

# Fairfax Pool Masterplan

## Eau Claire, Wisconsin

February 2009



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## 1. MASTER PLAN SUMMARY

This Master Plan addresses several aspects of Fairfax Pool. It includes a discussion of the existing pool facility, how the existing facility relates to present codes and industry design standards, provides ideas for a basic upgrade of the facility and presents two alternatives for expansion including an adventure pool, additional water slides and a lazy river. Included is a park expansion plan for the undeveloped lands south of Fairfax Pool along Golf Road. This plan provides an enclosed pavilion designed to accommodate large groups throughout the year, several open pavilions with grills, a winter ice skating and summer tent area, a hockey rink and a warming house.

The report utilizes aerial photographs as a base map and provides drawings of each alternative and the pavilion area. Plan views are provided for the buildings, the pavilion and the modifications to the existing Fairfax Pool bathhouse.

Construction budgets, attendance and revenue/expense projections are developed for the two pool alternatives.

Eau Claire's Fairfax Pool consists of an eight lane, 50 meter pool with an attached zero depth entrance, a separate diving pool, bathhouse, concession and restroom building, and a pool mechanical building. The site includes a parking lot and drop-off area, concrete pool deck and a large grass area inside the pool perimeter fence.

Tim Gremmer, a professional engineer with Water Technology, Inc, in association with Phil Fieber, Chad Duerkop and Jim King of the Eau Claire Park, Recreation and Forestry Department teamed together to prepare this Master Plan. Water Technology, a firm of 50 professionals including architects and engineers, is located in Beaver Dam, Wisconsin. The firm has designed thousands of indoor and outdoor swimming pools over the last 25 years. Additional information about Water Technology can be obtained on the firm's website:

<http://www.watertechnologyinc.com/whoweare.cfm>

Ideas are provided for a Basic Upgrade of the pools and two Alternatives are presented for consideration as the Master Plan. The Basic Upgrade and Alternatives will be presented to city officials and the public for a final selection. Concept Drawings of the Alternatives are included in the Appendix. Included in the Appendix are the construction estimates and attendance, revenue and expense projections for the Alternatives. The Basic Upgrade and Alternatives are summarized as follows:

- A. **Basic Upgrade:** The Basic Upgrade addresses code issues, bathhouse and pool upgrades and replacement and maintenance items. It also proposes several features to increase the attractiveness of the aquatic facility.

- Bathhouse renovation including addition of two special needs rooms, new admission area, and ADA upgrade
- Replacement of Rain Drop water play feature located in the pool shallow water area with an interactive, elevated water play structure.
- Add children's interactive water play toys in the zero depth area of the pool
- Proved a "common wall" to separate the waterslide landing area from the rest of the pool
- Repair of roof over pool mechanical building including a sun deck
- A turf irrigation system
- Replacement of pool deck that has settled and ponds water
- Sand blast and paint pools
- Pool equipment room upgrades including room ventilation equipment
- Miscellaneous repairs and equipment replacement
- Replace drains in floor of pool with "anti-entrapment" drain covers

The Budget for Alternative #1 is \$833,350.

**B. Alternative #1 - Adventure Pool (See Concept Drawings).** This Alternative is for an Adventure Pool located at the northwest corner of the pool site. It includes the support facilities necessary to operate independently and also with the rest of the facility open. An ornamental, gated fence will separate the Adventure Pool from the rest of the facility. A support building provides a new, much larger concession and concession storage area, restroom and dressing facilities and a pool mechanical room. It can operate independently from the rest of the facility. The support building and the fence will allow the adventure pool to open earlier in the spring and stay open longer in the fall than the rest of the facility and also operate as a separate facility for rentals. An outdoor food court is proposed to serve the entire pool facility. The Alternative includes the following:

- All the items included in the Basic Upgrade
- A 4,200 square foot, zero depth entrance, Adventure Pool with water depths varying from 0'-0" to 2'-0".
- An elevated, interactive water play structure located in the Adventure Pool
- A support building. Building includes concession rooms, restrooms and a pool mechanical and storage room.
- A food court with shade structures
- An ornamental fence separating the adventure pool area from the rest of the pool facility

The estimated budget for Alternative #2 is \$3,469,680.

**C. Alternative #2 – 416 foot long Lazy River and Waterslides (See Concept Drawings):** This Alternative adds a 416 foot Lazy River, two waterslides and a concession building to the area south of the existing pool. The Alternative includes the following:

- All items included in the Basic Upgrade
- A 416 foot long, 12 foot wide lazy river with waterslide landing area. Lazy River will include several water play features.
- A 165 foot long enclosed waterslide
- A 141 foot long tube slide
- A concession building
- A food court with shade structures
- A pool equipment mechanical building

The estimated budget for alternative #4 is \$3,969,140.

**D. Fairfax Pavilion - A Master Plan for the wooded area between Fairfax Pool and Golf Road is included (See Concept Drawings). The Master Plan includes:**

- A pavilion (see Appendix for floor plan). The pavilion is proposed to be enclosed, heated and available for use all year. It will be sized to accommodate large groups for company picnics and community events. The pavilion will also be able to be subdivided into smaller rooms to serve smaller groups.
- Several small shelters which will include grills
- A hockey rink
- A multi-use area which can be used as an ice rink in the winter and a tent area in the summer.
- A warming building
- Multiple paths including a connection to Fairfax Pool.

## **2. EVALUATION OF THE EXISTING FAIRFAX POOL**

**A. General:** Fairfax Pool is a popular summer attraction for the Eau Claire community. The facility, in its 18<sup>th</sup> season, provides a multi-use swimming pool with an eight lane, 50 meter pool with a zero depth entrance apron, a waterslide and a mushroom play feature; a diving pool with a one meter and three meter diving platforms; a bathhouse, concession building and a pool mechanical room. The pools are surrounded by grass with an attractive backdrop of trees.

Fairfax Pool has enhanced Eau Claire's quality of life for eighteen years. Almost 1.2 million children and adults swam at Fairfax Pool. Pool facts include:

- Daily attendance over these eighteen years averaged 750 swimmers.
- Sales of season passes average 870 a year

- A safe environment. There has never been a drowning.

The pool is well maintained and operated. One reason is the assignment of a full time staff person to the pool. The same operating and maintenance person has been at the facility almost from start-up. The result is the excellent condition of the facility.

The Evaluation is based on two site visits by Tim Gremmer, a Professional Engineer with Water Technology, Inc. and a review of existing drawings and records. The report is based on a visual inspection. One site visit was made at start-up of the pools and one when the pool was in operation. The design and operation of swimming pools is covered by the Wisconsin Comm 90: Code for the Design and Construction of Public Swimming Pools and Water Attractions.

- B. **Attendance:** Attendance has decreased from an average of 79,000 swimmers a year during the first five years of operation to an average of 55,600 swimmers a year for the last five years. This 30% attendance drop is not unusual, and shared by most outdoor pools throughout the country. Unless additional features are added periodically, the public seems to loose interest. Although a sand play area and shade structures have been added, little has changed at Fairfax Pool since opening in 1991.

The public's interest has changed over the years and pool designs also changed with it. New designs include waterslides, lazy rivers, shallow water play structures, concessions, wave pools, attractive structures.

Fortunately Fairfax Pool was designed with a zero depth entrance, a waterslide, grass areas and forms an excellent base for the addition of attendance enhancing features. The site is attractive and there is plenty of room for expansion.

- C. **Bathhouse:** The bathhouse is an attractive, well maintained, airy building. The walls are concrete block and the ceiling is open to the roof. The roof is plywood supported by rafters with asphalt shingles. The entrance, with ADA accessibility, is from the parking lot. Pool patrons enter directly into a lobby containing a cashier's counter. Access to the Women's and Men's dressing areas is from the lobby. The bathhouse also contains a pool manager's office, an open area in back of the counter and a life guard room. The total bathhouse area is 6,154 square feet with 4,637 square feet covered and a 1,517 square foot for Men's and Women's open dressing area.

As summary of the bathroom sanitary fixtures, with a comparison to Comm 90 sanitary fixture requirements (the summary includes the Concession Building restroom fixtures).

	<b>Bathhouse</b>	<b>Concession Building</b>	<b>Total</b>	<b>Code Requirements</b>	<b>Code Deficiency</b>
<b>Women</b>					
Toilets	5	2	7	12	-5
Showers	12		12	3	
Sinks	3	2	5	3	
<b>Men</b>					
Toilets	3	1	4	3	
Showers	12		12	3	
Sinks	3	1	4	3	
Urinals	3	2	5	3	
<b>Drinking Fountains</b>	1	1	2	3	-1

There are no special needs dressing rooms. Special needs rooms include handicap showers, toilets, sinks and baby changing stations. They provide a private area for those who do not desire to use the large dressing areas. Users of these rooms include those with physical disabilities who need a private dressing area, adults with young children of opposite sex who do not wish to send the children by themselves through the group dressing areas and those who just wish to dress privately.

The concept drawings include a floor plan of a renovated Bathhouse. The renovated plan addressed the ADA and special needs issues and includes:

- The addition of two special needs rooms.
- A hallway, Adjacent to the special needs dressing rooms, connects the lobby to the pool deck. This provides direct access to the pool for patrons of the special need rooms.
- Addition of accessible sanitary fixtures including accessible sinks, drinking fountains and showers.
- Addition of additional toilets in the woman’s dressing area to meet code requirements.
- Relocation of the cashiers counter. The new counters will be placed directly at the entrance doors and be similar to supermarket check out counters. These counters will provide better entrance control by making it more difficult to sneak into the pool dressing areas without paying.

**D. Concession Building:** The existing concession building is located north of the Swimming Pool and also provides restroom facilities. The concession area is small with little storage. This limits the menu items offered.

The concession building is a considerable distance from the pool. Good design places the building closer to the pools to make it more accessible. Pool patrons also like the opportunity to sit and observe. Like a poolside sidewalk café.

There is no outdoor food court with tables and chairs adjacent to the building. There is a small shelter close to the Concession Building, but an attractive, comfortable food court would increase concession sales along with enhancing the pool experience.

- E. **Pool Mechanical Room:** The Pool Mechanical Room is located underneath the pool deck, south of the Diving Pool. The room contains all the mechanical equipment to operate the Swimming and Diving Pools including pumps, piping, valves, pool filters, water sanitizing equipment and chemical storage.

The swimming pool deck, which serves as a roof for the Pool Mechanical Room, leaks. It is impossible to seal a concrete slab and make it watertight. The expansion and contraction of the concrete continues to open the caulk joints, allowing surface water to drip into the room and on to the mechanical equipment.

A chemical room was added to the Pool Mechanical Room after the pool was opened in 1991. The room contains a large tank of liquid chlorine. The liquid chlorine is used for the pool sanitizer. The roof of the “add on” chemical room is siding off the walls. The roof, which also serves as the pool deck, needs to be replaced.

The pool mechanical room is damp, poorly ventilated and crowded. There is little room for storage of supplies and equipment.

- F. **Swimming and Diving Pools:** Both pools are reinforced concrete structures, with a perimeter rim flow gutters. Although there are a few cracks in the pools, including some at the corners, the cracks are minor and the pools are in good structural condition. The gutter rim is level enough to allow for uniform skimming around the pool perimeter when the pumps are operating at design capacity.

All water to be returned to the surge tank exits the pool via the perimeter gutter. There are no recirculating main drains on the floor of the pool. The existing pool drains are only used for draining the pools and connect to a storm sewer manhole. Having no recirculating main drains (recirculating main drains connect drains located on the pool floor to the surge tank and are part of the pool water treatment system). This makes both pools reverse flow pools. With reverse flow pools, the treated water enters the pool through inlets located in the floor of the pool and returns to the surge tank via the perimeter overflow gutter. Reverse flow pools were formerly allowed by the Comm 90 pool code, but the new code eliminates this by requiring recirculating main drains.

Pool water skims over the gutter and empties into the surge tank. The surge tank is a common tank which serves both the Swimming and Diving Pools. The present and proposed Comm 90 pool codes do not allow a common surge tank and requires each pool to have a separate surge tank. Having separate surge tanks allows for better control of the pool water. For example, if there is a fecal accident in the zero depth area, it could also contaminate the diving pool because of the common surge tank. Having separate system would also allow for different temperatures in both pools. Normally, the water temperature in the diving pool is lower than the recreational pool. Having separate systems could reduce chemical usage. A diving pool, with fewer bathers does not need as much sanitizer as a heavy use recreational pool.

