing and the bid market at the time of the completion of the design phase. Scheduling should consider the following estimates:

1) Design Phase	8-12 Wks
2) Agency Review	4-6 Wks
3) Bidding and Award	6-8 Wks
4) Construction	12 - 16 Wks
Total	30-42 Wks

A detailed Estimate of Probable Construction cost is beyond the Scope of Work for this report, however, we have calculated a budgetary estimate based upon similarly sized projects with similar scopes and estimate a budgetary construction cost of \$850,000.00. Renovation projects such as this one typically have design fees ranging between 10% and 12%.

Dependent upon the agreed upon Scope of Work, once the design phase is complete, Terracon can provide a list of at least three (3) qualified contractors with the ability to complete the work as described.

Terracon, is a full-service engineering consulting firm that provides aquatic design, pool structural, and pool electrical engineering services in house. Our aquatics team has designed over 1,000 commercial pool projects and possesses the experience and expertise to complete the Project and the scope of work described herein. In addition, our materials service line has the ability to provide testing and inspection services to complete those aspects of the construction.

As indicated, this preliminary report contains our professional opinions and recommendations based on our training and experience with commercial aquatic projects. We believe these opinions were provided with the level of skill and care ordinarily used by engineers practicing in this area now. Statements of professional opinion to not constitute a guarantee or warranty, expressed or implied.

We appreciate the opportunity of being of service. If there are any questions, please contact Terracon.

Sincerely,

**Ron J. Bravo**  
Project Manager  
Aquatic Design and Swimming Pool Engineering



**Swimming Pool Evaluation Study**

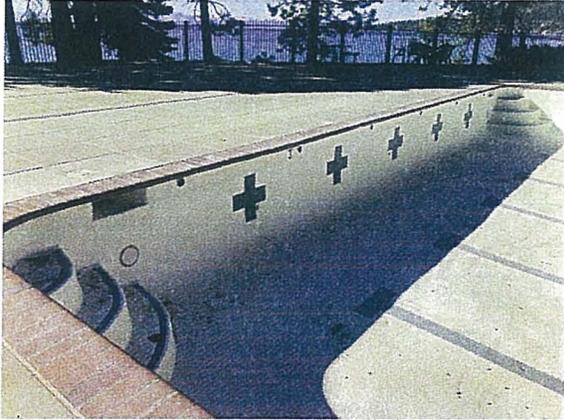
Burnt Cedar Beach Swimming Pool and Wading Pool  
Incline Village, NV  
December 4, 2018 ■ Terracon Project No. BE186068



5075 Commercial Circle, Suite E | Concord, CA 94520  
D (925) 222 3009 | C (310) 995 5566  
[ron.bravo@terracon.com](mailto:ron.bravo@terracon.com) | [terracon.com/markets/aquatics](http://terracon.com/markets/aquatics)

**Attachments:**

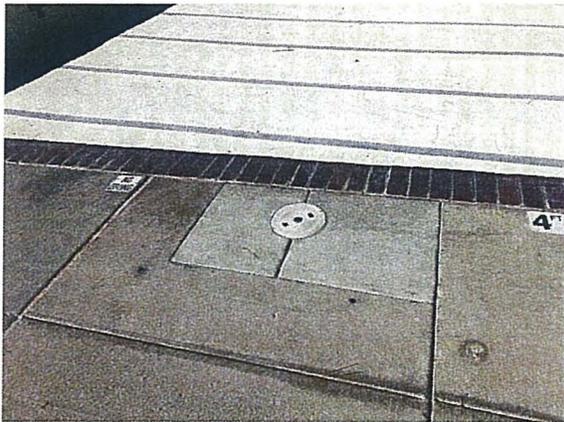
- Photographs and Captions
- GPR Graphics



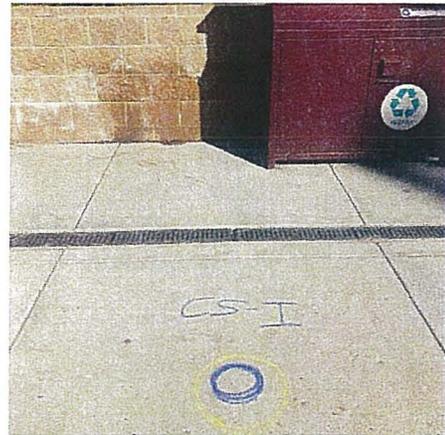
**Pool Photo #1** South end of Pool. Note non-compliant pool stairs.



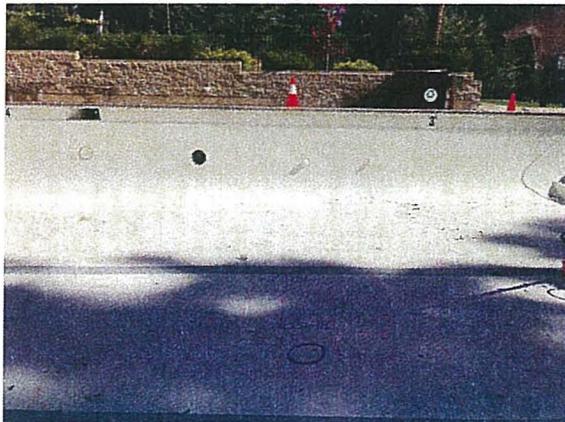
**Pool Photo #2** Close-up of replacement pool skimmer. Note fiberglass finish and lack of waterline tile.



**Pool Photo #3** Deck view of replacement skimmer. Limited deck replacement indicates limits of piping replacement.



**Pool Photo #4** Mapping of core locations on pool deck.



**Pool Photo #5** Mapping of core locations on swimming Pool floor.



**Pool Photo #6** Mapping of core location at swimming pool floor. Note additional mapping of rebar.



**Pool Photo #7** Coring machine on swimming pool floor.



**Pool Photo #8** Coring machine on wading pool floor.



**Pool Photo #9** Cored hole in swimming pool floor. Note, core sample for additional compression strength testing.



**Pool Photo #10** Core samples for testing. Note, two from wading pool, two from pool deck and six from swimming pool.



**Pool Photo #11** Close-up of core samples. Note relative thickness of concrete cores.

**SHORT FORM AGREEMENT**  
Between  
**INCLINE VILLAGE GENERAL IMPROVEMENT DISTRICT**  
and  
**TSK ARCHITECTS**  
for  
**PROFESSIONAL SERVICES**

This Agreement is made as of May 20, 2020 between **INCLINE VILLAGE GENERAL IMPROVEMENT DISTRICT (IVGID)**, hereinafter referred to as "OWNER," and **TSK ARCHITECTS**, of Reno, Nevada, hereinafter referred to as "CONSULTANT." OWNER intends to complete the Project(s) as described in *Attachment A* and as amended from time to time, hereinafter referred to as the "Project."

**1.0 BASIC SERVICES**

The CONSULTANT shall perform the following tasks and additional services as may be included from time to time by Additional Services Addendums (ASAs) to this Agreement in accordance with Paragraph 4.2:

Services as described in Attachment "A," basically consisting of Phase 1, Public Outreach, Concept Design and Cost Estimating for the District's Burnt Cedar Swimming Pool Improvement Project.

All documentation, drawings, reports and invoices submitted for this project will include IVGID Project Number 3970BD2601.

**2.0 OWNER'S RESPONSIBILITIES**

OWNER shall do the following in a timely manner so as not to delay the services of CONSULTANT:

- 2.1 Designate in writing a person to act as OWNER's representative with respect to services to be rendered under this Agreement. Such person shall have complete authority to transmit instructions, receive information, and interpret and define OWNER's policies and decisions with respect to CONSULTANT's services for the PROJECT.
- 2.2 Assist CONSULTANT by placing at CONSULTANT's disposal existing data, plans, reports and other information known to, in possession of, or under control of OWNER which are relevant to the execution of CONSULTANT's duties on the PROJECT. Also, provide all criteria and full information as to OWNER's requirements for the Project, including design criteria, objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and any budgetary limitations.
- 2.3 Provide "Measured Drawings" for project.

### **3.0 PERIODS OF SERVICE**

- 3.1 General.** The provisions of Section 3 and the various rates of compensation for CONSULTANT's services provided for elsewhere in this Agreement have been agreed to in anticipation of the orderly and continuous progress of the Project through completion of the Services contained herein. CONSULTANT's obligation to render services hereunder will extend for a period which may reasonably be required for the performance of CONSULTANT's services and required extensions thereto. If specific periods of time for rendering services are set forth or specific dates by which services are to be completed are provided and if such dates are exceeded through no fault of CONSULTANT, all rates, measures, and amounts of compensation provided herein shall be subject to equitable adjustment.
- 3.2** It is agreed that time is of the essence and the Project shall be completed by no later than July 24, 2020.

### **4.0 PAYMENT TO CONSULTANT**

#### **4.1 Methods of Payment for Services and Expenses of CONSULTANT**

##### **4.1.1 Compensation Terms Defined**

- 4.1.1.1** "Per Diem" shall mean an hourly rate(s) as indicated in Attachment "A" to be paid to CONSULTANT as total compensation for each hour(s) of each employee of CONSULTANT work(s) on the Project, plus Reimbursable Expenses.
- 4.1.1.2** "Reimbursable Expenses" shall mean the actual expenses incurred directly or indirectly in connection with the Project, including, but not limited to subconsultants or SubCONSULTANT costs, transportation and subsistence incidental thereto, obtaining bids or proposals from CONSULTANT(s), toll telephone calls, express mail and telegrams, reproduction of Reports, Drawings, Specifications, Bidding Documents, and similar Project-related items in addition to those required under Section 1. In addition, Reimbursable Expenses will also include expenses incurred for main frame computer time and other highly specialized equipment, including photographic production. Reimbursable Expenses will include a ten percent (10%) markup over CONSULTANT's cost.

- 4.1.2 Basis and Amount of Compensation for Basic Services.** Compensation shall be based on time and materials as indicated in Attachment "A", with a Not to Exceed amount of **Thirty-Two Thousand Two Hundred Dollars (\$32,200.00)**.

#### **4.2 Basis and Amount of Compensation for Additional Services**

Compensation for Additional Services shall be on the basis of Per Diem or Lump Sum, to be agreed upon at the time of request for Additional Services. The estimated amount of Additional Services will be determined at the time the Additional Services are requested.

#### **4.3 Intervals of Payments**

Payments to CONSULTANT for Basic and Additional Services rendered and Reimbursable Expenses incurred shall be made once every month by OWNER. CONSULTANT's invoices will be submitted once every month and will be based upon total services completed at the time of billing. OWNER shall make prompt payments in response to CONSULTANT's invoices.

#### **4.4 Other Provisions Concerning Payments**

- 4.4.1 If OWNER fails to make any payment due CONSULTANT for services and expenses within 30 days after receipt of CONSULTANT's statement, the amounts due CONSULTANT will be increased at the rate of one percent (1%) per month from date of OWNER's receipt of invoice.
- 4.4.2 If the Project is suspended or abandoned in whole or in part for more than 90 days, CONSULTANT shall be compensated for all services performed prior to receipt of written notice from the OWNER of such suspension or abandonment, together with Reimbursable Expenses then due.
- 4.4.3 If any items in any invoices submitted by CONSULTANT are disputed by OWNER for any reason, including the lack of supporting documentation, OWNER may temporarily delete the disputed item and pay the remaining amount of the invoice. OWNER shall promptly notify CONSULTANT of the dispute and request clarification and/or remedial action. After any dispute has been settled, CONSULTANT shall include the disputed item on a subsequent regularly scheduled invoice or on a special invoice.