Water from the surge tank is also used for supply for the water slide. This is not good design practice, because it uses “dirty” water as water slide supply.

Although the both pools are reverse flow pools and the existing drains are used only to drain the water out of the pools, the drains still need to conform to the Federal Government’s recently enacted anti-entrapment requirements.

Water is pumped out of the common surge tank to the filters. The swimming pool has two separate mechanical and filter systems. One pump, filter and piping serve the zero depth apron and one pump, two filters and associated piping serve the 50 meter portion. The two system approach allows for different water turnovers. The zero depth apron area has a two hour water turnover and the 50 meter system has a 6 hours turnover. The zero depth area by code requires a shorter turnover. Experience has shown that the pool shallow area has higher bather concentration than the deeper areas and thus the need for a shorter water turnover.

The Diving Pool has one mechanical and filter system with a 6 hour turnover.

The following table is a comparison of the filter and turnover requirements of the pools with the latest code requirements. This table shows that the pools conform to these requirements.

	<b>50 METER POOL</b>	<b>CODE REQUIREMENTS</b>
Total Pool Area	17,600 square feet	
Total Pool Volume	450,076 gallons	
Zero Depth Area Water Volume	55,276	
Zero Depth Area Water Turnover	1.90 hours	2 hours
Zero Depth Area Recirculation Pumping Rate	485 gallons/minute	460 gallons/minute
Zero Depth Filter Area	35 square feet	30.6 square feet

Flow Thought Filter for Each Square Foot of Filter Area	13.9 gpm/sf	15 gpm/sf
Deep Area Water Volume	394,800 gallons	
Deep Area Water Turnover	5.7 hours	6 hours
Deep Area Recirculation Pumping Rate	1160 gpm	1097 gpm
Deep Area Filter Area	82 sf	73.1
Flow Thought Filter for Each Square Foot of Filter Area	14.2 gpm/sf	15 gpm/sf
	<b>DIVING POOL</b>	<b>CODE REQUIREMENTS</b>
Water Volume	148,300 Gallons	
Water Turnover	6 hours	6 hours
Recirculation Pumping Rate	435 gallons	412 gpm/hour
Filter Area	35 sf	
Flow Thought Filter for Each Square Foot of Filter Area	12.5 gpm/sf	15 gpm/sf
	<b>SURGE TANK</b>	
Surge Tank Volume	31,600	19,490

The finish for both pools is epoxy paint. Paint is a good surface for outdoor swimming pools if applied properly. The pools have been painted several times. The painting operation consists of removing loose existing paint and painting over the sound paint. The paint is separating from the concrete surface in several locations. It is suggested at the next painting, the paint be completely removed by sand blasting or a similar method. It is also suggested that it be done in the fall of the year so the concrete can dry out prior to paint applications.

The pool has a cast-in-place concrete gutter in good condition. The rim of the gutter is set 4 inches below the edge of the deck. The gutter slopes to scuppers that connect to perimeter drain piping. The perimeter drain piping connects to a surge tank.

Pool water flows over the zero depth gutter and floods the adjacent deck. This violates the pool code. When examining the original drawings, it appears that the

pipes connecting to the zero depth gutters are of adequate size to properly drain the gutter. The drainage pipes could be plugged, or of smaller sizes than required by the drawings or not connected as shown on the drawings. These possibilities should be investigated before a more expensive solution is pursued.

It is critical to good pool water quality that the gutter be level to uniformly skim the water around the entire pool perimeter. Most of the solids in a pool are within several inches of the water surface. So it is important that these impurities be removed as soon as possible along the entire pool perimeter. The existing gutter is level enough so that when the pool recirculation pumps are operating at full flow, the gutter skims uniformly around the entire pool perimeter.

The surge tank has a capacity of 31,600 gallons. Code required capacity is one gallon of surge capacity for each square foot of pool surface area. This makes for a required capacity of 19,490 gallons. This provides an excessive capacity of 12,110 gallons. However the water supply for the waterslide and raindrop is also from the surge tank. It appears this is the reason why the surge tank is oversized. The present Comm 90 does not allow a common surge tank and requires that each pool be operated on a completely separate system, including separate surge tanks.

#### **G. Pool Mechanical And Water Treatment System:**

High rate, sand filters are used to remove solids from the pools. There are separate high rate sand filters systems for the Swimming Pool. Two swimming pool filters are dedicated to the 50 meter length of the Swimming Pool and one filter for the shallow zero depth area. The Diving Pool has one filter.

The piping is PVC and the larger valves are PVC butterfly valves and original equipment. The life of valves is somewhere around 25 years.

The filters are activated for backwash by semi-automatic actuated valves. These valves have been rebuilt and will need to be replaced something in the future. Like most of the pool equipment, the life of these automatic valves is probable about 25 years.

The high rate sand PVC filters are in good condition and should operate indefinitely.

The pool sanitizer is liquid chlorine. The Chlorine is stored in a separate chemical room.

**H. Waterslide and Raindrop:** The waterslide is in good condition. With proper maintenance, it should operate indefinitely.

**I. Pool Site and Grounds:** The pool grounds are one of the several reasons why Fairfax Pool is such an attractive facility. Both pools are surrounded by concrete

deck and the deck is bordered by a large expanse of grass. The pools are enclosed by a chain link perimeter fence. The parking lot is partially paved with the rest of the lot having a gravel surface.

There is no turf irrigation system for the grass areas. The grass goes dormant when there is little rain, especially in late July and August. This makes the turf area unattractive for sun bathers. A turf irrigation system would enhance the pool experience and improve the appearance and attractiveness of the pool facility.

The concrete deck is in good condition. Most of the deck area drains to deck drains. There are some areas of ponding water, which can make the deck slippery. A few of the drains project above the deck and are a hazard.

**J. Code Review:** The following is a summary of the significant swimming pool code deficiencies. It addresses requirements listed in Wisconsin Administrative Code Comm 90, the Design and Construction of Public Swimming Pools and Water Attractions.

Section Number	Requirements	Comments
90.13(5)(c)	Standing water no deeper than 1/8"	Water overflows zero depth gutter and floods deck. Deeper than 1/8" and there are a few other areas of the deck where the water ponds greater than 1/8"
90.13(10)(b)	Enclosure fence and foot or body showers required for sand play areas	No fence or foot wash provided at sand play area.
90.14(2)	Pool circulation systems shall be separate for each pool	Swimming and Diving pools share a common surge tank
90.14(12)(a)	Pool recirculation pumps shall be capable of providing a minimum head of 70 feet	Zero Depth pump head 66 feet at design flow, Diving Pool pump head at 68 feet at design flow
90.14(13)(b)	One return inlet required for each 300 square feet of pool area.	Surface area of swimming pool is 17,600 square feet which requires 59 return inlets. Swimming pool has 43 inlets.
90.13(13)(c)	Flow through main drains shall accommodate 100% of design circulation flow rate.	Pool drains not connected to recirculation system. Pool drains are only used for draining pools.
90.13(13)(c)	Suction grates and cover shall be listed as conforming to anti-entrapment requirements. ANSI A112.29.8	Grates and covers do not conform.
Table 90.19, Type 4 Facility	12 Women's toilets are required	Only 7 Women's toilets are provided

Table 90.19, Type 4 Facility	Three drinking fountains required	Only two drinking fountains are presently provided.
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### 3. BASIC UPGRADE

The Basic Upgrade includes items that will enhance the attractiveness of the pool facility, address code issues and provide necessary upgrades. These items include:

- **Add Special Needs Dressing Rooms:** The proposed special needs rooms are shown on the concept drawing of the renovated bathhouse. Each room provides a handicap shower, toilet, sink and baby changing station. The rooms will serve those with special needs who need a private restroom. It will also serve those with small children of the opposite sex who do not want their child to go alone into the group dressing areas. They can also be used as private dressing rooms for other pool participants and pool staff. They are located “out in the open” and can be monitored by the admissions staff. A hallway is provided that will lead from admissions area to the pool deck. This eliminates the requirement of passing through the group dressing rooms.
- **New Admissions Counter:** Replacement of the existing admissions counter with two “super market” type counters located at the existing entrance doors. The space presently occupied by the admissions counter is required for the special needs rooms. The counters are an improvement, because they will be located directly at the Bathhouse entrance for better control of admissions. With the present counter, it is not difficult to enter the dressing areas (sneak in) without being observed. This is especially true when there is a large group of people in the lobby.
- **Upgrade Bathhouse to meet ADA Requirements:** Addition of handicap toilets sinks and showers to bring the group dressing rooms into conformance with ADA requirements.
- **Replace Rain Drop:** Replace the existing “rain drop” play umbrella with shallow water, interactive play structure. See Concept Drawings for a sketch of the proposed structure. This interactive structure is a more exciting feature and will provide more play opportunities than the “Rain Drop.” It will definitely add to the attractiveness of the zero depth area. The interactive feature was sized to utilize the existing “Rain Drop” piping and supply pump.
- **Turf Irrigation:** Addition of an irrigation system to the grass area adjacent to the pools. Irrigation turf area will make the grass much more attractive for sun bathing and other recreational uses.
- **Chemical Storage Room Repair:** Repair of the chemical storage room attached to the pool equipment room. The structural slab roof is sliding off the walls and in need of replacement
- **Fix Roof over Pool Mechanical Room:** Water proof the pool deck, which serves as the roof over the pool equipment room. The existing deck leaks and is a continuing maintenance problem. The proposed solution is to install an insulated roofing membrane on the deck over the equipment room. The membrane will be

protected by a wood deck. The deck will have removable panels to provide access to the membrane for maintenance purposes.

- **Separate Waterslide Landing Area:** In order to better isolate the waterslide landing area from the rest of the pool facility, a common wall will be installed along the west side of the waterslide landing area.
- **Sandblast and paint the both pools:** The pool has been painted several times. It is recommended that the paint be removed to bare concrete and replaced with epoxy pool paint. Expansion joints and cracks in the pool will be repaired and caulked.
- **Provide water play toys in the north zero depth area of the pool.** This is an area that already attracts small children and the addition of play toys will expand and identify this area as the place for young children. The toys would be selected so they would not require a water source.
- **Enclose the Sand Play area with a perimeter fence.** Provide a “wash off” shower adjacent to the sand play area and fence the sand play area. This is a code requirement.
- **Replace Settled Deck:** Replace areas of the pool deck that have settled and pond water.
- **Update Mechanical Room:** Replace valves and update equipment in pool mechanical room. There are valves that need replacing and some equipment upgrades are required in the pool mechanical room.
- **Anti-Entrapment Protection:** Replace the drains in the pool and diving with anti-entrapment covers.

The estimated cost for the Basic Upgrade is \$833,350. The budget is included in the Appendix

#### 4. ALTERNATIVE #1 ADVENTURE POOL AND CONCESSION BUILDING

Alternative #1 expands Fairfax Pool by adding an Adventure Pool with interactive water play equipment; pool deck, food court, shade structures and support Building (support building includes restrooms, concessions, storage and a mechanical room). Alternate #1 concept drawings show plan views of Alternate #1 and the support building. Alternate #1 includes the following:

- **Basic Upgrade:** All the work items included in the Basic Upgrade are included in this Alternative.
- **Adventure pool:** 4,550 square foot, 70' by 65', zero depth entrance adventure pool, with the depth varying from 0'-0" to 2'-0". The Adventure pool includes an elevated water play structure with several interactive water play features. The proposed pool will have a perimeter gutter for continuous skimming. The water treatment system will be placed in the back of the support building. The water treatment system will include high rate sand filters and ultra-violet (UV) secondary water treatment. UV is more effective than chlorine in destroying pathogens such as cryptosporidium and Giardia.

- **Support Building:** 3,440 square foot, concrete block support building with concessions and concession storage room, restrooms and a pool mechanical room. See Concept Drawings for a plan view of the building proposed under Alternate #1.
- **Swimming Pool Deck:** Concrete pool deck will surround the Adventure Pool and the Support building. A food court is located adjacent to the concession building.
- **Shade Structure:** A large shade structure covers the Food Court.
- **Ornamental Fence:** A 6'-0" high, ornamental fence is provided to separate the Adventure pool from the rest of the facility.

The proposed Adventure Pool area is designed to operate as stand alone facility. The design includes a very attractive pool, especially for younger children, and the necessary support facilities including restrooms with showers, concessions and a food court. Entrance can be from the parking lot when the Bathhouse is closed. Being able to operate as a stand alone facility has several advantages including:

- Facility can be opened earlier and closed later than the rest of the facility. Can take advantage of warm days in May, early June and September.
- Perfect for rentals (especially larger groups) without closing down the rest of the facility. Entrance to and exit from the Adventure pool area can be tightly controlled.
- When the rest of the pool is closed to the public during a swim meet, this facility can be open.

The building includes a new, larger concession and concession storage area. The present concession building is small and the storage area is almost non existent. The new design provides an outdoor food court with a large shade structure. The existing pool does not have a designated food court. This building and food court will allow for the expansion of concession offerings and enhance the visits for swimmers. It will be able to accommodate the projected increase in attendance.

Entrance to the Adventure pool will be from the parking lot at the proposed building when the rest of the pool is closed. When the entire pool facility is in operation, entrance will be via the bathhouse.

The estimated cost for alternative #1 is \$3,469,680. The cost estimate is included in the Appendix

## **5. ALTERNATIVE #2: 416 FOOT LONG EXPANDED LAZY RIVER AND WATERSLIDES**

Alternate #2 expands Fairfax Pool by adding a 416 foot long lazy river, two waterslides, a concession/food court area and a pool mechanical building. Drawings of Alternate #2 and the Support Building are included in the Appendix.

Alternate #2 includes the following:

- **Basic Upgrade:** All the work items included in the Basic Upgrade are included in this Alternative.
- **Lazy River:** A 416 foot long, twelve foot wide, lazy river. The lazy river will include water sprays and play structures.
- **Support Building:** 1,300 square foot, concrete block building including a concession and concession storage room. An outdoor, shaded food court is located adjacent to the concession building. See Appendix for a plan view of the building proposed under Alternate #2.
- **Lazy River and Waterslide Mechanical Building:** A 30' x 30' pool mechanical building is proposed southwest of the existing mechanical room. The building will have two levels, with the lower level accessible from the service road to the existing pool mechanical room. The lower level of the building will contain the pumps, filters and associated mechanical and sanitation equipment for the waterslides and lazy river. Upper level will be for storage.
- **Swimming Pool Deck:** Concrete pool deck is proposed to surround the lazy river, concession building and water slides.
- **Shade Structure:** A large shade structure covers the Food Court.
- **Waterslides:** Two waterslides. One slide is a 141 foot long tube slide. The other slide is a 165 foot long, partially enclosed, body slide. About half the slide will be enclosed and half open to provide different ride experiences. The slide flumes will enter the waterslide landing area. Thus Fairfax Pool will have three slides, each with a different and exciting ride. The landing area connects to the lazy river so swimmers can continue on from the slide to the lazy river or have the option to exit the waterslide landing area by stairs.

The estimated cost for alternative #2 is \$3,969,140. The budget is included in the Appendix.

## 6. FAIRFAX PAVILION

Along with the Basic Upgrade and the two Alternatives presented for the upgrade of Fairfax Pool, a Master Plan was prepared for use of park land north of Golf Road. See Concept Drawings.

The Fairfax Pavilion Master Plan includes the following:

- **All Season Pavilion:** The pavilion is proposed to accommodate groups of various sizes for meeting, parties and other events. The floor plan for the pavilion shown on the Drawings is the floor plan of Wildwood Station owned by the city of Marshfield, Wisconsin and located in Wildwood Park. It provides one large event room which can also be divided into two smaller rooms. Integral with the building are two roofed areas with picnic tables. The building is proposed to be attractively decorated and suitable for many events including large group events such as company picnics.
- **Roofed Shelters:** Several roofed shelters with grills for outdoor cooking

- **Multi-use Area:** A large turf area set aside for ice skating in the winter and a tent area in the summer
- **Hockey Rink**
- **Warming House:** A warming house for winter events
- **Bike Paths**
- **Additional Parking:**

## 7. ESTIMATED COSTS

Estimated costs were developed for the Various Alternatives. The cost estimates are based on the following:

- R. S. Building Construction fourth quarter, 2008 Cost Data. RS Means is a leading nationwide provider of cost information. The RS Means cost data applies to over 930 zip code areas in the United States including the city of Eau Claire.
- Material cost provided by manufacturers and suppliers. Some of the estimating costs were obtained directly from the manufacturers or suppliers of pool equipment. This included the waterslides, water play toys, pumps and pool chemical systems.
- A combination of RS Mean's data and material costs provided by manufacturers and suppliers. For example the waterslide costs were obtained from WhiteWater Industries and the elevated interactive play structures from Vortex Inc. and installation man hours and costs obtained from RS Means.

The estimated cost should be realistic through June of 2009. The costs are based on receiving competitive bids for the work from a minimum of three bidders.

The costs are summarized as follows:

Work Item	Basic Upgrade	Concept #1 Adventure Pool	Concept #2 416 foot Lazy River
Bathhouse Renovation	\$ 211,000	\$ 211,000	\$ 211,000
Basic Site and Pool Renovations	\$ 503,000	\$ 503,000	\$ 503,000
Concession/Restroom/Pool Mechanical Room Building		\$ 670,000	
Concession Building			\$ 481,000
Pool Mechanical Building			\$ 246,000
Adventure Pool and Site Work		\$ 1,617,000	
Lazy River/Waterslides/Site Work			\$ 2,002,000
<b>Total Estimated Bid</b>	<b>\$ 714,000</b>	<b>\$ 3,001,000</b>	<b>\$ 3,443,000</b>
Contingency @5%	\$ 37,450	\$ 151,800	\$ 173,900
Design	\$ 74,900	\$ 242,880	\$ 278,240
Department of Commerce Plan Review	\$ 3,000	\$ 3,000	\$ 3,000
Printing and Distribution of Bidding Documents	\$ 2,000	\$ 6,000	\$ 6,000
Soils and Material Testing	\$ 2,000	\$ 15,000	\$ 15,000
Owner Purchased Equipment		\$ 50,000	\$ 50,000
<b>Total Estimated Budget</b>	<b>\$ 833,350</b>	<b>\$ 3,469,680</b>	<b>\$ 3,969,140</b>

## 8. ATTENDANCE, EXPENSE AND REVENUE PROJECTIONS

Attendance, expense and revenue projections are developed for the two alternatives for the upgrade and expansion of Fairfax Pool. These projections along with the estimated net income are summarized below. The detailed projection calculations are included in the Appendix.

The attendance projections are based on percentages of increase applied the actual attendance average for the last three years. Utilizing the actual attendance the projections provides a realistic base. This is what actually happened at Fairfax Pool. Percentages of increase in attendance are applied to each of several attendance categories monitored by the city.

For the revenue projections, the 2007 actual Fairfax Pool revenues along with the attendance projections were used to develop the revenue projections for the various Alternatives.

The expense projections were developed using parts of the 2007 actual Fairfax Pool expenses and calculations of the additional electrical requirements of the proposed pool pumps and buildings and additional gas requirements of the pool water heaters.

The projections follow:

<b>ATTENDANCE PROJECTIONS</b>				
	Three Year Average Attendance 2005 to 2007	Basic Upgrade Estimated Attendance	Alternative #1 Adventure Pool Estimated Attendance	Alternative #2 416' Lazy River and Waterslides Estimated Attendance
Total Attendance	57,646	63,600	78,280	88,638
<b>REVENUE PROJECTIONS</b>				
Revenue Category	2007 Actual Revenues	Basic Upgrade Estimated Revenues	Alternative #1 Adventure Pool Estimated Revenues	Alternative #2 416' Lazy River and Waterslides Estimated Revenues
Total Estimated Revenues	\$232,046	\$ 307,808	\$ 414,339	\$ 438,045
<b>EXPENSE PROJECTIONS</b>				
Cost item	2007 Actual Operating Expenses	Basic Upgrade Estimated Expenses	Alternative #1 Adventure Pool Estimated Expenses	Alternative #2 416' Lazy River and Waterslides Estimated Expenses
Total Estimated Expenses	\$ 298,507	\$ 322,595	\$ 375,325	\$ 440,626
<b>NET ESTIMATED INCOME</b>				
Total Estimated Expenses	\$ 298,507	\$ 322,595	\$ 375,325	\$ 440,626
Total Estimated Revenues	\$ 232,046	\$ 307,808	\$ 414,339	\$ 438,045
Net Estimated Income	\$ (66,461)	\$ (14,787)	\$ 39,014	\$ (2,581)

**TABLE 1**

**TABLE #1 ESTIMATE FOR ALTERNATE #1 AND #2 FOR CONCESSION AND MECHANICAL BUILDING**

*CostWorks 2008 Quarter 3 - Building for Eau Claire Fairfax Pool*

Qty	Assembly Number	Description	Unit	Mat.	Inst.	Total	Zip	Type	Release	Note
1.000	A1010 110 2500	Strip footing, concrete, reinforced, load 5.1 KLF, soil bearing capacity 3 KSF, 12" deep x 24" wide	L.F.	16.60	19.75	36.35	547	Union	2008 Qtr 3	
1.000	A1030 120 2240	Slab on grade, 4" thick, non industrial, reinforced	S.F.	2.21	2.57	4.78	547	Union	2008 Qtr 3	
1.000	B1020 102 4150	Wood roof, flat rafter, 2" x 12", 16" O.C.	S.F.	1.97	1.54	3.51	547	Union	2008 Qtr 3	
1.000	B1020 310 0130	Canopy, freestanding (walkways), vinyl coated steel, 12' wide	S.F.	26.00	7.70	33.70	547	Union	2008 Qtr 3	
1.000	B2010 111 5300	Concrete block (CMU) wall, regular weight, hollow, 6 x 8 x 16. 2000 PSI, reinforced, vertical #4@48", grouted	S.F.	2.42	6.10	8.52	547	Union	2008 Qtr 3	
1.000	B2010 117 1600	Concrete block (CMU) wall, split face, hollow, regular weight, 8x8x16, 0 score, perlite core fill	S.F.	4.74	7.75	12.49	547	Union	2008 Qtr 3	
1.000	B2010 140 6200	Exterior wall, glass block, 3" thinline, 8" x 8" plain, under 1000 SF	S.F.	10.20	15.40	25.60	547	Union	2008 Qtr 3	
1.000	B2020 106 6900	Windows, aluminum, sliding, insulated glass, 8' x 4'	Ea.	550.00	203.00	753.00	547	Union	2008 Qtr 3	
1.000	B2030 220 3550	Door, steel 18 gauge, hollow metal, 1 door with frame, no label, 4'-0" x 8'-0" opening	Opng.	1,500.00	277.00	1,777.00	547	Union	2008 Qtr 3	
1.000	B2030 220 3600	Door, steel 18 gauge, hollow metal, 2 doors with frame, no label, 5'-0" x 7'-0" opening	Opng.	2,300.00	485.00	2,785.00	547	Union	2008 Qtr 3	
1.000	B3010 140 2000	Metal roofing, steel, colors, 3" min slope, 24 gauge, 1.7 PSF	S.F.	3.02	1.83	4.85	547	Union	2008 Qtr 3	
1.000	B3010 320 0650	Insulation, rigid, roof deck, fiberglass, 3'x4' or 4'x8' sheets, 2-7/16" thick, R10	S.F.	1.80	0.48	2.28	547	Union	2008 Qtr 3	
1.000	B3010 610 3600	Gutters, half round, steel, galvanized, 28 ga thick, 5",	L.F.	1.57	4.02	5.59	547	Union	2008 Qtr 3	
1.000	B3010 620 1450	Downspout, steel, rectangular, corrugated, 3" x 4", galvanized, 28 ga thick	V.L.F.	1.65	3.32	4.97	547	Union	2008 Qtr 3	
1.000	B3020 110 5400	Skylight, plastic domes, insulated curbs, 10 SF to 20 SF, double glazing	S.F.	22.50	5.15	27.65	547	Union	2008 Qtr 3	
1.000	C1010 102 1500	Concrete block (CMU) partition, regular weight, hollow, 6" thick, no finish	S.F.	2.37	5.70	8.07	547	Union	2008 Qtr 3	
1.000	C1020 114 1800	Metal door/metal frame, flush-hollow core, 18 ga full panel, 2'-8" x 6'-8", KD drywall frame, 4-7/8"	Ea.	485.00	340.00	825.00	547	Union	2008 Qtr 3	
1.000	C1030 110 0420	Toilet partitions, cubicles, ceiling hung, plastic laminate	Unit	680.00	239.00	919.00	547	Union	2008 Qtr 3	
1.000	C1030 110 0620	Toilet partitions, cubicles, floor and ceiling anchored, handicap addition	Unit	291.00	0.00	291.00	547	Union	2008 Qtr 3	
1.000	C1030 110 1300	Urinal screens, floor mounted, 24" wide, laminated plastic	Unit	395.00	120.00	515.00	547	Union	2008 Qtr 3	
1.000	C1030 310 0450	Parts bins, 3' wide x 7' high, 84 bins, 6" x 6" x 12"	Ea.	730.00	95.00	825.00	547	Union	2008 Qtr 3	
1.000	C1030 310 0610	Shelving, metal industrial, braced, 3' wide, 2' deep	Ea.	29.50	11.40	40.90	547	Union	2008 Qtr 3	
1.000	C3010 230 0320	Painting, masonry or concrete, latex, brushwork, primer & 2 coats	S.F.	0.32	1.22	1.54	547	Union	2008 Qtr 3	