#### **5.0 GENERAL CONSIDERATIONS**

##### **5.1 Termination**

- 5.1.1 This Agreement may be terminated in writing by either party in the event of substantial failure by the other party to fulfill its obligations under this Agreement through no fault of the terminating party. However, no termination for default may be initiated unless the other party is given a ten (10) calendar day cure period after written notice (delivery by certified mail, return receipt requested) of intent to terminate.
- 5.1.2 This Agreement may be terminated in writing (delivered by certified mail, return receipt requested) by OWNER for its convenience.
- 5.1.3 Upon any termination, CONSULTANT shall (1) promptly discontinue all Services affected (unless a termination notice from OWNER directs otherwise); and (2) deliver or otherwise make available to OWNER upon full payment for services rendered to the date of termination, all documents, data, drawings, specifications, reports, estimates, summaries, and such other information and materials as may have been accumulated by CONSULTANT in performing this Agreement, whether such materials are completed or in process. All payments due CONSULTANT at termination shall be made by OWNER.

## **5.2 Ownership of Documents**

Drawings and specifications remain the property of the CONSULTANT. Copies of the drawings and specifications retained by OWNER may be utilized only for his/her use and for occupying the project for which they were prepared, and not for the construction of any other project.

## **5.3 Professional Liability Insurance**

5.3.1 CONSULTANT shall maintain professional liability insurance for protection against claims arising out of performance of services under this Agreement caused by negligent acts, errors, or omissions for which "PROFESSIONAL SERVICES" is legally liable for a period of five (5) years thereafter, if available and reasonably affordable. The professional liability policy shall provide a minimum coverage of \$1,000,000. CONSULTANT shall maintain the existing retroactive date on all future policies with the same insurance company and attempt to do so if CONSULTANT changes insurance companies. In the event that CONSULTANT goes out of business during the instant period, CONSULTANT shall purchase, at the request of OWNER, an extended reporting period.

5.3.2 Should CONSULTANT's normal professional liability coverage be less than the minimum required amount, CONSULTANT may purchase project insurance or obtain a rider on his normal policy in an amount sufficient to bring CONSULTANT's coverage up to minimum requirements.

## **5.4 Controlling Law**

This Agreement is to be governed by and construed in accordance with the Laws of the State of Nevada.

## **5.5 Successors and Assigns**

5.5.1 The parties hereby bind their respective partners, successors, executors, administrators, legal representatives, and, to the extent permitted by Paragraph 5.5.2, their assigns, to the terms, conditions, and covenants of this Agreement.

5.5.2 Neither OWNER nor CONSULTANT shall assign, sublet, or transfer any rights under or interest in this Agreement (including, but without limitation, monies that may become due or monies that are due) without the written consent of the other, except to the extent that any assignment, subletting or transfer is mandated by law or the effect of this limitation may be restricted by law.

Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement. Nothing contained in this paragraph shall prevent CONSULTANT from employing such independent professional associates, subCONSULTANTS, and consultants as CONSULTANT may deem appropriate to assist in the performance of Services.

5.5.3 Except as may be expressly stated otherwise in this Agreement, nothing under this Agreement shall be construed to give any rights or benefits in this Agreement to anyone

other than OWNER and CONSULTANT, and all duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of OWNER and CONSULTANT and not for the benefit of any other party.

## **5.6 Dispute Resolution**

This Agreement to engage in alternate dispute resolution ("ADR") pursuant to NRS 338.150 and any other Agreement or consent to engage in ADR entered into in accordance herewith as provided in this Section 5.6 will be specifically enforceable under the prevailing Nevada law in the Second Judicial District Court of the State of Nevada in and for the County of Washoe. Any dispute arising under this contract will be sent to mediation. Any mediation shall occur in Incline Village, Washoe County, Nevada. The mediation shall be conducted through the American Arbitration Association (AAA) and be governed by the AAA's Mediation Procedures.

The mediator is authorized to conduct separate or ex parte meetings and other communications with the parties and/or their representatives, before, during and after any scheduled mediation conference. Such communications may be conducted via telephone, in writing, via email, online, in person or otherwise.

OWNER and CONSULTANT are encouraged to exchange all documents pertinent to the relief requested. The mediator may request the exchange of memorandum on all pertinent issues. The mediator does not have the authority to impose a settlement on the parties but such mediator will attempt to help OWNER and CONSULTANT reach a satisfactory resolution of their dispute. Subject to the discretion of the mediator, the mediator may make oral or written recommendations for settlement to a party privately, or if the parties agree, to all parties jointly.

OWNER and CONSULTANT shall participate in the mediation process in good faith. The mediation process shall be concluded within sixty (60) days of a mediator being assigned.

In the event of a complete settlement of all or some issues in dispute is not achieved within the scheduled mediation session(s), the mediator may continue to communicate with the parties, for a period of time, in an ongoing effort to facilitate a complete settlement. Any settlement agreed upon during mediation shall become binding if within thirty (30) days after the date that any settlement agreement is signed, either the OWNER or CONSULTANT fails to object or withdraw from the agreement. If mediation shall be unsuccessful, either OWNER or CONSULTANT may then initiate judicial proceedings by filing suit. OWNER and CONSULTANT will share the cost of mediation equally unless agreed otherwise.

## **5.7 Equal Employment and Non-discrimination**

In connection with the Services under this Agreement, CONSULTANT agrees to comply with the applicable provisions of State and Federal Equal Opportunity statutes and regulations.

## **5.8 Indemnification**

Indemnification of OWNER by CONSULTANT: CONSULTANT agrees to indemnify and hold OWNER and each of its officers, employees, agents and representatives harmless

from any claims, damage, liability or costs (including reasonable attorneys' fees and costs of defense) stemming from this project to the extent such claims, damage, liability or costs are caused by CONSULTANT's negligent acts, errors or omissions or by the negligent acts, errors or omissions of CONSULTANT's subconsultants, agents, or anyone acting on behalf of or at the direction of CONSULTANT.

CONSULTANT's obligation to hold harmless and indemnify OWNER shall include reimbursement to OWNER of the loss of personnel productivity, incurred as a result of that defense. Reimbursement for the time spent by OWNER's personnel shall be charged to CONSULTANT at the then-current rate charged for such services by the private sector.

Indemnification of CONSULTANT by OWNER: OWNER agrees to indemnify and hold CONSULTANT and each of its officers, employees, agents and representatives harmless from any claims, damage, liability or costs (including reasonable attorneys' fees and costs of defense) stemming from this project to the extent such claims, damage, liability or costs are caused by OWNER's acts, errors, or omissions or by the negligent acts, errors, or omissions of the OWNER's subconsultants, agents or anyone acting on behalf of, or at the direction of, the OWNER.

OWNER's obligation to hold harmless and indemnify CONSULTANT shall include reimbursement to CONSULTANT of the loss of personnel productivity, incurred as a result of that defense. Reimbursement for the time spent by CONSULTANT's personnel shall be charged to OWNER at the then-current rate charged for such services by the private sector.

Notwithstanding anything contained herein to the contrary, Nevada's comparative negligence doctrine shall apply to both OWNER and CONSULTANT. In addition, nothing herein shall prevent OWNER or CONSULTANT from relying upon any Nevada statute or case law that protects OWNER or CONSULTANT with respect to liability or damages. This Provision shall survive the termination, cancellation or expiration of the Agreement.

#### **5.9 Changes and Modifications**

The parties agree that no change or modification to this Agreement, or any attachments hereto, shall have any force or effect unless the change is reduced to writing, dated, and made a part of this Agreement. The execution of the change shall be authorized and signed in the same manner as this Agreement.

#### **5.10 Licenses**

CONSULTANT shall have a Washoe County business license, and all appropriate CONSULTANT's licenses and certifications for the services to be performed.

#### **5.11 Severability**

In the event any provision of this Agreement shall be held invalid and unenforceable, the remaining provisions shall be valid and binding upon the parties.

#### **5.12 Waiver**

One or more waivers by either party of any provision, term, condition, or covenant shall not be construed by the other party as a waiver of a subsequent breach of the same by the other party.

#### **5.13 Extent of Agreement**

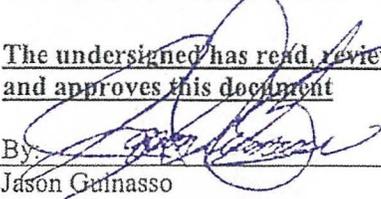
This Agreement, including all Exhibits, and any and all amendments, modifications, and supplements duly executed by the parties in accordance with this Agreement, govern and supersede any and all inconsistent or contradictory terms, prior oral or written representations or understandings, conditions, or provisions set forth in any purchase orders, requisition, request for proposal, authorization of services, notice to proceed, or other form or document issued by OWNER with respect to the Project or CONSULTANT's services.

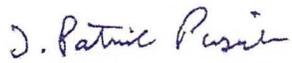
IN WITNESS WHEREOF, the parties hereto have set their hands the day and date of the year first set forth above.

OWNER:  
INCLINE VILLAGE G. I. D.

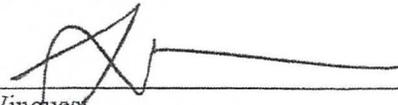
CONTRACTOR:

The undersigned has read, reviewed  
and approves this document

By:   
Jason Guinasso  
IVGID Legal Counsel

By:   
*Signature of Authorized Representative*  
J. Patrick Pusich  
*Print or Type Name*

Agreed to:

By:   
Indra Winquest  
Interim General Manager

Address for Giving Notice:  
**TSK Architects**  
225 S. Arlington Ave., Suite A  
Reno, Nevada 89501  
775-857-2949  
reno-tahoe@tska.com

Address for Giving Notice:  
**INCLINE VILLAGE G. I. D.**  
893 Southwood Boulevard  
Incline Village, Nevada 89451  
775-832-1267- Phone  
info@ivgid.org

Washoe County  
Business License No. W001990A-LIC



May 20, 2020 (Revised Scope and Fees to be T&M /NTE)

Nathan Chorey, Engineering Manager  
Incline Village General Improvement District (IVGID)  
1220 Sweetwater Road  
Incline Village, NV 89451  
P. 775-83201372

E. [npc@ivgid.org](mailto:npc@ivgid.org)

Attachment A to  
Short Form Agreement  
dated May 20, 2020

RE: Burnt Cedar Swimming Pool Improvement Project AE Proposal  
IVGID Project Number: 3970BD2601  
Phase 1 – Public Outreach, Concept Design & Cost Estimate

Dear Mr. Chorey,

Thank you for selecting TSK and the skilled team members of Aquatics Design, Resource Concepts Inc., and Design Workshop to proceed with Phase 1 activities for the Burnt Cedar Swimming Pool Improvements located at the Burnt Cedar Park in Incline Village, Nevada. We truly recognize the importance of this project to the Lake Tahoe Community and being entrusted to manage this initial phase of this project for the Incline Village Improvement District and Community. This proposal is revised pursuant to our conference call on 5/18/2020 where a reduced scope for this initial phase was agreed.

We understand the project scope for Phase 1 to include:

1. Analysis of the existing studies and reports completed to date.
2. Site Investigation is not required by Civil and Landscape Architects. Just a site/facility review by Aquatics Design Group and TSK.
3. Community Outreach Activities are not required. TSK and Aquatics Design Group to meet with 4-5 individuals as selected by IVGID to determine the scope and design direction for pool renovations.
4. Permitting Agency Discussions and Documentation of requirements and anticipated durations from the regulatory agencies. Including, but not limited to, Washoe County Building Department, Washoe County Health Department, and Tahoe Regional Planning Authority (TRPA). Determine schedule durations for agency reviews and important informational items needed.
5. Provide Concept Design Options to reflect findings and recommendations from the earlier analysis and public outreach efforts. Provide two (2) Design Options.
6. Concept Design Cost Estimate to be developed as a Rough Order of Magnitude by TSK/Aquatics Design Group. TSK to review the ROM Cost Estimate with a local Northern Nevada Contractor for feedback.