1.000 C3010 230 0340	Painting, masonry or concrete, latex, brushwork, addition for block filler	S.F.	0.19	1.05	1.24	547	Union 2008 Qtr 3
1.000 C3010 230 1940	Ceramic tile, thin set, 4-1/4" x 4-1/4"	S.F.	2.57	4.13	6.70	547	Union 2008 Qtr 3
1.000 C3020 410 1520	Tile, maximum	S.F.	12.35	1.59	13.94	547	Union 2008 Qtr 3
1.000 C3030 110 5700	Gypsum board ceilings, 5/8" fire rated gypsum board, painted and textured finish, 1-5/8" metal stud furring, 24" OC support	S.F.	0.81	2.56	3.37	547	Union 2008 Qtr 3
1.000 D2010 110 1880	Water closet, vitreous china, tank type, wall hung, close	Ea.	1,350.00	495.00	1,845.00	547	Union 2008 Qtr 3
1.000 D2010 210 2000	Urinal, vitreous china, wall hung	Ea.	630.00	555.00	1,185.00	547	Union 2008 Qtr 3
1.000 D2010 320 1760	Lavatories, battery mount, side by side, first lavatory	Ea.	925.00	640.00	1,565.00	547	Union 2008 Qtr 3
1.000 D2010 320 1800	Lavatories, battery mount, side by side, each additional lavatory, add	Ea.	845.00	445.00	1,290.00	547	Union 2008 Qtr 3
1.000 D2010 610 2040	Group wash fountain, stainless steel, semi-circular, 36" diam	Ea.	4,550.00	835.00	5,385.00	547	Union 2008 Qtr 3
1.000 D2010 810 1920	Drinking fountain, 1 bubbler, wall mounted, non recessed, stainless steel, no back	Ea.	1,575.00	330.00	1,905.00	547	Union 2008 Qtr 3
1.000 D2020 250 2260	Gas fired water heater, commercial, 100< F rise, 600 MBH input, 576 GPH	Ea.	23,300.00	2,675.00	25,975.00	547	Union 2008 Qtr 3
1.000 D3050 150 1840	Rooftop, single zone, air conditioner, bars and taverns, 500 SF 5.54 ton	S.F.	12.10	8.20	20.30	547	Union 2008 Qtr 3
1.000 D5010 120 0440	Service installation, includes breakers, metering, 20' conduit & wire, 3 phase, 4 wire, 120/208 V, 1000 A	Ea.	12,800.00	4,825.00	17,625.00	547	Union 2008 Qtr 3
1.000 E1090 350 0120	Architectural equipment, kitchen equipment, broiler, without oven	Ea.	3,625.00	124.00	3,749.00	547	Union 2008 Qtr 3
1.000 E1090 350 0150	Architectural equipment, kitchen equipment, cooler, beverage, reach-in, 6 FT long	Ea.	4,750.00	167.00	4,917.00	547	Union 2008 Qtr 3
1.000 E1090 350 0160	Architectural equipment, kitchen equipment, food warmer, counter, 1.65 KW	Ea.	695.00	0.00	695.00	547	Union 2008 Qtr 3
1.000 E1090 350 0185	Architectural equipment, kitchen equipment, ice maker, 1000 lb. per day, with bin	Ea.	5,350.00	985.00	6,335.00	547	Union 2008 Qtr 3
1.000 E1090 350 0200	Architectural equipment, kitchen equipment range, restaurant type, burners, 2 ovens & 24" griddle	Ea.	4,500.00	167.00	4,667.00	547	Union 2008 Qtr 3
1.000 E1090 350 0210	Architectural equipment, kitchen equipment, range hood, including CO2 system, economy	Ea.	4,525.00	330.00	4,855.00	547	Union 2008 Qtr 3
1.000 E1090 360 0110	Special construction, refrigerators, prefabricated, walk-in, 7'-6" high, 6' x 6'	S.F.	149.00	17.10	166.10	547	Union 2008 Qtr 3
1.000 E2020 220 0340	Furnishings, cabinets, hospital, counter top, stainless steel	L.F.	155.00	23.00	178.00	547	Union 2008 Qtr 3
1.000 G1030 105 1100	Gravel cut and fill, 80 HP dozer and roller compactor, 50' haul, 12" lift, 2 passes	C.Y.	0.00	4.03	4.03	547	Union 2008 Qtr 3
1.000 G1030 105 1150	Gravel cut and fill, 80 HP dozer and roller compactor, 50' haul, 12" lift, 4 passes	C.Y.	0.00	4.26	4.26	547	Union 2008 Qtr 3
1.000 G1030 205 1100	Gravel backfill, 80 HP dozer and vibrating compactor, 50' haul, 12" lifts, 2 passes	C.Y.	0.00	1.91	1.91	547	Union 2008 Qtr 3
1.000 G1030 807 1350	Trenching, sand & gravel, excavator, no slope, 2' wide, 8' deep, 1/2 CY bk	L.F.	0.00	6.60	6.60	547	Union 2008 Qtr 3
1.000 G1030 815 1500	Pipe bedding, side slope 0:1, 2' wide, pipe size 12" diameter	L.F.	1.64	1.32	2.96	547	Union 2008 Qtr 3

1.000	G3010 110 2130	Water distribution piping, ductile iron class 250, mechanical joint, 4" diameter, excludes excavation and backfill	L.F.	15.25	15.25	30.50	547	Union	2008	Qtr 3
1.000	G3020 110 2150	Drainage and sewage piping, 6" diameter, plain, PVC, excavation and backfill excluded	L.F.	2.39	3.75	6.14	547	Union	2008	Qtr 3
	A20101102280	Excavate and fill, 1000 SF 8' deep, sand, gravel, or common earth, on site storage	S.F.	0.00	4.95	4.95	547	Union	2008	Qtr 3
	A20201105200	Foundation wall, CIP, 8' wall height, pumped, .148 CY/LF, 6.6 PLF, 6" thick	L.F.	28.00	89.00	117.00	547	Union	2008	Qtr 3
	A10301206800	Slab on grade, 8" thick, heavy industrial, reinforced	S.F.	5.90	7.40	13.30	547	Union	2008	Qtr 3
	A20201105240	Foundation wall, CIP, 8' wall height, pumped, .250 CY/LF,	L.F.	43.50	94.50	138.00				
	B10102303400	Precast concrete plank, 2" topping, 10" total thickness, 30	S.F.	9.45	4.37	13.82	547	Union	2008	Qtr 3

**TABLE 1 COST ESTIMATE ALTERNATIVE #1 CONCESSION/RESTROOM/MECHANICAL BUILDING**

Number	Description	Unit	Mat.	Inst.	Total	Quantity	Cost
A1010 110 2500	Strip footing, concrete, reinforced, load 5.1 KLF, soil bearing capacity 3 KSF, 12" deep x 24" wide	L.F.	16.60	19.75	36.35	425.00	\$ 15,449
A1030 120 2240	Slab on grade, 4" thick, non industrial, reinforced	S.F.	2.21	2.57	4.78	3,440.00	\$ 16,443
B1020 102 4150	Wood roof, flat rafter, 2" x 12", 16" O.C.	S.F.	1.97	1.54	3.51	4,260.00	\$ 14,953
B1020 310 0130	Canopy, freestanding (walkways), vinyl coated steel, 12' wide	S.F.	26.00	7.70	33.70	200.00	\$ 6,740
B2010 111 5300	Concrete block (CMU) wall, regular weight, hollow, 6 x 8 x 16, 2000 PSI, reinforced, vertical #4@48", grouted	S.F.	2.42	6.10	8.52	2,802.84	\$ 23,880
B2010 117 1600	Concrete block (CMU) wall, split face, hollow, regular weight, 8x8x16, 0 score, perlite core fill	S.F.	4.74	7.75	12.49	2,748.00	\$ 34,323
B2010 140 6200	Exterior wall, glass block, 3" thinline, 8" x 8" plain, under 1000 SF	S.F.	10.20	15.40	25.60	40.00	\$ 1,024
B2020 106 6900	Windows, aluminum, sliding, insulated glass, 8' x 4'	Ea.	550.00	203.00	753.00	5.00	\$ 3,765
B2030 220 3550	Door, steel 18 gauge, hollow metal, 1 door with frame, no label, 4'-0" x 8'-0" opening	Opng.	1,500.00	277.00	1,777.00	6.00	\$ 10,662
B2030 220 3600	Door, steel 18 gauge, hollow metal, 2 doors with frame, no label, 5'-0" x 7'-0" opening	Opng.	2,300.00	485.00	2,785.00	2.00	\$ 5,570
B3010 140 2000	Metal roofing, steel, colors, 3" min slope, 24 gauge, 1.7 PSF	S.F.	3.02	1.83	4.85	4,260.00	\$ 20,661
B3010 320 0650	Insulation, rigid, roof deck, fiberglass, 3'x4' or 4'x8' sheets, 2-7/16" thick, R10	S.F.	1.80	0.48	2.28	4,260.00	\$ 9,713
B3010 610 3600	Gutters, half round, steel, galvanized, 28 ga thick, 5", enameled finish	L.F.	1.57	4.02	5.59	245.00	\$ 1,370
B3010 620 1450	Downspout, steel, rectangular, corrugated, 3" x 4", galvanized, 28 ga thick	V.L.F.	1.65	3.32	4.97	60.00	\$ 298
B3020 110 5400	Skylight, plastic domes, insulated curbs, 10 SF to 20 SF, double glazing	S.F.	22.50	5.15	27.65	120.00	\$ 3,318
C1010 102 1500	Concrete block (CMU) partition, regular weight, hollow, 6" thick, no finish	S.F.	2.37	5.70	8.07	24.00	\$ 194
C1020 114 1800	Metal door/metal frame, flush-hollow core, 18 ga full panel, 2'-8" x 6'-8", KD drywall frame, 4-7/8"	Ea.	485.00	340.00	825.00		\$ -
C1030 110 0420	Toilet partitions, cubicles, ceiling hung, plastic laminate	Unit	680.00	239.00	919.00	5.00	\$ 4,595
C1030 110 0620	Toilet partitions, cubicles, floor and ceiling anchored, handicap addition	Unit	291.00	0.00	291.00		\$ -
C1030 110 1300	Urinal screens, floor mounted, 24" wide, laminated plastic	Unit	395.00	120.00	515.00	1.00	\$ 515
C1030 310 0450	Parts bins, 3' wide x 7' high, 84 bins, 6" x 6" x 12"	Ea.	730.00	95.00	825.00	2.00	\$ 1,650
C1030 310 0610	Shelving, metal industrial, braced, 3' wide, 2' deep	Ea.	29.50	11.40	40.90	10.00	\$ 409
C3010 230 0320	Painting, masonry or concrete, latex, brushwork, primer & 2 coats	S.F.	0.32	1.22	1.54	6,840.00	\$ 10,534
C3010 230 0340	Painting, masonry or concrete, latex, brushwork, addition for block filler	S.F.	0.19	1.05	1.24	3,400.00	\$ 4,216
C3010 230 1940	Ceramic tile, thin set, 4-1/4" x 4-1/4"	S.F.	2.57	4.13	6.70	75.00	\$ 503
C3020 410 1520	Tile, maximum	S.F.	12.35	1.59	13.94	636.00	\$ 8,866
C3030 110 5700	Gypsum board ceilings, 5/8" fire rated gypsum board, painted and textured finish, 1-5/8" metal stud furring, 24" OC support	S.F.	0.81	2.56	3.37	3,440.00	\$ 11,593
D2010 110 1880	Water closet, vitreous china, tank type, wall hung, close coupled 2 piece	Ea.	1,350.00	495.00	1,845.00	6.00	\$ 11,070
D2010 210 2000	Urinal, vitreous china, wall hung	Ea.	630.00	555.00	1,185.00	2.00	\$ 2,370
D2010 320 1760	Lavatories, battery mount, side by side, first lavatory	Ea.	925.00	640.00	1,565.00	1.00	\$ 1,565
D2010 320 1800	Lavatories, battery mount, side by side, each additional lavatory, add	Ea.	845.00	445.00	1,290.00	2.00	\$ 2,580
D2010 610 2040	Group wash fountain, stainless steel, semi-circular, 36" diam	Ea.	4,550.00	835.00	5,385.00		\$ -
D2010 810 1920	Drinking fountain, 1 bubbler, wall mounted, non recessed, stainless steel, no back	Ea.	1,575.00	330.00	1,905.00	2.00	\$ 3,810

Number	Description	Unit	Mat.	Inst.	Total	Quantity	Cost
D2020 250 2260	Gas fired water heater, commercial, 100< F rise, 600 MBH input, 576 GPH	Ea.	23,300.00	2,675.00	25,975.00	1.00	\$ 25,975
D3050 150 1840	Rooftop, single zone, air conditioner, bars and taverns, 500 SF 5.54 ton	S.F.	12.10	8.20	20.30	960.00	\$ 19,488
D5010 120 0440	Service installation, includes breakers, metering, 20' conduit & wire, 3 phase, 4 wire, 120/208 V, 1000 A	Ea.	12,800.00	4,825.00	17,625.00	1.00	\$ 17,625
E1090 350 0120	Architectural equipment, kitchen equipment, broiler, without oven	Ea.	3,625.00	124.00	3,749.00	1.00	\$ 3,749
E1090 350 0150	Architectural equipment, kitchen equipment, cooler, beverage, reach-in, 6 FT long	Ea.	4,750.00	167.00	4,917.00	2.00	\$ 9,834
E1090 350 0160	Architectural equipment, kitchen equipment, food warmer, counter, 1.65 KW	Ea.	695.00	0.00	695.00	1.00	\$ 695
E1090 350 0185	Architectural equipment, kitchen equipment, ice maker, 1000 lb. per day, with bin	Ea.	5,350.00	985.00	6,335.00	1.00	\$ 6,335
E1090 350 0200	Architectural equipment, kitchen equipment range, restaurant type, burners, 2 ovens & 24" griddle	Ea.	4,500.00	167.00	4,667.00	1.00	\$ 4,667
E1090 350 0210	Architectural equipment, kitchen equipment, range hood, including CO2 system, economy	Ea.	4,525.00	330.00	4,855.00	1.00	\$ 4,855
E1090 360 0110	Special construction, refrigerators, prefabricated, walk-in, 7'-6" high, 6' x 6'	S.F.	149.00	17.10	166.10	100.00	\$ 16,610
E2020 220 0340	Furnishings, cabinets, hospital, counter top, stainless steel	L.F.	155.00	23.00	178.00	75.00	\$ 13,350
G1030 205 1100	Gravel backfill, 80 HP dozer and vibrating compactor, 50' haul, 12" lifts, 2 passes	C.Y.	0.00	0.00	1.91	1,200.00	\$ 2,292
G1030 807 1350	Trenching, sand & gravel, excavator, no slope, 2' wide, 8' deep, 1/2 CY bk	L.F.	0.00	0.00	6.60	400.00	\$ 2,640
G1030 815 1500	Pipe bedding, side slope 0:1, 2' wide, pipe size 12" diameter	L.F.	1.64	1.64	2.96	400.00	\$ 1,184
G3010 110 2130	Water distribution piping, ductile iron class 250, mechanical joint, 4" diameter, excludes excavation and backfill	L.F.	15.25	15.25	30.50	100.00	\$ 3,050
G3020 110 2150	Drainage and sewage piping, 6" diameter, plain, PVC, excavation and backfill excluded	L.F.	2.39	2.39	6.14	200.00	\$ 1,228
A20101102280	Excavate and fill, 1000 SF 8' deep, sand, gravel, or common earth, on site storage	S.F.	0.00	0.00	4.95	50.00	\$ 248
A20201105200	Foundation wall, CIP, 8' wall height, pumped, .148 CY/LF, 6.6 PLF, 6" thick	L.F.	28.00	28.00	117.00	32.00	\$ 3,744
A10301206800	Slab on grade, 8" thick, heavy industrial, reinforced	S.F.	5.90	\$ 7.40	13.30	42.00	\$ 559
	ALLOWANCE FOR CONCESSION EQUIPMENT	Allowance	50,000.00	4,000.00	54,000.00	\$ 1.00	\$ 54,000
	Architectural Sub Total						\$ 424,763
	Electrical at 20%	20%					\$ 84,953
	Miscellaneous Mechanical at 10%	10%					\$ 42,476
	Architectural and MEP Sub Total						\$ 552,192
	Mobilization @ 2%						\$ 8,495

Number	Description	Unit	Mat.	Inst.	Total	Quantity	Cost
	Bonds and Insurance @2.5%						\$ 10,619
	Sales Tax @ 50% of 5.5%						\$ 11,681
	Sub Total Before Contingency						\$ 582,988
	Contingency @ 15%						\$ 87,448
	<b>Total Estimated Bid Cost</b>						<b>\$ 670,436</b>

**TABLE 1 COST ESTIMATE FOR ALTERNATIVE #2 CONCESSION BUILDING**

Number	Description	Unit	Mat.	Inst.	Total	Quantity	Cost
A1010 110 2500	Strip footing, concrete, reinforced, load 5.1 KLF, soil bearing capacity 3 KSF, 12" deep x 24" wide	L.F.	16.60	19.75	36.35	186.00	\$ 6,761
A1030 120 2240	Slab on grade, 4" thick, non industrial, reinforced	S.F.	2.21	2.57	4.78	1,300.00	\$ 6,214
B1020 102 4150	Wood roof, flat rafter, 2" x 12", 16" O.C.	S.F.	1.97	1.54	3.51	1,848.00	\$ 6,486
B1020 310 0130	Canopy, freestanding (walkways), vinyl coated steel, 12' wide	S.F.	26.00	7.70	33.70	200.00	\$ 6,740
B2010 111 5300	Concrete block (CMU) wall, regular weight, hollow, 6 x 8 x 16, 2000 PSI, reinforced, vertical #4@48", grouted	S.F.	2.42	6.10	8.52	552.00	\$ 4,703
B2010 117 1600	Concrete block (CMU) wall, split face, hollow, regular weight, 8x8x16, 0 score, perlite core fill	S.F.	4.74	7.75	12.49	1,676.00	\$ 20,933
B2010 140 6200	Exterior wall, glass block, 3" thinline, 8" x 8" plain, under 1000 SF	S.F.	10.20	15.40	25.60	-	\$ -
B2020 106 6900	Windows, aluminum, sliding, insulated glass, 8' x 4'	Ea.	550.00	203.00	753.00	5.00	\$ 3,765
B2030 220 3550	Door, steel 18 gauge, hollow metal, 1 door with frame, no label, 4'-0" x 8'-0" opening	Opng.	1,500.00	277.00	1,777.00	1.00	\$ 1,777
B2030 220 3600	Door, steel 18 gauge, hollow metal, 2 doors with frame, no label, 5'-0" x 7'-0" opening	Opng.	2,300.00	485.00	2,785.00	1.00	\$ 2,785
B3010 140 2000	Metal roofing, steel, colors, 3" min slope, 24 gauge, 1.7 PSF	S.F.	3.02	1.83	4.85	1,848.00	\$ 8,963
B3010 320 0650	Insulation, rigid, roof deck, fiberglass, 3'x4' or 4'x8' sheets, 2-7/16" thick, R10	S.F.	1.80	0.48	2.28	1,848.00	\$ 4,213
B3010 610 3600	Gutters, half round, steel, galvanized, 28 ga thick, 5", enameled finish	L.F.	1.57	4.02	5.59	140.00	\$ 783
B3010 620 1450	Downspout, steel, rectangular, corrugated, 3" x 4", galvanized, 28 ga thick	V.L.F.	1.65	3.32	4.97	40.00	\$ 199
B3020 110 5400	Skylight, plastic domes, insulated curbs, 10 SF to 20 SF, double glazing	S.F.	22.50	5.15	27.65	60.00	\$ 1,659
C1010 102 1500	Concrete block (CMU) partition, regular weight, hollow, 6" thick, no finish	S.F.	2.37	5.70	8.07	360.00	\$ 2,905
C1020 114 1800	Metal door/metal frame, flush-hollow core, 18 ga full panel, 2'-8" x 6'-8", KD drywall frame, 4-7/8"	Ea.	485.00	340.00	825.00	3.00	\$ 2,475
C1030 110 0420	Toilet partitions, cubicles, ceiling hung, plastic laminate	Unit	680.00	239.00	919.00		\$ -
C1030 110 0620	Toilet partitions, cubicles, floor and ceiling anchored, handicap addition	Unit	291.00	0.00	291.00		\$ -
C1030 110 1300	Urinal screens, floor mounted, 24" wide, laminated plastic	Unit	395.00	120.00	515.00		\$ -
C1030 310 0450	Parts bins, 3' wide x 7' high, 84 bins, 6" x 6" x 12"	Ea.	730.00	95.00	825.00	2.00	\$ 1,650
C1030 310 0610	Shelving, metal industrial, braced, 3' wide, 2' deep	Ea.	29.50	11.40	40.90	10.00	\$ 409
C3010 230 0320	Painting, masonry or concrete, latex, brushwork, primer & 2 coats	S.F.	0.32	1.22	1.54	4,400.00	\$ 6,776
C3010 230 0340	Painting, masonry or concrete, latex, brushwork, addition for block filler	S.F.	0.19	1.05	1.24	3,000.00	\$ 3,720
C3010 230 1940	Ceramic tile, thin set, 4-1/4" x 4-1/4"	S.F.	2.57	4.13	6.70		\$ -
C3020 410 1520	Tile, maximum	S.F.	12.35	1.59	13.94	636.00	\$ 8,866
C3030 110 5700	Gypsum board ceilings, 5/8" fire rated gypsum board, painted and textured finish, 1-5/8" metal stud furring, 24" OC support	S.F.	0.81	2.56	3.37	1,300.00	\$ 4,381
D2010 110 1880	Water closet, vitreous china, tank type, wall hung, close coupled 2 piece	Ea.	1,350.00	495.00	1,845.00		\$ -
D2010 210 2000	Urinal, vitreous china, wall hung	Ea.	630.00	555.00	1,185.00		\$ -
D2010 320 1760	Lavatories, battery mount, side by side, first lavatory	Ea.	925.00	640.00	1,565.00		\$ -