**Phase 1 Project Team:**

- TSK Architects, 225 South Arlington Avenue, Suite A., Reno, NV, 89501 P. 775-857-2949
- Aquatic Design Group, Inc., 2226 Faraday Avenue, Carlsbad, CA, 92008. P. 760-438-8400

**Excluded Disciplines:**

- Civil Engineering, Surveying, and Landscape Architecture.
- Environmental Analysis and Studies
- Traffic Engineering and Analysis
- Geotechnical Investigations and Reports
- Special Inspections and Testing
- Hazardous Materials Testing and Abatement
- Public Relations Firm (Can be added cost if so requested)

**Phased Project Services Delivery:** Pursuant to direction, it is understood this will be a two-phased project. Phase 1 to be focused on Key Stakeholder Meetings, Concept Design Options, and ROM Cost Estimating. Phase 2 is not included in this current proposal but will consist of Schematic Design through Construction Administration Services on the selected Concept Design with the full scope AE Team (Civil, LS, Aquatics, and TSK).

**Disciplines, Fees and Schedules as follows:**

- 
1. **Architectural** **TSK**  
TSK Architect's roll is to lead the Phase 1 efforts commencing with Key Stake Holders Meetings and document recommendations. TSK to also have telephone calls with Permitting Agencies and document recommendations. TSK to assist with the Concept Design efforts with Aquatics Design Group and set up either in-person presentations or Video Conference Presentations (Covered 19 Dependent). TSK to lead the efforts to provide coordinated concept design, reports, and Community Outreach Documentation. TSK will also assist in having a General Contractor review the Aquatics Design Group Estimate.

**Documents to include:**

- a. Agendas and presentations for Key Stake Holder meetings.
- b. Document with meeting notes each meeting and distribution to all members.
- c. Coordinate with Aquatic Design Group to assist in providing Concept Design Options and facilitate discussions with Client & Key Stake Holders. Document comments and direction on Concept Design Presentation Discussions.
- d. Summary ROM Cost Estimate.
- e. Document Permitting Agency concerns, recommendations, and anticipated schedules for future phases of the project that will require permitting and agency approvals.
- f. Provide formal presentation booklet of the project tasks and final recommendations.

2. **Aquatic Design Concept Design Services** **Aquatics Design Group**  
**Reference Aquatic Design Group Proposal dated May 12, 2020**

**Scope of Work:** Aquatic Design Group to perform consultation services as required providing Phase 1 Concept Design Tasks for the swimming pool improvements.

- a. Visit the project site and meet with staff to determine facility program needs and other issues to be addressed.
- b. Complete a site investigation documenting existing conditions, areas of concern and site opportunities for a swimming pool modernization project.
- c. Prepare a written site assessment report outlining observations and opportunities.

- d. Prepare series of potential options for consideration by the client that can be used during Key Stake Holder meetings.
- e. Participate in Key Stake Holder meetings as required.
- f. Participate in Agency outreach for pool Modernization needs.
- g. Based on selected swimming pool option, ADG will prepare a basis of design document for use by the Client that describes the pool characteristics, programming capabilities, and design intent for pool systems.
- h. ADG shall prepare swimming pool plan view(s) for use in concept design package.
- i. ADG shall submit to the client an estimate of probably cost based on current area, volume, and other unit costs. ADG to work with OCMI for final cost model projection.
- j. Meetings/visits to the Client Office and Project site. Due to COVID-19, travel restrictions, the following meeting/site visit options are available to help maintain a fluid project while balancing travel and meeting schedules. If COVID-19 related travel restrictions are lifted, design, phase meetings and community workshops can be made in person.
  - Video/Conference Calls – As Needed.
  - In-Person – Six (6) meetings.
- k. Exclusions to Scope of services.
  - As-Built Drawings (Provided by TSK)
  - Evaluations of Buildings, Site Work and Site Utilities.
  - Destructive testing of exiting pool structures to confirm as-built condition. Note ADG cannot guarantee structural integrity of exiting pool structures without confirming as-built condition of pool wall thickness, concrete reinforcement and compressive strength. Additional engineering for deficient structures will be considered an additional service.
  - Design and/or engineering drawings and technical specifications beyond concept design phase.

A. **Work Schedule and Deliverables:** TSK and the Aquatics Design Group will provide scaled design document package, recommendations report, and cost estimate based on the direction of the Client and Community Outreach Recommendations.

**Work Schedule below is subject to modifications depending on Contract Approval, Kick Off Meeting and availability of Key Stakeholders.**

<u>Task</u>	<u>Start</u>	<u>Complete</u>	<u>Duration</u>
Design Kick Off Meeting	June 17		1 day
TSK ADG Site Visit	June 17		
Key Stakeholder Outreach	June 17	June 24	2 weeks
Permitting Agencies Coordination.	June 17	June 24	1 week
Concept Design Phase	June 24	July 17	3 weeks
Concept Design & Estimate Presentation		July 17	
Final ROM Cost Estimate	July 19	July 23	1.5 weeks

B. Reimbursable Expenses: Recommended reimbursable allowances are noted in the fee schedule. Reimbursables to include direct costs with no mark ups. Reimbursables to include vehicle mileage, fuel, printing/plotting and items as needed for the Stake Holder Meeting events. No additional expenses shall be incurred without prior written approval from the Client. These costs will be submitted monthly with invoice support information included.

C. Fee Schedule Phase 1 Activities.

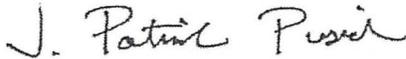
TSK and Aquatics Design Group have confirmed that the work will be acceptable to proceed on a Time and Material Basis with the Not to Exceed Amounts noted below. Monthly invoices will indicate time/activity/rates.

Firm	Fee	Site Visits	Notes:
TSK Architects (TSK) T&M/NTE	14,200	3	Approx. 110 total hours
Aquatic Design Group (ADG) T&M/NTE	12,500	1	5/12/2020 proposal
<b>Subtotal Fees</b>	<b>26,700</b>	<b>T&amp;M Not to Exceed</b>	
TSK Reimbursables	1,500	only as requested and 0% mark up	
ADG Reimbursables	4,000	only as requested and 0% mark up	
<b>Subtotal Reimbursables</b>	<b>5,500</b>		
<b>Total Fees + Reimbursables</b>	<b>32,200</b>		

We appreciate the opportunity to present our proposal and we look forward to working with you on the Burnt Cedar Swimming Pool Improvement Project and Incline Village General Improvement District Team!

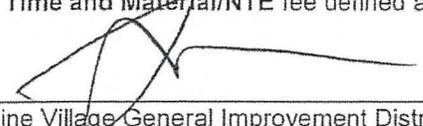
Please feel free to call me if you have any questions in regards to the project scope and associated fees. We welcome the chance to discuss further.

Sincerely,



Pat Pusich, AIA / TSK Architects

ACCEPTED AND AGREED: TSK Architects is hereby authorized to proceed with this scope of work for the Time and Material/NTE fee defined above.



\_\_\_\_\_  
Incline Village General Improvement District

6/3/2020  
Date

(Also, an AIA Owner/Architect Agreement can be provided if requested)

CC: Engineering Proposals for reference.

tsk architects 225 south arlington ave., suite a., reno, Nevada 89502

**TSK ARCHITECTS**  
**2020 STANDARD BILLING RATES**  
**(For out of contract/reimbursable work)**

Senior Principal	\$275.00
Principal	\$200.00
Sr. Project Manager	\$175.00
Senior Project Architect	\$150.00
Sr. Project Designer	\$150.00
Project Manager	\$140.00
Construction Site Manager	\$125.00
Project Architect	\$120.00
Project Designer	\$110.00
Project Coordinator	\$100.00
Specifications	\$100.00
Job Captain	\$90.00
Technical Support	\$75.00
Design Support	\$75.00
Administrative Support	\$75.00

**ALL TRAVEL / PER DIEM / MILEAGE TO BE REIMBURSED AT STATE RATES**

Rental Vehicle	Actual Cost of Vehicle Rental, Taxes, and fuel	
<b>Printing (Plain Paper)</b>	<b>BW</b>	<b>Color</b>
8.5 x 11	.07	.11
11 x 17	.25	.29
<b>Plots</b>		
11x17	1.25	3.00
17x22	2.40	15.00
24x36	5.60	36.00
30x42	7.85	52.50

## **1.0 INTRODUCTION**

- 1.1 AQUATIC DESIGN GROUP, INC. of Carlsbad, California (hereinafter referred to as "CONSULTANT"), proposes to provide consulting design services to TATE SNYDER KIMSEY ARCHITECTS, (hereinafter referred to as "CLIENT") for the following project:

Burnt Cedar Swimming Pool Improvements  
Incline Village, Nevada

- 1.2 In conformance with the Request for Proposal dated 5 May 2020 as issued by Mr. Pat Pusich, CONSULTANT shall provide:

## **2.0 SCOPE OF WORK**

- 2.1 CONSULTANT shall provide consulting services as required to provide Phase 1 Concept Design Tasks for the swimming pool improvements within the above referenced project.

## **3.0 SCOPE OF SERVICES**

- 3.1 In conformance with the above scope of work, CONSULTANT shall furnish the following services:
- 3.1.1 Visit the project site and meet with staff to determine facility program needs and other issues to be addressed.
  - 3.1.2 Complete a site investigation document existing conditions, areas of concern and site opportunities for a swimming pool modernization project.
  - 3.1.3 Prepare a written site assessment report outlining observations and opportunities.
  - 3.1.4 Prepare a series of potential options for consideration by CLIENT, that can be used during public workshop meetings.
  - 3.1.5 Participate in outreach and workshop meetings as required.
  - 3.1.6 Participate in Agency outreach for pool modernization needs.
  - 3.1.7 Based upon selected swimming pool option, CONSULTANT shall prepare a basis of design document for use by CLIENT that describes the pool characteristics, programmatic capabilities, and design intent for pool systems.

3.1.8 CONSULTANT shall prepare swimming pool plan view(s) for use in concept design package.

3.1.9 CONSULTANT shall submit to CLIENT an estimate of probable construction cost based upon current area, volume, or other unit costs.

3.2 Meetings / Visits to the Client Office and Project Site:

3.2.1 Due to COVID-19 travel restrictions we are proposing the following meeting / site visit options to help maintain a fluid project while balancing travel and meeting schedules. If COVID-19 related travel restrictions are lifted design phase meetings and community workshops can be made in person:

- |    |                               |                  |
|----|-------------------------------|------------------|
| .1 | Video / Conference Calls..... | As Needed        |
| .2 | In-Person.....                | Six (6) meetings |

**4.0 EXCLUSIONS TO SCOPE OF SERVICES**

4.1 As-built drawings of existing facility.

4.2 Evaluation of buildings, site work, and site utilities.

4.3 Destructive testing of existing pool structures to confirm as-built condition. Note: CONSULTANT cannot guarantee structural integrity of existing pool structures without confirming as-built condition of pool wall thickness, concrete reinforcement and compressive strength. Additional engineering for deficient structures will be considered an additional service and compensated for in conformance with Article 5.1.2, below.

4.4 Design and/or engineering drawings, technical specifications beyond concept design phase.

**5.0 COMPENSATION**

5.1 CLIENT shall compensate CONSULTANT for services rendered as follows:

5.1.1 Basic Services: The Scope of Services described above shall be compensated for by a lump sum, fixed fee equivalent to: TWELVE THOUSAND FIVE HUNDRED AND 00/100 DOLLARS (\$12,500.00).

5.1.2 Additional Services: If requested, additional services will be billed for on an hourly basis, in conformance with the rates outlined in Article 5.3, below.

5.1.3 Reimbursable Expenses: In addition to basic compensation, an allowance of \$4,000 shall be provided for reimbursable expenses. Reimbursable expenses will be billed at CONSULTANT's direct cost, and shall include the following:

- .1 Plotting and reproduction expense of Drawings, Specifications and other documents.
- .2 Special delivery and handling of documents and correspondence such as courier and overnight delivery services.
- .3 Travel expense associated with travel outside of Southern California in connection with the Project.

5.2 Terms of Payment:

5.2.1 Payments for Basic Services shall be made based upon percentage of completion in not less than monthly installments.

5.3 Hourly Rates:

5.3.1 Compensation for additional services (when requested and authorized in advance by CLIENT) shall be provided in conformance with the following hourly rates:

.1	Principal.....	\$ 195.00 per hour
.2	Project Architect / Engineer.....	\$ 175.00 " "
.3	Project Manager.....	\$ 155.00 " "
.4	Designer.....	\$ 110.00 " "
.5	Clerical.....	\$ 60.00 " "

6.0 **TIME**

6.1 CONSULTANT shall issue draft report within twenty (20) calendar days of site visit and authorization to proceed.

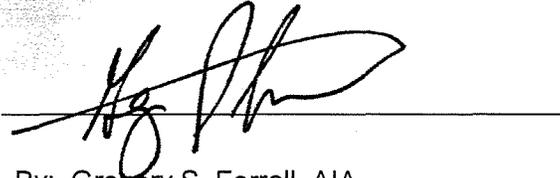
**7.0 AUTHORIZED SIGNATURE**

7.1 This proposal is valid for thirty (30) calendar days from the date referenced below and is submitted for and in behalf of CONSULTANT by:

**AQUATIC DESIGN GROUP, INC.**

A handwritten signature in black ink, appearing to read "Scott Palmer", is written over a horizontal line.

By: Scott Palmer  
Its: Director of Marketing

A handwritten signature in black ink, appearing to read "Gregory S. Ferrell", is written over a horizontal line.

By: Gregory S. Ferrell, AIA  
Its: Principal

12 May 2020

Date

# BURNT CEDAR

## SWIMMING POOL IMPROVEMENT PROJECT



**AQUATIC & ARCHITECTURAL DESIGN REPORT**

AUGUST 5, 2020



# INTRODUCTION

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## **PROJECT LOCATION**

665 Lakeshore Boulevard  
Incline Village, NV 89451

## **PROJECT TEAM**

**CLIENT** | Incline Village General Improvement District (IVGID)  
Nathan Chorey - Engineering Manager  
893 Southwood Blvd.  
Incline Village, NV 8945

**AQUATIC DESIGNER** | Aquatic Design Group (ADG)  
2226 Faraday Avenue  
Carlsbad, CA 92008

**ARCHITECT** | TSK Architects (TSK)  
225 South Arlington Avenue, Suite A  
Reno, NV 89501

## **PROJECT TIMELINE**





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# PROJECT

## BACKGROUND

## HISTORY & CURRENT CONTEXT

The Burnt Cedar Beach Pool Complex is a privately held recreational facility located on the shoreline of Lake Tahoe within Incline Village, Nevada and operates seasonally from June to September. The pools are approaching 60 years old and have had a number of limited repairs during this time. The complex is well maintained, operated, and highly used by the Incline Village Residents & Guests. The Pools (shell, equipment, and decks) are in need of significant repairs and as a result, the Incline Village General Improvement District (IVGID) has proceeded with facility and pool shell investigative reports and initiated consultants to study new designs and solutions.

In May of 2020, IVGID selected TSK Architects (TSK) and Aquatic Design Group (ADG) to provide concept design and associated estimates for designs that reflect the requests for updated functions and amenities.

From the 1st week of June through July 2020, TSK/ADG have been meeting with IVGID and Stakeholders with a series of On-Site & Zoom Meeting. Discussions included what currently works well and needs improvements, preferred amenities of the various users, and operational and programming needs. Many design concepts were presented and discussed, modified with IVGID & Stakeholder input. Ultimately, two (2) design options have been selected to move forward for further consideration. These two (2) options are discussed in detail within this report.

### **A | Current Burnt Cedar Beach Project/Existing Conditions**

- TSK & ADG reviewed the report by Terracon Consultants, Inc dated Dec, 4, 2018 prior to site investigation visit on 3 June 2020.
- Visit confirmed limited portions of the concrete exterior pool deck are cracking and lifted in select areas.
- The pool desk does not appear to show damage caused by subsurface ground movement, areas of movement are likely caused by freeze/thaw conditions and some limited areas lifted perhaps by tree root spread.
- There a number of evergreen trees that seasonally drop debris in the adjacent pools, including pollen, needles, and insect larva. The tree debris has caused the wading pool to be closed and drain on a number of anticipated occasions.
- There is an existing raised grass lawn adjacent to the pool deck that is seldom used by pool users, but is maintained nearly daily by a lawn maintenance crew that requires constant care to keep lawn clippings out of the pool. Existing shrubs obscure sightlines to this area and its lack of observation causes some concern with staff and parents. Recommendation by IVGID and stakeholders is to remove the lawn area and shrubs, as there is significant lawn on the park side of the fencing.

The existing pools were constructed in 1968 with the primary pool being 25 meter by 42 foot with a maximum depth of approx. 10 feet and an adjacent round wading pool with a diameter of approx. 24 feet and a depth of approx. 2 feet. Both pools have skimmer water collection systems and a fiberglass finish in various phases of delamination.

## HISTORY & CURRENT CONTEXT (CONTINUED)

Pool Equipment is well maintained and a number of new pumps and filtration systems have been recently installed. The concern with the current collection and treatment system is that it does not take much of an episode in the pool for the water to lose clarity and the system takes time to clean and chlorinate.

The location of the wading pool and its close proximity to the deep end of the recreational pool has necessitated the inclusion of a perimeter 6' tall wrought iron fence to address code official concerns. Modern Pool Best Practices do not encourage the wading pool to deep pool relationships with new recommendations that wading pools be adjacent to the shallow ends of recreational pools.

### **B | Connection between Burnt Cedar Beach and User Parking**

The configuration of the Burnt Cedar Beach Recreational Park exists with the Pool complex located between the main parking lot and the primary beach and lawn. The Parking Attendant booth is the primary point of authorization to park and use the facility for members and approved guest. The relationship of the pool being located between the primary parking lot and the private beach causes a significant amount of cross-pool traffic with users taking a shortcut through the pool deck area as users pass from the parking lot to the beach/grass area, often multiple times a day per person. Stakeholders have requested consideration to establish a pathway from the parking lot to the beach that is outside of the Pool Complex fence. An IVGID Beaches Recreation Enhancement Opportunities Plan by Design Workshop in 2016 identified a beachfront path that included a cantilevered section and removal of a number of shoreline trees. IVGID and the Stakeholder Group have recommended as a less costly and obtrusive pathway solution to consider moving in the existing pool complex perimeter fence (north) to the point where it would accommodate an at grade 8' wide path to connect the parking lot and grass/beach. Path would be proposed to be an all-weather/ADA compliant path of asphalt, concrete, or possibly interlocking concrete pavers with a perimeter railing.

### **C | Aquatics Design Group developed a questionnaire to gauge the design direction and amenities that the Resident/Guest would like to have considered in the design of a new facility.**

ADG: Questionnaires (3 sample questionnaires returned)

QT #	Topic	R1	R2	R3	Ave.
------	-------	----	----	----	------

**Note:** Average Score is  $R1+R2/2$ .

**Important Statement:** Due to its extreme values significantly skewing the average result, scores from R3 were considered but not included in the average score.

## HISTORY & CURRENT CONTEXT (CONTIUED)

QT # Topic R1 R2 R3 Ave.

Qt. #1 Burnt Cedar Pool Shall support the following Instruction Programs (1-10)

QT #	Topic	R1	R2	R3	Ave.
1.1	Infant & Toddler	10	1	10	
1.2	Learn to Swim	10+	10	1	10
1.3	Age Group, Including Seniors	10	8	1	9
1.4	Disabled and Special Needs	6	7	1	6.5
1.5	Stroke Techniques	8	1	8	
1.6	Aqua Aerobics	10	10	1	10
1.7	Other Deep Diving Available at Rec Center Pool				

Qt. #2 Burnt Cedar Pool Shall support the following Recreational programs (1-10)

QT #	Topic	R1	R2	R3	Ave.
2.1	Open Swimming (lots of kids)	10+	10	10	10
2.2	Lap Swim	7	1	7.5	
2.3	Waterslide (s)	9	10	10	9.5
2.4	Interactive Water Plan	4	10	4	
2.5	Other (Toddler Pool Separation)				

Qt. #3 Burnt Cedar Pool Shall incorporate the following infrastructure: (1-10)

QT #	Topic	R1	R2	R3	Ave.
3.1	Public Address System	8	10	9	
3.2	Pool Desk and Site Lighting	10	7	10	8.5
3.3	Pool Desk Lounging/Seating	10	8	10	9
3.4	Fixed Tables (movable preferred)	2	-	3.5	
3.5	Fixed Shade Structures	5	-	7.5	
3.6	Other: Lounge Chairs, Tables + Chairs, Outdoor Shower & Foot wash				8

Miscellaneous Questionnaire Comments:

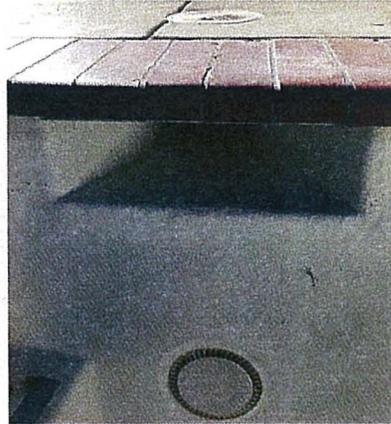
- Visual Placement of Slide, disabled lifts and lifeguard stands should take into consideration on how they block view of the Lake
- Lawn – There is plenty of lawn space at Burnt Cedar Beach – not necessary next to the pool
- Shade Structures are essential (Movable is preferred)
- Maximize use of unused area near bulkhead – remove junipers – add seating
- Removal of Trees – Not necessary for view/good view from other park. Trees provide shade at BBQ area below pool too.  
Keep trees unless detrimental I affect to pool maintenance.
- Pathway along lake connecting both ends of Burnt Cedar Beach is great idea.

## PHOTOS OF EXISTING CONDITIONS & SITE

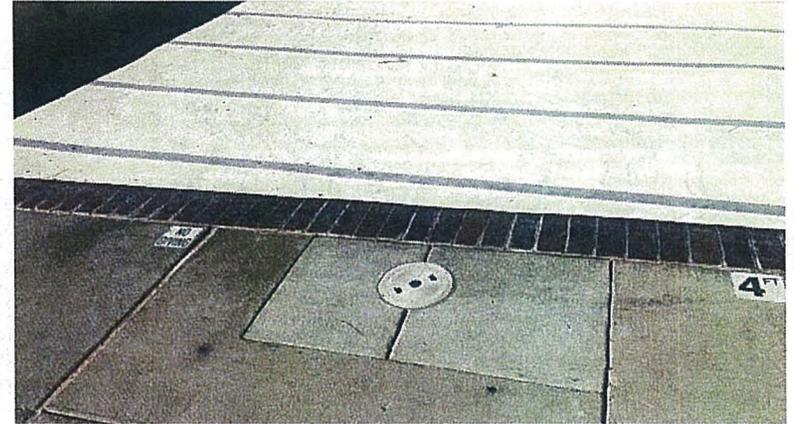
The following images were taken by Terracon during their pool shell and deck evaluation in December, 2018. These conditions, alongside others, were also noted by Aquatic Design Group and TSK Architects during their site visits.