Alternate #2 Concession  
TABLE 1

Number	Description	Unit	Mat.	Inst.	Total	Quantity	Cost
D2010 320 1800	Lavatories, battery mount, side by side, each additional lavatory, add	Ea.	845.00	445.00	1,290.00		\$ -
D2010 610 2040	Group wash fountain, stainless steel, semi-circular, 36" diam	Ea.	4,550.00	835.00	5,385.00		\$ -
D2010 810 1920	Drinking fountain, 1 bubbler, wall mounted, non recessed, stainless steel, no back	Ea.	1,575.00	330.00	1,905.00	2.00	\$ 3,810
D2020 250 2260	Gas fired water heater, commercial, 100< F rise, 600 MBH input, 576 GPH	Ea.	23,300.00	2,675.00	25,975.00	1.00	\$ 25,975
D3050 150 1840	Rooftop, single zone, air conditioner, bars and taverns, 500 SF 5.54 ton	S.F.	12.10	8.20	20.30	960.00	\$ 19,488
D5010 120 0440	Service installation, includes breakers, metering, 20' conduit & wire, 3 phase, 4 wire, 120/208 V, 1000 A	Ea.	12,800.00	4,825.00	17,625.00	1.00	\$ 17,625
E1090 350 0120	Architectural equipment, kitchen equipment, broiler, without oven	Ea.	3,625.00	124.00	3,749.00	1.00	\$ 3,749
E1090 350 0150	Architectural equipment, kitchen equipment, cooler, beverage, reach-in, 6 FT long	Ea.	4,750.00	167.00	4,917.00	2.00	\$ 9,834
E1090 350 0160	Architectural equipment, kitchen equipment, food warmer, counter, 1.65 KW	Ea.	695.00	0.00	695.00	2.00	\$ 1,390
E1090 350 0185	Architectural equipment, kitchen equipment, ice maker, 1000 lb. per day, with bin	Ea.	5,350.00	985.00	6,335.00	2.00	\$ 12,670
E1090 350 0200	Architectural equipment, kitchen equipment range, restaurant type, burners, 2 ovens & 24" griddle	Ea.	4,500.00	167.00	4,667.00	1.00	\$ 4,667
E1090 350 0210	Architectural equipment, kitchen equipment, range hood, including CO2 system, economy	Ea.	4,525.00	330.00	4,855.00	1.00	\$ 4,855
E1090 360 0110	Special construction, refrigerators, prefabricated, walk-in, 7'-6" high, 6' x 6'	S.F.	149.00	17.10	166.10	100.00	\$ 16,610
E2020 220 0340	Furnishings, cabinets, hospital, counter top, stainless steel	L.F.	155.00	23.00	178.00	75.00	\$ 13,350
G1030 205 1100	Gravel backfill, 80 HP dozer and vibrating compactor, 50' haul, 12" lifts, 2 passes	C.Y.	0.00	0.00	1.91	1,000.00	\$ 1,910
G1030 807 1350	Trenching, sand & gravel, excavator, no slope, 2' wide, 8' deep, 1/2 CY bk	L.F.	0.00	0.00	6.60	300.00	\$ 1,980
G1030 815 1500	Pipe bedding, side slope 0:1, 2' wide, pipe size 12" diameter	L.F.	1.64	1.64	2.96	100.00	\$ 296
G3010 110 2130	Water distribution piping, ductile iron class 250, mechanical joint, 4" diameter, excludes excavation and backfill	L.F.	15.25	15.25	30.50	100.00	\$ 3,050
G3020 110 2150	Drainage and sewage piping, 6" diameter, plain, PVC, excavation and backfill excluded	L.F.	2.39	2.39	6.14	200.00	\$ 1,228
	Allowance for Concession Equipment	Allowance	\$50,000.00	\$ 5,000.00	\$55,000.00	\$ 1.00	\$ 55,000.00
	Architectural Sub Total						\$ 304,651
	Electrical at 20%	20%					\$ 60,930
	Mechanical at 10%	10%					\$ 30,465
	Architectural and MEP Sub Total						\$ 396,046

Number	Description	Unit	Mat.	Inst.	Total	Quantity	Cost
	Mobilization @ 2%						\$ 6,093
	Bonds and Insurance @2.5%						\$ 7,616
	Sales Tax @ 50% of 5.5%						\$ 8,378
	Sub Total Before Contingency						\$ 418,133
	Contingency @ 15%						\$ 62,720
	<b>Total Estimated Bid Cost</b>						<b>\$ 480,853</b>

**TABLE 1 COST ESTIMATE FOR ALTERNATIVE #2 MECHANICAL BUILDING**

Number	Description	Unit	Mat.	Inst.	Total	Quantity	Cost
A1010 110 2500	Strip footing, concrete, reinforced, load 5.1 KLF, soil bearing capacity 3 KSF, 12" deep x 24" wide	L.F.	16.60	19.75	36.35	120.00	\$ 4,362
A1030 120 2240	Slab on grade, 4" thick, non industrial, reinforced	S.F.	2.21	2.57	4.78	900.00	\$ 4,302
B1020 102 4150	Wood roof, flat rafter, 2" x 12", 16" O.C.	S.F.	1.97	1.54	3.51	1,296.00	\$ 4,549
B1020 310 0130	Canopy, freestanding (walkways), vinyl coated steel, 12' wide	S.F.	26.00	7.70	33.70		\$ -
B2010 111 5300	Concrete block (CMU) wall, regular weight, hollow, 6 x 8 x 16, 2000 PSI, reinforced, vertical #4@48", grouted	S.F.	2.42	6.10	8.52	192.00	\$ 1,636
B2010 117 1600	Concrete block (CMU) wall, split face, hollow, regular weight, 8x8x16, 0 score, perlite core fill	S.F.	4.74	7.75	12.49	2,460.00	\$ 30,725
B2010 140 6200	Exterior wall, glass block, 3" thinline, 8" x 8" plain, under 1000 SF	S.F.	10.20	15.40	25.60		\$ -
B2020 106 6900	Windows, aluminum, sliding, insulated glass, 8' x 4'	Ea.	550.00	203.00	753.00		\$ -
B2030 220 3550	Door, steel 18 gauge, hollow metal, 1 door with frame, no label, 4'-0" x 8'-0" opening	Opng.	1,500.00	277.00	1,777.00	3.00	\$ 5,331
B2030 220 3600	Door, steel 18 gauge, hollow metal, 2 doors with frame, no label, 5'-0" x 7'-0" opening	Opng.	2,300.00	485.00	2,785.00	2.00	\$ 5,570
B3010 140 2000	Metal roofing, steel, colors, 3" min slope, 24 gauge, 1.7 PSF	S.F.	3.02	1.83	4.85	1,296.00	\$ 6,286
B3010 320 0650	Insulation, rigid, roof deck, fiberglass, 3'x4' or 4'x8' sheets, 2-7/16" thick, R10	S.F.	1.80	0.48	2.28	900.00	\$ 2,052
B3010 610 3600	Gutters, half round, steel, galvanized, 28 ga thick, 5", enameled finish	L.F.	1.57	4.02	5.59	120.00	\$ 671
B3010 620 1450	Downspout, steel, rectangular, corrugated, 3" x 4", galvanized, 28 ga thick	V.L.F.	1.65	3.32	4.97	40.00	\$ 199
B3020 110 5400	Skylight, plastic domes, insulated curbs, 10 SF to 20 SF, double glazing	S.F.	22.50	5.15	27.65	100.00	\$ 2,765
C1010 102 1500	Concrete block (CMU) partition, regular weight, hollow, 6" thick, no finish	S.F.	2.37	5.70	8.07		\$ -
C1020 114 1800	Metal door/metal frame, flush-hollow core, 18 ga full panel, 2'-8" x 6'-8", KD drywall frame, 4-7/8"	Ea.	485.00	340.00	825.00		\$ -
C1030 110 0420	Toilet partitions, cubicles, ceiling hung, plastic laminate	Unit	680.00	239.00	919.00		\$ -
C1030 110 0620	Toilet partitions, cubicles, floor and ceiling anchored, handicap addition	Unit	291.00	0.00	291.00		\$ -
C1030 110 1300	Urinal screens, floor mounted, 24" wide, laminated plastic	Unit	395.00	120.00	515.00		\$ -
C1030 310 0450	Parts bins, 3' wide x 7' high, 84 bins, 6" x 6" x 12"	Ea.	730.00	95.00	825.00	2.00	\$ 1,650
C1030 310 0610	Shelving, metal industrial, braced, 3' wide, 2' deep	Ea.	29.50	11.40	40.90	10.00	\$ 409
C3010 230 0320	Painting, masonry or concrete, latex, brushwork, primer & 2 coats	S.F.	0.32	1.22	1.54	1,440.00	\$ 2,218
C3010 230 0340	Painting, masonry or concrete, latex, brushwork, addition for block filler	S.F.	0.19	1.05	1.24	1,440.00	\$ 1,786
C3010 230 1940	Ceramic tile, thin set, 4-1/4" x 4-1/4"	S.F.	2.57	4.13	6.70		\$ -
C3020 410 1520	Tile, maximum	S.F.	12.35	1.59	13.94		\$ -
C3030 110 5700	Gypsum board ceilings, 5/8" fire rated gypsum board, painted and textured finish, 1-5/8" metal stud furring, 24" OC support	S.F.	0.81	2.56	3.37	1,800.00	\$ 6,066
D2010 110 1880	Water closet, vitreous china, tank type, wall hung, close coupled 2 piece	Ea.	1,350.00	495.00	1,845.00		\$ -
D2010 210 2000	Urinal, vitreous china, wall hung	Ea.	630.00	555.00	1,185.00		\$ -
D2010 320 1760	Lavatories, battery mount, side by side, first lavatory	Ea.	925.00	640.00	1,565.00		\$ -
D2010 320 1800	Lavatories, battery mount, side by side, each additional lavatory, add	Ea.	845.00	445.00	1,290.00		\$ -

Number	Description	Unit	Mat.	Inst.	Total	Quantity	Cost
D2010 610 2040	Group wash fountain, stainless steel, semi-circular, 36" diam	Ea.	4,550.00	835.00	5,385.00		\$ -
D2010 810 1920	Drinking fountain, 1 bubbler, wall mounted, non recessed, stainless steel, no back	Ea.	1,575.00	330.00	1,905.00		\$ -
D2020 250 2260	Gas fired water heater, commercial, 100< F rise, 600 MBH input, 576 GPH	Ea.	23,300.00	2,675.00	25,975.00		\$ -
D3050 150 1840	Rooftop, single zone, air conditioner, bars and taverns, 500 SF 5.54 ton	S.F.	12.10	8.20	20.30		\$ -
D5010 120 0440	Service installation, includes breakers, metering, 20' conduit & wire, 3 phase, 4 wire, 120/208 V, 1000 A	Ea.	12,800.00	4,825.00	17,625.00	1.00	\$ 17,625
E1090 350 0120	Architectural equipment, kitchen equipment, broiler, without oven	Ea.	3,625.00	124.00	3,749.00		\$ -
E1090 350 0150	Architectural equipment, kitchen equipment, cooler, beverage, reach-in, 6 FT long	Ea.	4,750.00	167.00	4,917.00		\$ -
E1090 350 0160	Architectural equipment, kitchen equipment, food warmer, counter, 1.65 KW	Ea.	695.00	0.00	695.00		\$ -
E1090 350 0185	Architectural equipment, kitchen equipment, ice maker, 1000 lb. per day, with bin	Ea.	5,350.00	985.00	6,335.00		\$ -
E1090 350 0200	Architectural equipment, kitchen equipment range, restaurant type, burners, 2 ovens & 24" griddle	Ea.	4,500.00	167.00	4,667.00		\$ -
E1090 350 0210	Architectural equipment, kitchen equipment, range hood, including CO2 system, economy	Ea.	4,525.00	330.00	4,855.00		\$ -
E1090 360 0110	Special construction, refrigerators, prefabricated, walk-in, 7'-6" high, 6' x 6'	S.F.	149.00	17.10	166.10		\$ -
E2020 220 0340	Furnishings, cabinets, hospital, counter top, stainless steel	L.F.	155.00	23.00	178.00		\$ -
G1030 205 1100	Gravel backfill, 80 HP dozer and vibrating compactor, 50' haul, 12" lifts, 2 passes	C.Y.	0.00	0.00	1.91	300.00	\$ 573
G1030 807 1350	Trenching, sand & gravel, excavator, no slope, 2' wide, 8' deep, 1/2 CY bk	L.F.	0.00	0.00	6.60	200.00	\$ 1,320
G1030 815 1500	Pipe bedding, side slope 0:1, 2' wide, pipe size 12" diameter	L.F.	1.64	1.64	2.96	200.00	\$ 592
G3010 110 2130	Water distribution piping, ductile iron class 250, mechanical joint, 4" diameter, excludes excavation and backfill	L.F.	15.25	15.25	30.50	100.00	\$ 3,050
G3020 110 2150	Drainage and sewage piping, 6" diameter, plain, PVC, excavation and backfill excluded	L.F.	2.39	2.39	6.14	100.00	\$ 614
A20101102280	Excavate and fill, 1000 SF 8' deep, sand, gravel, or common earth, on site storage	S.F.	0.00	0.00	4.95	1,200.00	\$ 5,940
A20201105200	Foundation wall, CIP, 8' wall height, pumped, .148 CY/LF, 6.6 PLF, 6" thick	L.F.	28.00	28.00	117.00	40.00	\$ 4,680
A10301206800	Slab on grade, 8" thick, heavy industrial, reinforced	S.F.	5.90	5.90	13.30	120.00	\$ 1,596
A20201105240	Foundation wall, CIP, 8' wall height, pumped, .250 CY/LF, 12 PLF, 10" thick	L.F.	43.50	94.50	138.00	120.00	\$ 16,560
B10102303400	Precast concrete plank, 2" topping, 10" total thickness, 30' span, 40 PSF superimposed load, 120 PSF total load	S.F.	9.45	4.37	13.82	900.00	\$ 12,438
	Architectural Sub Total						\$ 145,564
	Electrical at 20%	20%					\$ 29,113