**Pool** | Non-compliant stairs noted.

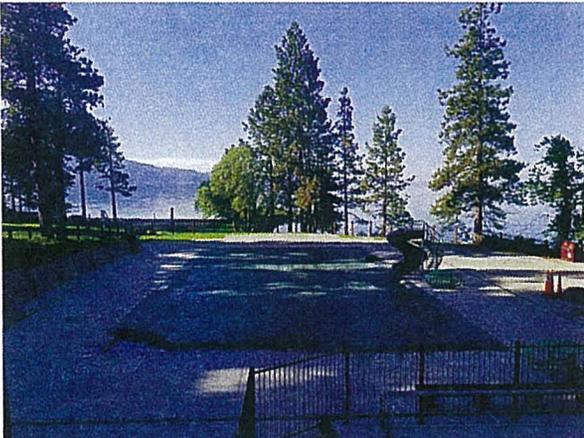


**Pool Skimmer** | Fiberglass finish and lack of waterline tile noted.



**Pool Skimmer, Deck View** | Limited deck replacement indicating limits of piping replacement noted.

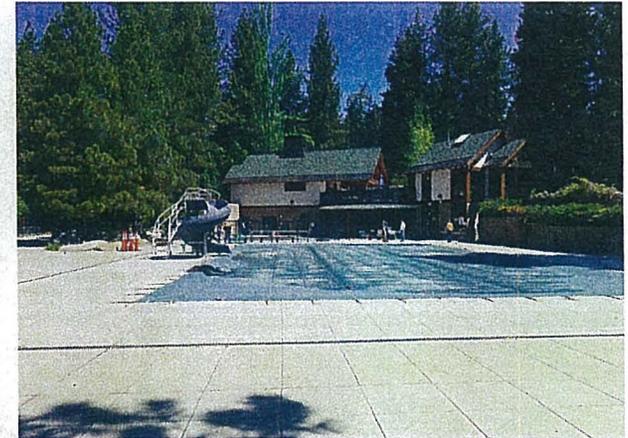
The images below were taken by TSK Architects of the general, existing site of the Burnt Cedar Swimming Pool.



**Pool** | View toward Lake Tahoe.



**Landscape** | View of the greater property.



**Site** | View of pool and its amenities.

## CURRENT PROJECT SCOPE

Following seven (7) weeks of dialogue, meetings, and discussions the IVGID & Stakeholders Group has recommended that two (2) design concepts move forward for consideration of development. The pool shall be used primarily for recreational and family swim activities. There will be swim lessons, water aerobics, etc. taught at specific times. There will not be competitive swimming events at the facility.

The project needs to have improved ADA Accessible Access to the Wading Pool (Zero Entrance) as well as improved access to the primary recreational pool. Primary access to be with a new hydraulic lift device that can be removed and a secondary access with handrails at 36" apart.

Other Amenities discussed to be included are continuous stairs, separation of the wading pool from the recreational pools deep end. Improved deck space, enhanced pool orientation to better capture the views of the lake, shade devices (portable), and possible area for limited food and beverage consumption at a terrace slightly above the pool. Other amenity requested is the new pedestrian path between the parking lot and grass/beach area – to lessen the cross traffic through pool. This new pedestrian path would be less impactful on the shoreline if it were located within the existing fence line of the pool complex.

The only improvements to the existing building are to restrict guest access to the pool maintenance area if possible limited expansion to the pool equipment room. No renovations to the existing two building structures are proposed.

## ISSUES AND GOALS

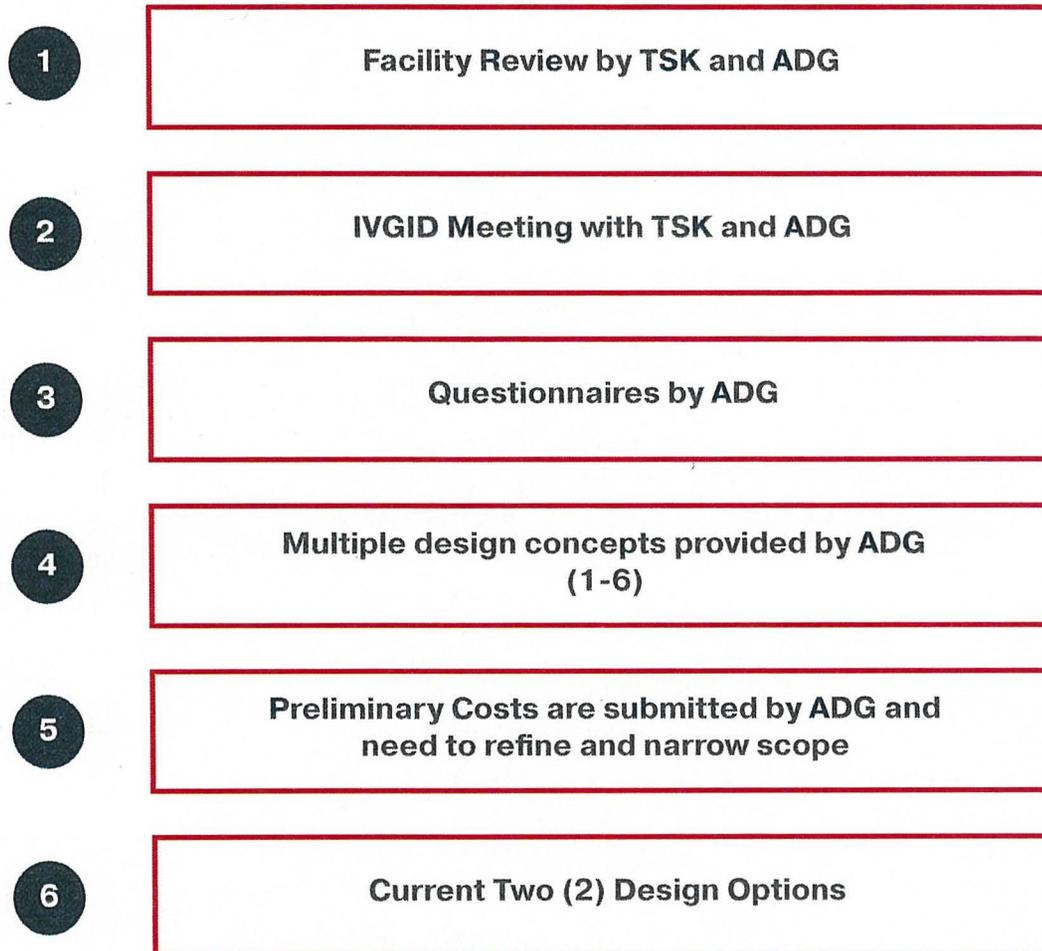
- **Pool finishes are delaminating and need replacement:** This will eventually become a health concern and can result in the closure of the pools.
- **Pools are leaking an estimated 50,000 gallons per month:** The source(s) of the leak are unknown. In addition to the added cost of water, chemicals, and heat; chlorinated water into ground or lake is undesired.
- **Pool main drains are not compliant with the Federal VGB law:** Federal Virginia Graeme Baker Pool and Spa Safety Act requires all public swimming pools to have certified anti-entrapment drains. Facilities not in compliance are to be closed.
- **Pool water clarity and quality is a problem during peak use:** The existing pool configuration and mechanical equipment cannot keep-up with body oils, sunscreens and organic matter resulting in poor water quality and clarity during peak use times, which can result in pool closure due to health and safety concerns.
- **Maintenance of tree droppings into pool water a problem:** Pine needles and other debris cannot be maintained properly with the current pool configuration and equipment resulting in poor water circulation and affecting water quality.
- **Grass areas are problematic to maintain properly:** Grass areas are underutilized and a problem and added expense to maintain.
- **Patron access into mechanical and chemical storage areas is a safety concern:** Existing pool and pool equipment configuration requires daily maintenance during pool operating hours. Since this equipment is open to the pool deck, patrons including children, have unauthorized access to these areas at times that may be a safety concern.
- **Existing pool and deck layouts make it difficult for patrons to supervise children:** The existing pool and site layout make it difficult for parents to supervise multiple children between the two pools and the lake.
- **Wading pool is not ADA complaint:** Federal law requires all public pools including the wading pool to provide ADA access. The wading pool does not provide such access.
- **Existing pool lanes are narrow:** Industry standard is 8-foot lanes to allow lap swimmers to share lanes and pass without touching. The larger pool will also provide more shallow end area for families to congregate during open swim and a larger deep end for aqua aerobics.
- **Provide an additional deck space:** Deck space is limited during peak days. Consider providing a dedicated space where an eating and drinking area is allowed. An expanded and slightly elevated area would provide improved sightlines to both pools. Operationally deterring food and drinking at the pool does take additional staffing and oversight. This expanded deck area will provide a more manageable solution. Design Option 1 includes this expanded deck area.

# CURRENT PROJECT

## STEPS

# DEVELOPING THE CURRENT DESIGN OPTIONS

Developing the current Design Options required a series of essential steps. The following diagram marks out the tasks and deliverables carried out by TSK and Aquatic Design Group to conceptualize and finalize three concrete design options.



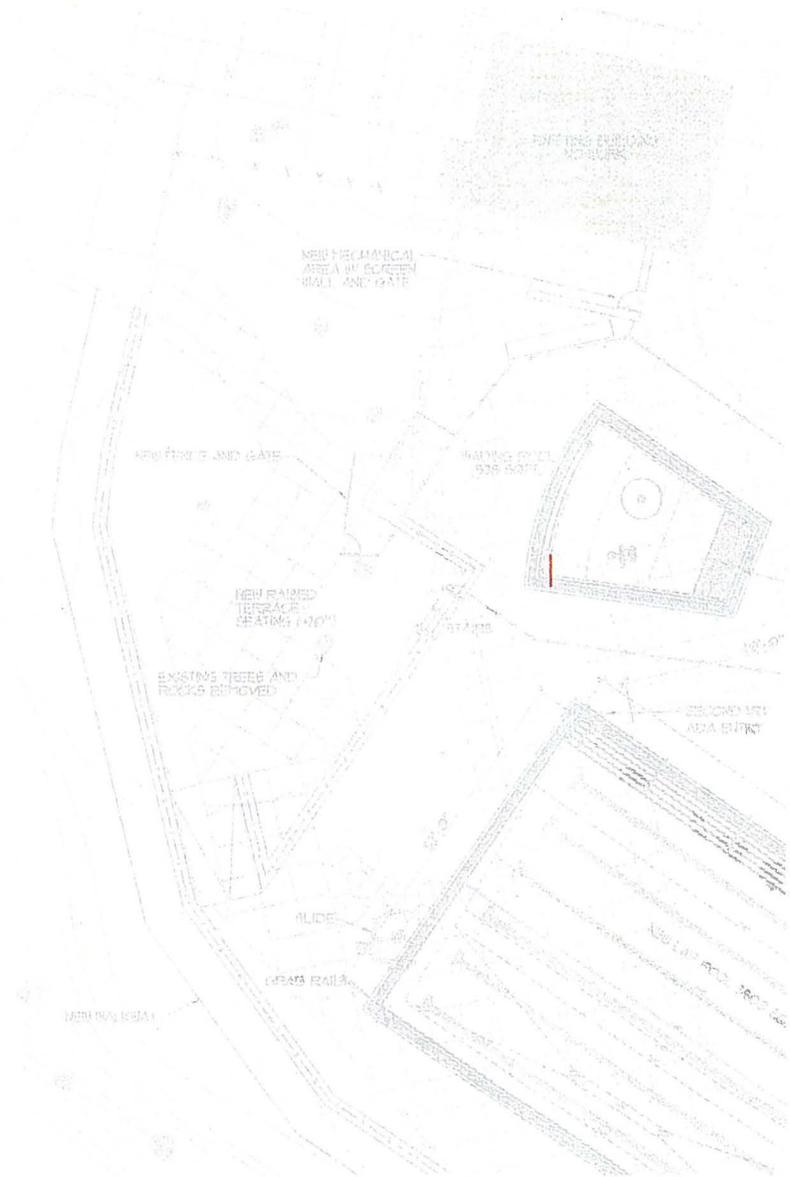
# CURRENT PROJECT

## DESIGN OPTIONS

# DESIGN OPTION 1

## Design Summary

- New 75 feet x 52 feet (3,900 SF total) Rec Pool in new location (oriented NW/SE)
- Continuous stairs on north edge
- Six (6) 8 foot lap lanes
- Southern two lap lanes are 7'-0" depth to allow diving
- New Slide at west corner
- ADA Lift Access at east end
- ADA secondary handrail access at east end
- New 32 feet x 24 feet (800 SF total) Wading Pool in new location
- Zero Entry Wading Pool
- Includes a Water Feature
- Barrier between Wading Pool & Recreation Pool
- All new/expanded exterior concrete pool deck
- Elevated Terrace - removing trees and rock
- New Pathway connecting parking to Burnt Cedar Beach



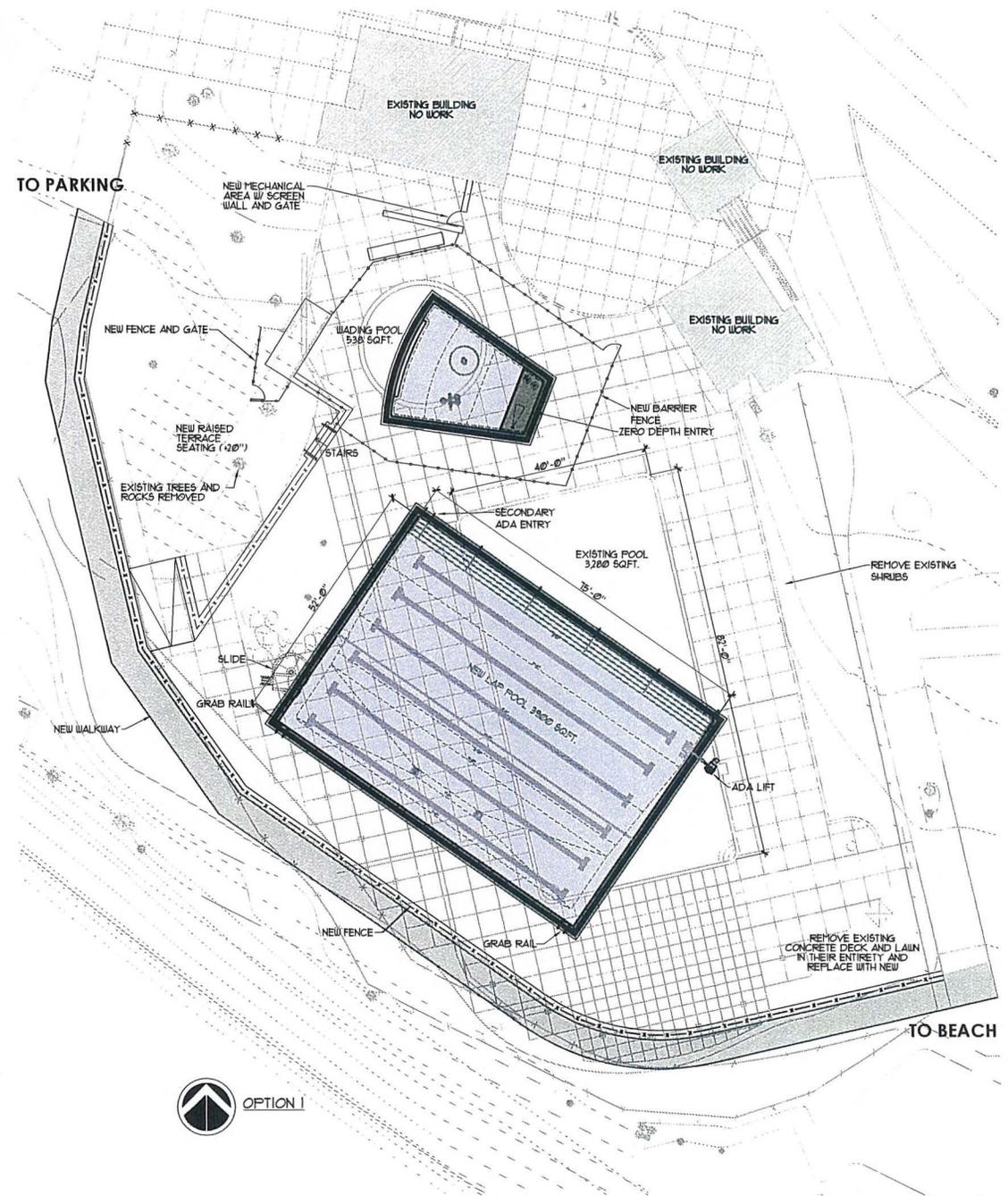
# DESIGN OPTION 1 | PLAN

## PROS

- New deck level perimeter gutter will provide easier patron access to the pool and a more effective and efficient circulation to provide better water quality.
- A 3-4-hour turnover rate, compared to the existing 6-hour turnover rate, will provide better water quality and clarity and will also reduce staff labor required to maintain the pool.
- This option provides a better site layout making it more enjoyable and easier to supervise multiple children.
- This option provides better control of the mechanical chemical spaces to protect patrons.
- The all new concrete decking reduces concerns for slip-trip or fall concerns.
- The new swimming pool provides two means of ADA and Universal access.
- The new wading pool provides both ADA and universal access.
- The new wading pool provides interactive play increasing the recreation value.
- The new swimming pool configuration will support programming better allowing multiple simultaneous programs to occur.

## CONS

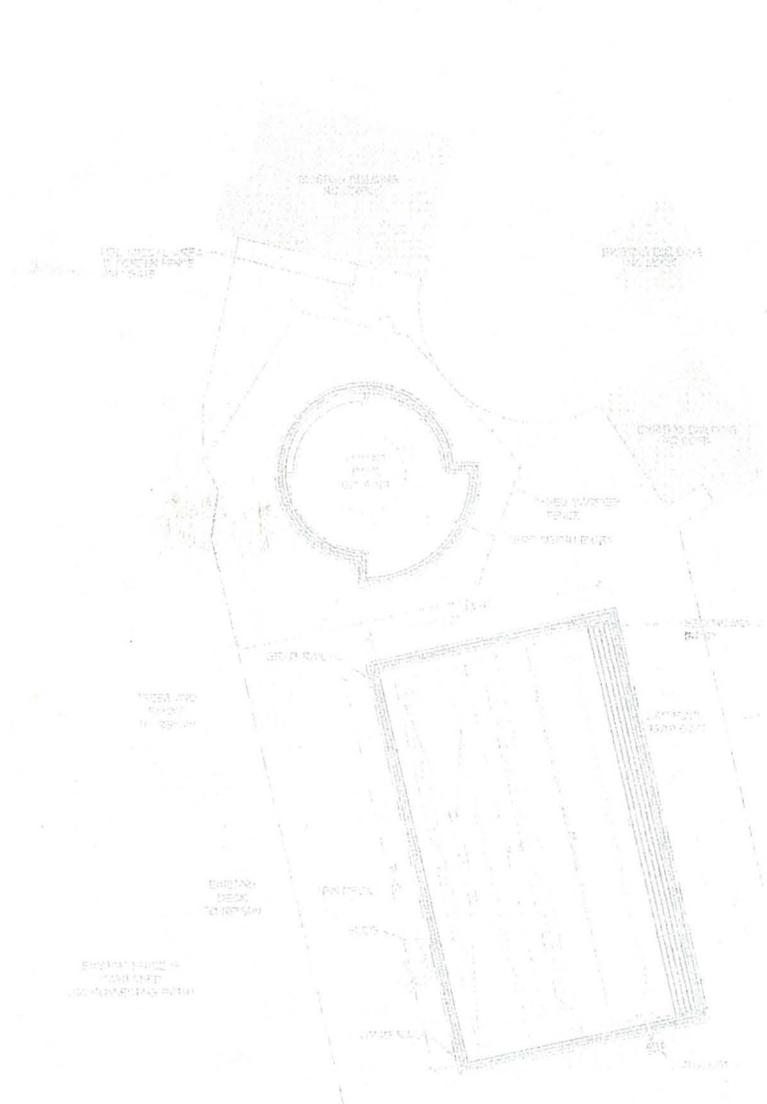
- Most expensive.



# DESIGN OPTION 2

## Design Summary

- New 75 feet x 44 feet (3,300 SF total) Rec Pool in existing location/ orientation
- Continuous stairs on east edge
- Five (5) 8 foot lap lanes
- Western two lap lanes are 7'-0" depth to allow diving
- Slide at west edge
- ADA Lift Access at north
- ADA secondary handrail at NE corner
- New 35 feet diameter (829 SF total) Wading Pool in new location
- Zero Entry Wading Pool
- Option for Water Feature
- Barrier between Wading Pool & Recreation Pool
- Western trees will be removed but rocks remain
- Primary areas around pool deck are replaced with new



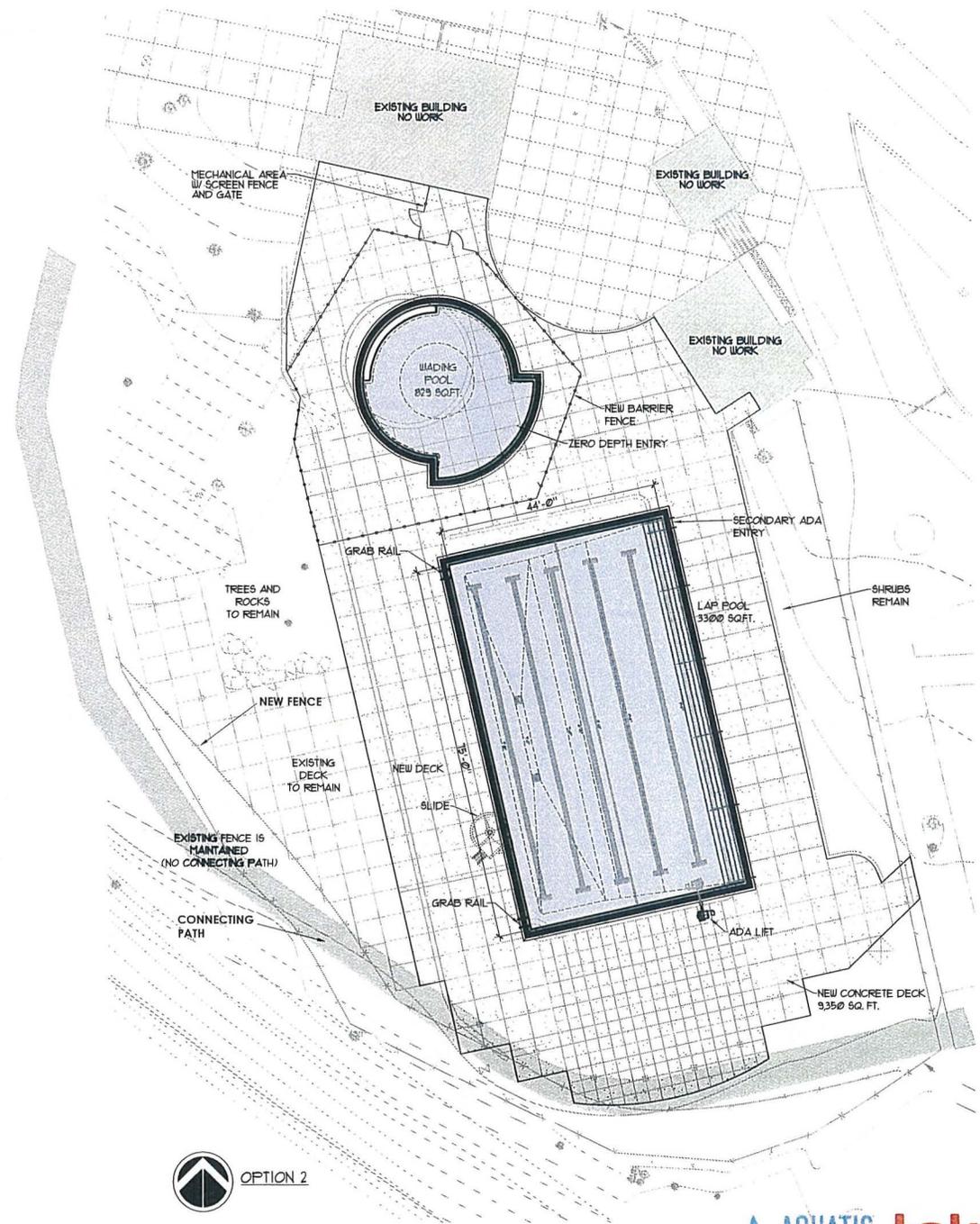
# DESIGN OPTION 2 | PLAN

## PROS

- New deck level perimeter gutter will provide easier patron access to the pool and will provide a more effective and efficient circulation to provide better water quality.
- A 3-4-hour turnover rate, compared to the existing 6-hour turnover rate, will provide better water quality and clarity and will also reduce staff labor required to maintain the pool.
- This option provides better control of the mechanical chemical spaces to protect patrons.
- A large portion of the concrete decking will be replaced reducing concerns for slip-trip or fall concerns in these areas.
- The new swimming pool provides two means of ADA and Universal access.
- The new wading pool provides both ADA and universal access.
- The new wading pool provides a bench seat for patron use.