Number	Description	Unit	Mat.	Inst.	Total	Quantity	Cost
	Miscellaneous Mechanical at 20%	20%					\$ 29,113
	Architectural and MEP Sub Total						\$ 203,789
	Mobilization @ 2%						\$ 2,911
	Bonds and Insurance @2.5%						\$ 3,639
	Sales Tax @ 50% of 5.5%						\$ 4,003
	Sub Total Before Contingency						\$ 214,342
	Contingency @ 15%						\$ 32,151
	<b>Total Estimated Bid Cost</b>						<b>\$ 246,494</b>

## TABLE 2

### TABLE 2: COST ESTIMATE FOR BATHHOUSE RENOVATIONS

CostWorks 2008 Quarter 3 - Eau Claire Fairfax, Bathhouse Renovation

Qty	Assembly Number	Description	Unit	Mat.	Inst.	Total
1.000	A1010 110 2500	Strip footing, concrete, reinforced, load 5.1 KLF, soil bearing capacity 3 KSF, 12" deep x 24" wide	L.F.	16.60	19.75	36.35
1.000	A1030 120 3360	Slab on grade, 5" thick, non industrial, reinforced	S.F.	2.58	2.64	5.22
1.000	B2020 104 6000	Windows, steel, commercial projected (40% vented), standard glass, 3'-9" x 5'-5"	Ea.	1,150.00	274.00	1,424.00
1.000	C10101022000	Concrete block (CMU) partition, regular weight, hollow, 8" thick, no finish	S.F.	2.57	6.05	8.62
1.000	C1020 114 1800	Metal door/metal frame, flush-hollow core, 18 ga full panel, 2'-8" x 6'-8", KD drywall frame, 4-7/8"	Ea.	485.00	340.00	825.00
1.000	C1030 110 0420	Toilet partitions, cubicles, ceiling hung, plastic laminate	Unit	680.00	239.00	919.00
1.000	C1030 110 0480	Toilet partitions, cubicles, ceiling hung, handicap addition	Unit	485.00	0.00	485.00
1.000	C1030 710 0160	Bathroom accessories, stainless steel, mirror, framed, with shelf, 18" x 24"	Ea.	262.00	23.50	285.50
1.000	C3010 230 0320	Painting, masonry or concrete, latex, brushwork, primer & 2 coats	S.F.	0.32	1.22	1.54
1.000	C3010 230 0340	Painting, masonry or concrete, latex, brushwork, addition for block filler	S.F.	0.19	1.05	1.24
1.000	C3020 410 1720	Tile, ceramic natural clay	S.F.	4.94	4.28	9.22
1.000	D2010 120 1760	Water closets, battery mount, wall hung, side by side, first closet	Ea.	1,225.00	580.00	1,805.00
1.000	D2010 120 1800	Water closetss, battery mount, wall hung, side by side, each additional water closet, add	Ea.	1,150.00	545.00	1,695.00
1.000	D2010 210 2000	Urinal, vitreous china, wall hung	Ea.	630.00	555.00	1,185.00
1.000	D2010 710 1720	Shower, stall, baked enamel, terrazzo receptor, 36" corner angle	Ea.	1,150.00	590.00	1,740.00
1.000	D2010 820 1920	Water cooler, electric, wall hung, wheelchair type, 7.5 GPH	Ea.	2,075.00	420.00	2,495.00
1.000	D2090 810 0880	Pipe cast iron, soil, B & S, service weight, 4" diameter	L.F.	13.25	15.35	28.60
	<b>D20908100920</b>	<b>Pipe cast iron, soil, B &amp; S, service weight, 6" diameter</b>	<b>L.F.</b>	<b>\$22.50</b>	<b>\$17.95</b>	<b>\$40.45</b>

**TABLE 2: COST ESTIMATE FOR BATHHOUSE RENOVATIONS**

Estimator: Tim Gremmer							
Number	Description	Unit	Mat.	Inst.	0	Quantity	Cost
A1010 110 2500	Strip footing, concrete, reinforced, load 5.1 KLF, soil bearing capacity 3 KSF, 12" deep x 24" wide	L.F.	\$ 16.60	\$ 19.75	\$ 36.35	135.00	\$ 18,225
A1030 120 3360	Slab on grade, 5" thick, non industrial, reinforced	S.F.	\$ 2.58	\$ 2.64	\$ 5.22	950.00	\$ 4,959
B2020 104 6000	Windows, steel, commercial projected (40% vented), standard glass, 3'-9" x 5'-5"	Ea.	\$ 1,150.00	\$ 274.00	\$ 1,424.00		\$ -
C10101022000	Concrere block (CMU) partition, regular weight, hollow, 8" thick, no finish	S.F.	\$2.57	\$6.05	\$8.62	1,620.00	\$ 13,964
C1020 114 1800	Metal door/metal frame, flush-hollow core, 18 ga full panel, 2'-8" x 6'-8", KD drywall frame, 4-7/8"	Ea.	\$ 485.00	\$ 340.00	\$ 825.00	6.00	\$ 4,950
C1030 110 0420	Toilet partitions, cubicles, ceiling hung, plastic laminate	Unit	\$ 680.00	\$ 239.00	\$ 919.00	10.00	\$ 9,190
C1030 110 0480	Toilet partitions, cubicles, ceiling hung, handicap addition	Unit	\$ 485.00	\$ -	\$ 485.00	2.00	\$ 970
C1030 710 0160	Bathroom accessories, stainless steel, mirror, framed, with shelf, 18" x 24"	Ea.	\$ 262.00	\$ 23.50	\$ 285.50	2.00	\$ 571
C3010 230 0320	Painting, masonry or concrete, latex, brushwork, primer & 2 coats	S.F.	\$ 0.32	\$ 1.22	\$ 1.54	1,215.00	\$ 1,871
C3010 230 0340	Painting, masonry or concrete, latex, brushwork, addition for block filler	S.F.	\$ 0.19	\$ 1.05	\$ 1.24	1,215.00	\$ 1,507
C3020 410 1720	Tile, ceramic natural clay	S.F.	\$ 4.94	\$ 4.28	\$ 9.22	80.00	\$ 738
D2010 120 1760	Water closets, battery mount, wall hung, side by side, first closet	Ea.	\$ 1,225.00	\$ 580.00	\$ 1,805.00	10.00	\$ 18,050
D2010 120 1800	Water closetss, battery mount, wall hung, side by side, each additional water closet, add	Ea.	\$ 1,150.00	\$ 545.00	\$ 1,695.00	11.00	\$ 18,645
D2010 210 2000	Urinal, vitreous china, wall hung	Ea.	\$ 630.00	\$ 555.00	\$ 1,185.00		\$ -
D2010 710 1720	Shower, stall, baked enamel, terrazzo receptor, 36" corner angle	Ea.	\$ 1,150.00	\$ 590.00	\$ 1,740.00	4.00	\$ 6,960
D2010 820 1920	Water cooler, electric, wall hung, wheelchair type, 7.5 GPH	Ea.	\$ 2,075.00	\$ 420.00	\$ 2,495.00	1.00	\$ 2,495
D2090 810 0880	Pipe cast iron, soil, B & S, service weight, 4" diameter	L.F.	\$ 13.25	\$ 15.35	\$ 28.60	40.00	\$ 1,144
D20908100920	Pipe cast iron, soil, B & S, service weight, 6" diameter	L.F.	\$ 22.50	\$ 17.95	\$ 40.45	60.00	\$ 2,427
24116170420	Bldg. footings and foundations demolition, floors, concrete slab on grade, concrete, wire mesh reinforced, 6" thick, excludes disposal costs and dump fees	SF			\$ 6.45	950.00	\$ 6,128
24116172080	Bldg. footings and foundations demolition, remove concrete walls, block, 8" thick, excludes disposal costs and dump fees	SF			\$ 2.60	600.00	\$ 1,560
	Demolition for door opening	HOURS			\$ 59.30	20.00	\$ 1,186

Number	Description	Unit	Mat.	Inst.	0	Quantity	Cost		
38113500400	Concrete sawing, concrete slabs, mesh reinforcing, up to 3" deep	lf			\$	1.81	140.00	\$	253
38113500420	Concrete sawing, concrete, existing slab, mesh reinforcing, for each additional inch of depth over 3"	lf			\$	1.90	140.00	\$	266
	Solid insulation under floor slab	SF				1.64	\$ 950.00	\$	1,558
	Demolition (allowance	LS						\$	10,000
	Architectural Sub Total							\$	127,617
	Electrical at 15%							\$	19,142
	Miscellaneous Mechanical at 10%							\$	12,762
	Architectural and MEP Sub Total							\$	159,521
	Mobilization @ 2%							\$	2,552
	Bonds and Insurance @2.5%							\$	3,190
	Sales Tax @ 50% of 5.5%							\$	3,509
	Sub Total Before Contingency							\$	168,773
	Renovation Contingency @ 25%							\$	42,193
	Total Estimated Bid Cost							\$	210,966

TABLE 3

TABLE 3 ALTERNATIVES 1 AND 2 POOL AND SITE COSTS

RS MEANS COSTWORKS DATA

CSI Number	Description	Crew	Daily Outp	Labor Ho	Unit	Bare Mat.	Bare Labor	Bare Equip	Bare Total	Total Incl. O&P
15626500250	Temporary Fencing, chain link, rented up to 12 months, 6' high, 11 ga, over 1000'	2 Clab	300	0.053	L.F.	\$2.10	\$1.53	\$0.00	\$3.63	\$4.69
24113175200	Demolish, remove pavement & curb, remove concrete, mesh reinforced, to 6" thick, excludes hauling and disposal fees	B38	255	0.157	S.Y.	\$0.00	\$5.55	\$3.97	\$9.52	\$12.85
24113175500	Demolish, remove pavement & curb, concrete, rod reinforced, 7" to 24" thick, remove with backhoe, excludes hauling Bldg. footings and foundations demolition, remove concrete walls, plain concrete, 12" thick, excludes disposal costs and dump fees	B38	24	1.667	C.Y.	\$0.00	\$59.00	\$42.50	\$101.50	\$137.00
24116172500	Bldg. footings and foundations demolition, remove concrete walls, plain concrete, for average reinforcing, excludes disposal costs and dump fees, add	B9	100	0.4	S.F.	\$0.00	\$13.97	\$2.13	\$16.10	\$24.20
<Adjustments C: U7737		2								
24116172600	C.I.P. concrete forms, slab on grade, edge, wood, 7" to 12" high, includes erecting, bracing, stripping and cleaning				S.F.				10.00%	10.00%
31113653050	C.I.P. concrete forms, wall, job built, plywood, to 8' high, 1 use, includes erecting, bracing, stripping and cleaning	C1	435	0.074	SFCA	\$0.70	\$2.62	\$0.00	\$3.32	\$4.84
31113852000	C.I.P. concrete forms, wall, job built, plywood, to 8' high, 1 use, includes erecting, bracing, stripping and cleaning	C2	370	0.13	SFCA	\$2.71	\$4.74	\$0.00	\$7.45	\$10.40
31513500550	Waterstop, PVC, ribbed, with center bulb, 3/8" thick x 6" wide	1 Carp	130	0.062	L.F.	\$2.63	\$2.30	\$0.00	\$4.93	\$6.50
32110600600	Reinforcing steel, in place, slab on grade, #3 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	4 Rodm	2	13.913	Ton	\$1,250.00	\$625.00	\$0.00	\$1,875.00	\$2,400.00
32110600700	Fibrous reinforcing, synthetic fibers, add to concrete, 1-1/2 lb. per C.Y.	4 Rodm	3	10.667	Ton	\$1,250.00	\$475.00	\$0.00	\$1,725.00	\$2,150.00
32405300110	Structural concrete, in place, slab on grade, over 10000 S.F., 6" thick, includes finishing only				C.Y.	\$8.70	\$0.00	\$0.00	\$8.70	\$9.55
33053404820	Structural concrete, in place, slab on grade, 8" thick, includes textured finish only	C14F	3,350	0.021	S.F.	\$1.97	\$0.73	\$0.01	\$2.71	\$3.27
33053405020	Structural concrete, ready mix, normal weight, 4000 PSI, includes local aggregate, sand, portland cement and water, delivered, excludes all additives and treatments	C14G	2,320	0.024	S.F.	\$2.67	\$0.81	\$0.01	\$3.49	\$4.17
33105350300	Structural concrete, placing, slab on grade, pumped, over 6" thick, includes vibrating, excludes material				C.Y.	\$107.00	\$0.00	\$0.00	\$107.00	\$118.00
33105704650	Concrete finishing, floors, manual screed, bull float, manual float, broom finish	C20	185	0.346	C.Y.	\$0.00	\$10.90	\$4.25	\$15.15	\$21.50
33105705100	Concrete finishing, floors, manual screed, bull float, manual float, broom finish	C20	110	0.582	C.Y.	\$0.00	\$18.40	\$7.15	\$25.55	\$36.00
33529300150	Concrete finishing, floors, manual screed, bull float, manual float, broom finish	C10	1,850	0.013	S.F.	\$0.00	\$0.44	\$0.00	\$0.44	\$0.65