## CONS

- Smaller pool accommodates less simultaneous programming.
- Areas of existing deck will be less aesthetically pleasing and match old with new materials and life spans. Does not address existing uprooting of concrete and current hazards remain within limited deck replacement within Option 2
- Option does not take advantage of reconfiguring the site for better use.
- Less desirable views of the Lake than Option 1.
- Existing trees and rocks limit deck space within perimeter fence.



# CURRENT PROJECT

## COST ESTIMATES

## OPINION OF PROBABLE COSTS | OPTIONS 1 AND 2

**Option 1** incorporates the full request list that evolved during the IVGID and Stakeholder meetings. This comes with the highest costs of the **two** options.

| \$4,553,425 Total Construction Costs (Construction + Estimating Contingency)  
\$1,070,055 Total Soft Costs  

---

\$5,623,480 Total Estimated Project Cost

**Option 2** incorporates many of the items on the request list. Item notes included are the raised terrace and new swimming pool is in appropriately the same location as existing pool.

| \$3,479,297 Total Construction Costs (Construction + Estimating Contingency)  
\$817,635 Total Soft Costs  

---

\$4,296,932 Total Estimated Project Cost

# DESIGN OPTIONS 1 AND 2 - COMBINED

Burnt Cedar Swimming Pool Improvement Project				Preliminary Opinion of Probable Costs							Prepared on: 8/4/2020		
ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	OPTION #1 FULLY BURDEN CONSTRUCTION COSTS <sup>1</sup>	VALUE ENGINEERING REDUCTIONS FROM OPTION 1 DESIGN						OPTION #2 FULLY BURDEN CONSTRUCTION COSTS <sup>2</sup>	
						Smaller Pool 44'x75' (3,300 SF)	Layout Pool to Match Existing	Provide Less Deck Area and Associated Drainage/BMPs	No Site Lighting	Larger Wading Pool	Remove Wading Pool Play Equipment		No Shade Structures
<b>BASE IMPROVEMENTS</b>													
1.1	Mobilization/Demobilization	1	LS	\$ 100,000	\$ 129,000	\$ (10,000)		\$ (16,000)			\$ (6,250)		\$ 96,750
1.2	Site Preparation/Demolition	1	LS	\$ 120,000	\$ 154,800		\$ (15,000)	\$ (43,050)					\$ 96,750
1.3	Utility Allowance	1	LS	\$ 50,000	\$ 64,500		\$ (12,900)						\$ 51,600
1.4	Earthwork	1	LS	\$ 80,000	\$ 103,200	\$ (10,000)	\$ (15,800)						\$ 77,400
1.5	Retaining Walls	1	LS	\$ 20,000	\$ 25,800			\$ (25,800)					\$ -
1.6	New Swimming Pool (2.4 Hour TOR) 52'x75' (3,900 SF)	3,900	SF	\$ 250	\$ 1,257,750	\$ (193,500)							\$ 1,064,250
1.7	Swimming Pool Surge Tank	1	LS	\$ 50,000	\$ 64,500	\$ (12,900)							\$ 51,600
1.8	New Wading Pool	800	SF	\$ 300	\$ 309,600					\$ 11,223			\$ 320,823
1.9	Wading Pool Surge Tank	1	LS	\$ 40,000	\$ 51,600								\$ 51,600
1.10	Wading Pool Interactive Play Equipment	1	LS	\$ 75,000	\$ 96,750								\$ -
1.11	Wading Pool Splash/Spouts	1	Allowance	\$ 20,000	\$ 25,800						\$ (96,750)		\$ -
1.12	Wading Pool Fence/Barrier	1	LS	\$ 50,000	\$ 64,500					\$ 19,350			\$ -
1.13	Drainage/BMPs	1	LS	\$ 100,000	\$ 129,000			\$ (51,600)					\$ 77,400
1.14	Pool Decks	15,000	SF	\$ 35	\$ 677,250	\$ 27,090		\$ (282,188)					\$ 422,153
1.15	Deck Equipment <sup>1</sup>	1	LS	\$ 69,380	\$ 89,500	\$ (12,900)							\$ 76,600
1.16	Pool Area Fencing	1	Allowance	\$ 100,000	\$ 129,000								\$ 129,000
1.17	Mechanical Building Upgrades <sup>2</sup>	1	Allowance	\$ 100,000	\$ 129,000	\$ (32,250)							\$ 96,750
1.18	Landscape/Site	1	LS	\$ 50,000	\$ 64,500								\$ 64,500
1.19	Tree and Rock Removal	1	Allowance	\$ 50,000	\$ 64,500			\$ (32,250)					\$ 32,250
1.20	Site Lighting	1	Allowance	\$ 50,000	\$ 64,500				\$ (64,500)				\$ -
1.21	Recreation Pool Slide (New)	1	Allowance	\$ 20,000	\$ 25,800								\$ 25,800
1.22	Shade Structures (Fixed)	1	Allowance	\$ 25,000	\$ 32,250							\$ (32,250)	\$ -
1.23	Park Connector Walk-Way & Guardrails	320	LF	\$ 500	\$ 206,400								\$ 206,400
1.24	<b>Construction Subtotal</b>				\$ 3,959,500	\$ (244,460)	\$ (43,700)	\$ (450,800)	\$ (64,500)	\$ 30,573	\$ (128,800)	\$ (32,250)	\$ 3,025,474
1.25	Estimating Contingency	15%			\$ 593,925	\$ (36,669)	\$ (6,555)	\$ (67,633)	\$ (9,675)	\$ 4,586	\$ (19,320)	\$ (4,838)	\$ 453,821
1.26	<b>Construction + Estimating Contingency</b>				\$ 4,553,425	\$ (281,129)	\$ (50,255)	\$ (518,433)	\$ (74,175)	\$ 35,159	\$ (148,120)	\$ (37,088)	\$ 3,479,297
1.27	<b>TOTAL CONSTRUCTION COSTS</b>				\$ 4,553,425	\$ 4,272,296	\$ 4,503,170	\$ 4,034,905	\$ 4,479,250	\$ 4,580,504	\$ 4,405,305	\$ 4,516,338	\$ 3,479,297
<b>SOFT COSTS</b>													
2.1	Location Multiplier (Tahoe)	0%			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2.2	IVGID Contingency	10%			\$ 455,343	\$ (28,113)	\$ (5,026)	\$ (51,852)	\$ (7,418)	\$ 3,516	\$ (14,812)	\$ (3,709)	\$ 347,930
2.3	Permits & Fees	0.5%			\$ 22,767	\$ (1,406)	\$ (251)	\$ (2,593)	\$ (371)	\$ 176	\$ (741)	\$ (185)	\$ 17,396
2.4	IVGID Management Cost	3%			\$ 136,603	\$ (8,434)	\$ (1,508)	\$ (15,556)	\$ (2,225)	\$ 1,055	\$ (4,444)	\$ (1,113)	\$ 104,379
2.5	Architecture & Engineering	10%			\$ 455,343	\$ (28,113)	\$ (5,026)	\$ (51,852)	\$ (7,418)	\$ 3,516	\$ (14,812)	\$ (3,709)	\$ 347,930
2.6	<b>TOTAL SOFT COSTS</b>	23.5%			\$ 1,070,055	\$ (66,065)	\$ (11,810)	\$ (121,852)	\$ (17,431)	\$ 8,262	\$ (34,808)	\$ (8,716)	\$ 817,635
3.0	<b>TOTAL ESTIMATED PROJECT COST</b>				\$ 5,623,480	\$ (347,194)	\$ (62,065)	\$ (640,373)	\$ (91,606)	\$ 43,421	\$ (182,928)	\$ (45,802)	\$ 4,296,932
<b>Notes</b>													
1. Deck Equipment includes pool covers, pool cover reels, lifeguard chairs, lane line, lane line reels, safety signs, safety equipment etc...													
2. Mechanical Building Upgrades may be necessary to increase the pool turnover and improve water quality issue plaguing current pool. Need will be confirmed during final design.													
3. Base Improvements include Costs of approx. 29% for (Escalation, CMAR Contingency, General Conditions, Overhead & Profit, Insurance & Bonds)													
<b>Excludes</b>													
Furniture (Tables, Chairs, Lounge, Umbrellas, etc...)													

# SCHEDULES

TIMING OF SERVICES & DEVELOPMENT

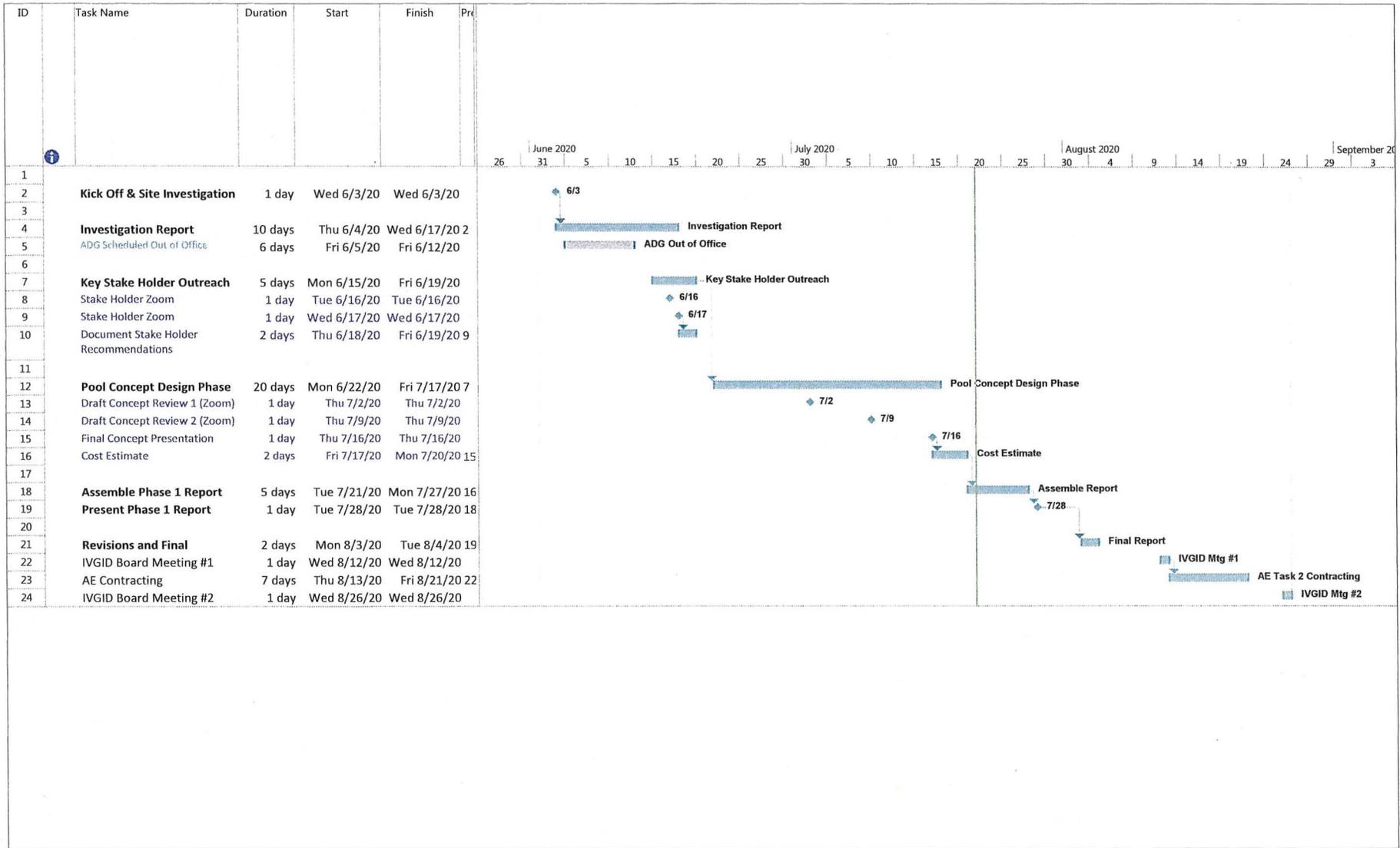
# SCHEDULE APPROACH

Project Schedules will be influenced by the final selection of the two (2) presented design options. The schedules for design and engineering as well as Construction are also influenced by the permitting process that will involve Washoe County Community Development Department as well as the Health Department. Locally the Tahoe Regional Planning Authority (TRPA) will also have an influence on the Schedule. Early Discussion with TRPA recommended a 3-5 month review process depending on impact to the shoreline environment.

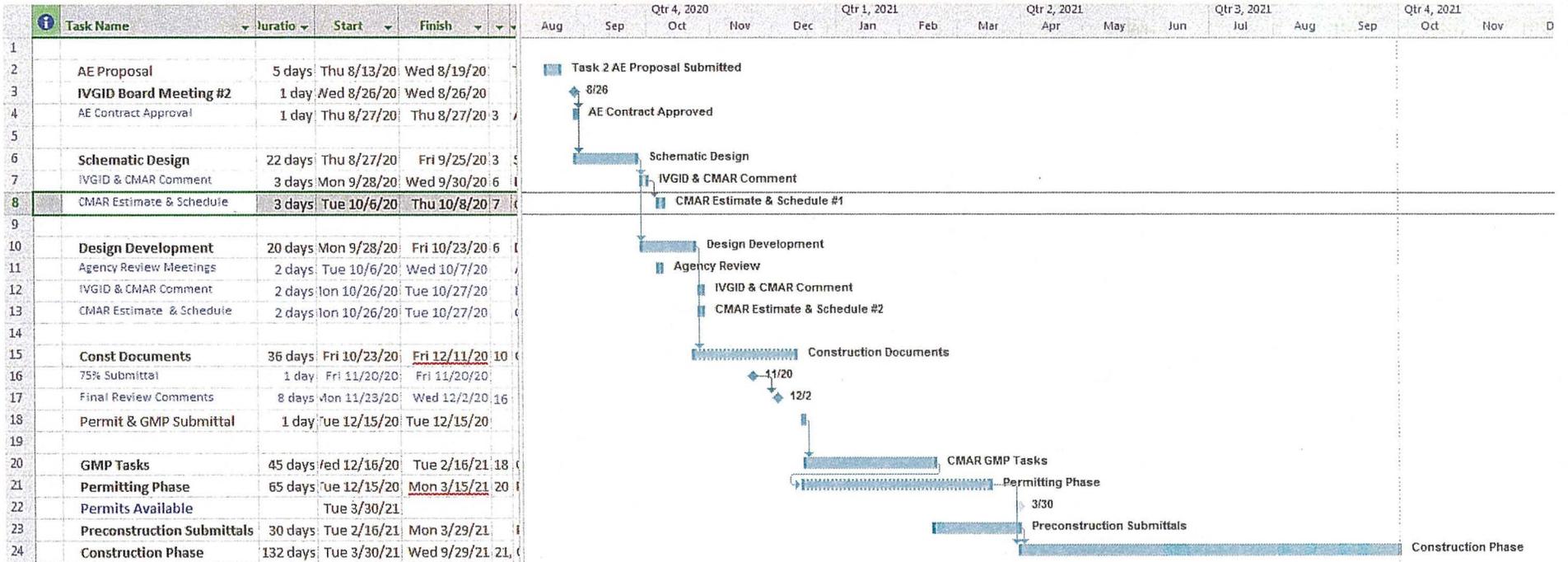
## **Burnt Cedar Pool Projects Timeline**

1968	Original Pools Constructed
1981	Pools Shells Refinished
2000	Pool Buildings Constructed
2018	Pool Technical Analysis and Cores
2020	Pool Renovations Analysis and Concepts
2021/22	Possible Construction Activities

# SCHEDULE | TASK 1



# SCHEDULE | TASK 2



# APPENDIX

## ATTACHMENTS

**INVESTIGATION REPORT**

DATE: 4 June 2020  
 TO: Pat Pusich, TSK Architects  
 FROM: Aquatic Design Group  
 RE: Burnt Cedar Pool Renovation

**A. EXISTING CONDITIONS:**

1. The Burnt Cedar pools were originally built in 1968. The aquatics facility consists of two pools: a 25-meter by 42-foot swimming pool and a round wading pool. The pools were renovated in 1980. The 1980 renovation included replacing all the copper piping with pvc piping and new pool finishes. The wading pool has a different water depth than the as-built drawings, which leads us to believe that the pool was shallowed during the 1980 or a subsequent renovation.
2. The swimming pool has a skimmer water collection system pool with a fiberglass finish. In a previous evaluation it was determined that the pool finishes are delaminating and need to be replaced.
3. A recent test by staff shows that the swimming pool is losing 50,000 gallons of water in a one-month period.
4. The staff noted that the underground piping of the pool main drains is not complaint with the Federal Virginia Graeme Baker Pool and Spa Safety Act.
5. Noted problems with the existing pools are their inability to maintain water quality with large amounts of sunscreen and as a result cloudy water. To rectify this the new pools should have continuous perimeter rim-flow gutter, floor inlets and better turnover rates than the existing pools.
6. Staff reports that the wading pool step has been problematic in the past.
7. Staff reports the trees on the deck have been problematic in the past.
8. Staff reports that the pool grass areas have been problematic in the past.
9. Staff reports the access to the pool mechanical and chemical rooms from the pool deck has been problematic in the past.
10. Staff reports the grass area to the east of the retaining wall has been problematic. It provides a hiding place that is difficult to supervise and is difficult for staff to access for maintenance.

11. Staff reports that the trees between the pool and lake are not original with the pool. They were added after the pool was built.
12. The existing high efficiency pool condensing boilers are only a couple of years old and staff would like to re-use them.
13. Staff has had reasonable success with a supplemental disinfection system, Clear Comfort. They would like to use something similar with the new pools.
14. The existing pump pit is approximately 3' deep below the top of deck.
15. The existing swimming pool pipes are:
  - a. Skimmer suction 6" pvc
  - b. Main Drain suction 2.5" pvc
  - c. Pool return 6" pvc
16. The existing wading pool pipes are:
  - a. Skimmer suction 2" pvc
  - b. Main Drain suction 2" pvc
  - c. Pool return 2" pvc

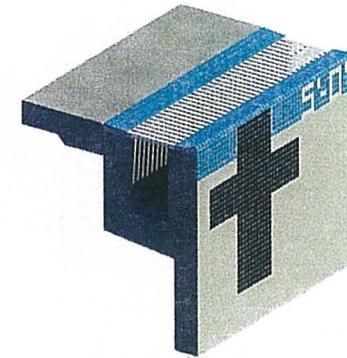
**B. PROGRAMMING:**

1. The staff noted that the pool configuration does not support modern programming. In addition, the pool systems cannot keep up with organic loads during peak season, which results in cloudy water and a need to close the pools. It was determined that these pools need to be removed and replaced to meet the programmatic needs of the community.
2. Pool Programming:
  - a. Swim Lessons (up to 50 students at a time)
  - b. 4 students per class group
  - c. Aqua Exercise (both deep and shallow water)
  - d. Recreation Swim
  - e. Lap Swimming
  - f. Dive instruction (8-10 students from the deck only)
  - g. The pools are used by residents and pass holders only (they are not open to the public)
  - h. The south/west corner of the pool deck is used for tables and lounges as it provides the best view of the lake.
  - i. The desire is to keep the overall pool occupancy the same with the new pools to avoid expensive building renovations or additions for support spaces.
3. Given the nature of the pools the staff felt strongly that the swimming pool and wading pools should be rim-flow deck level gutters as shown below. These gutters will require a surge tank for each pool. Each surge tank will have a finished lid that is 18-inches above the top of deck.
4. The pools operate at an approximate 83 to 84 degrees Fahrenheit, however the wading pool can reach temperatures as high as 90 degrees in the summer.
5. If the staff wishes to continue to offer Red-Cross certification at this facility they will need a reported 9-foot water depth at a deep area of the new swimming pool.

- 6. All swimming pool and wading pool equipment is expected to be replaced.
- 7. Staff would like to go back to a liquid chlorine system for both pools. The staff will check with the local vendor to see if they can make deliveries for mini-bulk liquid chlorine.

**C. SUMMARY:**

- 1. The expected pools will be replaced with two new pools: a six lane by 25-yard pool, and a zero-depth entry wading pool.
- 2. The pool sizes will be approximately the same to control bathhouse and support facility needs.
- 3. The pools are expected to be rim-flow deck level gutter pools.
- 4. The pools will be plaster finished with tile markings to support programming and code.
- 5. The pool deck will be replaced with a new medium broom finish concrete.
- 6. Some the pool mechanical equipment may be moved outside the existing filter room for service accessibility and to support chemical delivery.
- 7. The pool configurations and orientations may vary from the existing pools as the site obstructions, such as retaining walls, large boulders, and trees may be removed to enhance the pool area experience and operations.

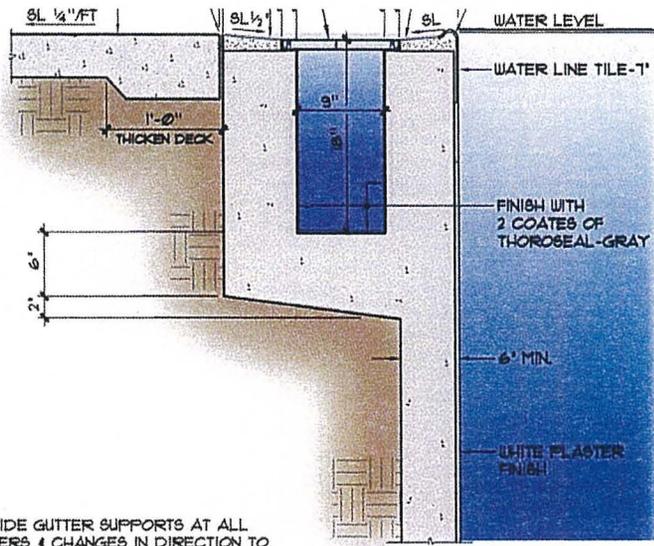


Rim-Flow Deck Level Isometric View



Rim-Flow Deck Level Pool Example

CC. File



E:  
 PROVIDE GUTTER SUPPORTS AT ALL  
 TURNERS & CHANGES IN DIRECTION TO

Rim-Flow Deck Level Gutter Profile



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