	Control joint, concrete floor slab, sawcut in green concrete, 1-1/2" depth	C27	1,800	0.009 L.F.	\$0.10	\$0.32	\$0.08	\$0.50	\$0.66
33529350200	Control joint, clean out control joint of debris	C28	6,000	0.001 L.F.	\$0.00	\$0.05	\$0.00	\$0.05	\$0.07
33529350320	Control joint, backer rod, polyethylene, 1/4" diameter	1 Cefi	460	0.017 L.F.	\$0.03	\$0.62	\$0.00	\$0.65	\$0.95
33529350380	Control joint, joint sealant, polyurethane, 1/4" x 1/2" (154 LF/Gal) Concrete surface treatment, curing compound, water based, 350	1 Cefi	255	0.031 L.F.	\$0.34	\$1.13	\$0.00	\$1.47	\$2.02
33923130800	S.F. per gallon, 55 gallon drum, includes material only			Gal.	\$19.10	\$0.00	\$0.00	\$19.10	\$21.00
33923230200	Curing, burlap/poly blanket, 2 ply	2 Clab	70	0.229 C.S.F	\$17.10	\$6.70	\$0.00	\$23.80	\$29.00
93013106400	Ceramic tile, exterior walls, frostproof, mud set, 1-3/8" x 1-3/8"	D7	93	0.172 S.F.	\$4.70	\$5.85	\$0.00	\$10.55	\$13.75
93013107000	Ceramic tile, for epoxy grout, 1/16" joints, 4-1/4" tile, add	D7	800	0.02 S.F.	\$0.40	\$0.68	\$0.00	\$1.08	\$1.44
99656200400	Wall Coatings, epoxy coatings, max Topsoil stripping and stockpiling, topsoil, sandy loam, ideal conditions, 200 H.P. dozer	1 Pord	170	0.047 S.F.	\$1.00	\$1.52	\$0.00	\$2.52	\$3.39
3.11413E+11	Fine grading, fine grade for slab on grade, hand grading	B10B	2,300	0.005 C.Y.	\$0.00	\$0.20	\$0.48	\$0.68	\$0.82
3.12216E+11	Excavating, trench or continuous footing, common earth, 1 1/2	B18	700	0.034 S.Y.	\$0.00	\$1.11	\$0.05	\$1.16	\$1.78
3.12316E+11	C.Y. excavator, 6' to 10' deep, excludes sheeting or dewatering Structural excavation for minor structures, bank measure, for spread and mat footings, elevator pits, and small building foundations, sand & gravel, 1 C.Y. bucket, machine excavation,	B12B	600	0.027 B.C.Y	\$0.00	\$0.99	\$1.40	\$2.39	\$3.05
3.12316E+11	hydraulic backhoe	B12A	120	0.133 B.C.Y	\$0.00	\$4.96	\$5.45	\$10.41	\$13.55
3.12323E+11	Backfill, light soil, by hand, no compaction	1 Clab	14	0.571 L.C.Y	\$0.00	\$18.05	\$0.00	\$18.05	\$28.00
3.12323E+11	Backfill, 6" layers, compaction in layers, vibrating plate, add to above	A1D	60	0.133 E.C.Y	\$0.00	\$4.21	\$0.53	\$4.74	\$7.15
3.12323E+11	Fill, from stockpile, 130 H.P., 2-1/2 C.Y., 300' haul, spread fill, with front-end loader, excludes compaction	B10P	600	0.02 L.C.Y	\$0.00	\$0.76	\$1.51	\$2.27	\$2.83
3.12323E+11	Fill, gravel fill, compacted, under floor slabs, 12" deep Hauling, excavated or borrow material, loose cubic yards, 5 mile round trip , 1 loads/hour, 12 C.Y. truck, highway haulers,	B37	6,000	0.008 S.F.	\$0.98	\$0.26	\$0.02	\$1.26	\$1.50
3.12323E+11	excludes loading Synthetic erosion control, silt fence, polypropylene, ideal conditions, 3' high	B34B	78	0.103 L.C.Y	\$0.00	\$3.28	\$6.50	\$9.78	\$12.25
3.12513E+11	Asphaltic concrete, parking lots & driveways, 6" stone base, 2" binder course, 1" topping	2 Clab	1,600	0.01 L.F.	\$0.33	\$0.31	\$0.00	\$0.64	\$0.84
3.21216E+11	Cast-in place concrete curbs & gutters, straight, wood forms, 0.066 C.Y. per L.F., 6" high curb, 6" thick gutter, 30" wide	B25C	9,000	0.005 S.F.	\$2.06	\$0.18	\$0.23	\$2.47	\$2.78
3.21613E+11	Decorative metal fences and gates, tubular picket, steel, staggered picket, 6' sections, 2" posts, 6' high, includes excavation	C2A	340	0.141 L.F.	\$16.55	\$5.10	\$0.00	\$21.65	\$26.00
3.23119E+11	Decorative metal fences and gates, tubular picket, steel, gates, 6' high, 4' wide, includes excavation	B80C	200	0.12 L.F.	\$53.50	\$3.16	\$0.94	\$57.60	\$65.00
3.23119E+11	Underground sprinklers irrigation system, for lawns, residential system, custom, 1-1/2" supply	B1	10	2.4 Ea.	\$475.00	\$65.00	\$0.00	\$540.00	\$625.00
3.28423E+11	Topsoil placement and grading, loam or topsoil screened, 6" deep, furnish and place, truck dumped	B20	1,800	0.013 S.F.	\$0.35	\$0.47	\$0.00	\$0.82	\$1.12
3.29119E+11	Sodding, bluegrass sod, on level ground, 1" deep, 4 M.S.F.	B10S	820	0.015 S.Y.	\$2.85	\$0.52	\$0.37	\$3.74	\$4.35
3.29223E+11	Public Water Utility Distribution Piping, ductile iron pipe, cement lined, mechanical joint, no fittings, 18' lengths, 6" diameter, class 50, excludes excavation or backfill	B63	17	2.353 M.S.F	\$190.00	\$72.50	\$8.20	\$270.70	\$330.00
3.31113E+11		B21A	160	0.25 L.F.	\$21.50	\$9.10	\$3.86	\$34.46	\$42.00

3.33113E+11	Public Sanitary Utility Sewerage Piping, piping polyvinyl chloride pipe, B & S, 13' lengths, 8" diameter, SDR 35, excludes excavation or backfill	B20	335	0.072 L.F.	\$6.25	\$2.35	\$0.00	\$8.60	\$10.55
3.34114E+11	Public Storm Utility Drainage Piping, reinforced concrete pipe (RCP) with gaskets, 12" diameter, 6' lengths, class 3, excludes excavation or backfill	B21	168	0.167 L.F.	\$14.95	\$5.65	\$0.78	\$21.38	\$26.00
3.23113E+11	Fence, chain link industrial, galvanized steel, add for line post, 6 ga. wire, 2-1/2" posts @ 10' OC, 8' high, includes excavation, in concrete	B80C	180	0.133 L.F.	\$44.50	\$3.52	\$1.04	\$49.06	\$55.00
3.23113E+11	Fence, chain link industrial, double swing gates, 8' high, 12' opening, includes excavation, in concrete	B80	2.13	15.002 Opng.	\$1,625.00	\$425.00	\$297.00	\$2,347.00	\$2,775.00
3.23113E+11	Fence, chain link industrial, gate, galvanized steel, 6' high fence, 1-5/8" frame, 3' wide, 6' high, includes excavation, in concrete	B80C	10	2.4 Ea.	\$203.00	\$63.50	\$18.80	\$285.30	\$340.00
3.12323E+11	Cycle hauling(wait, load, travel, unload or dump & return) time per cycle, excavated or borrow, loose cubic yards, 10 min wait/load/unload, 8 CY truck, cycle 8 miles, 15 MPH, no loading equipment	B34A	88	0.091 L.C.Y	\$0.00	\$2.90	\$3.55	\$6.45	\$8.40
33053406850	Structural concrete, in place, stairs, cast on ground, 3'-6" wide, includes forms(4 uses), reinforcing steel, and finishing, excludes safety treads	C14H	125	0.384 LF Nc	\$4.46	\$14.10	\$0.20	\$18.76	\$27.00
2.35228E+11	Swimming pool heater, gas fired, input, 650 MBH, excludes wiring, piping, base or pad	Q6	0.35	68.571 Ea.	\$9,975.00	\$2,700.00	\$0.00	#####	\$15,100.00
2.35228E+11	Swimming pool heater, gas fired, input, 990 MBH, excludes wiring, piping, base or pad	Q6	0.22	109 Ea.	\$14,600.00	\$4,300.00	\$0.00	#####	\$22,500.00
2.30523E+11	Valves, iron body, butterfly, wafer type, gear actuator, 200 lb., 4"	Q1	5	3.2 Ea.	\$208.00	\$113.00	\$0.00	\$321.00	\$395.00
2.30523E+11	Valves, iron body, butterfly, wafer type, gear actuator, 200 lb., 6"	Q2	5	4.8 Ea.	\$310.00	\$175.00	\$0.00	\$485.00	\$610.00
2.30523E+11	Valves, iron body, butterfly, wafer type, gear actuator, 200 lb., 10"	Q2	4	6 Ea.	\$520.00	\$218.00	\$0.00	\$738.00	\$900.00
3.31216E+11	Water Utility distribution Valves, butterfly valves with boxes, cast iron, mechanical joint, 14" diameter, includes valve box and mechanical joints, excludes excavation and backfill	B6	4	6 Ea.	\$3,925.00	\$190.00	\$72.50	\$4,187.50	\$4,700.00
2.30523E+11	Valves, iron body, butterfly, wafer type, gear actuator, 200 lb., 12"	Q2	3	8 Ea.	\$720.00	\$292.00	\$0.00	\$1,012.00	\$1,225.00
2.30523E+11	Valves, iron body, butterfly, wafer type, gear actuator, 200 lb., 8"	Q2	4.5	5.333 Ea.	\$355.00	\$194.00	\$0.00	\$549.00	\$675.00
2.30523E+11	Valves, iron body, silent check, bronze trim, globe type, flanged, 125 lb., 4"	Q1	5	3.2 Ea.	\$425.00	\$113.00	\$0.00	\$538.00	\$640.00
2.30523E+11	Valves, iron body, silent check, bronze trim, globe type, flanged, 125 lb., 6"	Q2	5	4.8 Ea.	\$690.00	\$175.00	\$0.00	\$865.00	\$1,025.00
2.30523E+11	Valves, iron body, silent check, bronze trim, globe type, flanged, 125 lb., 8"	Q2	4.5	5.333 Ea.	\$1,275.00	\$194.00	\$0.00	\$1,469.00	\$1,675.00
2.30523E+11	Valves, iron body, silent check, bronze trim, globe type, flanged, 125 lb., 12"	Q2	3	8 Ea.	\$2,650.00	\$292.00	\$0.00	\$2,942.00	\$3,350.00

3.31113E+11	Public Water Utility Distribution Piping, butterfly valves cast iron, with extension box, 14" diameter	B21	2	14 Ea.	\$3,675.00	\$475.00	\$65.00	\$4,215.00	\$4,850.00
2.21123E+11	Pump, general utility, centrifugal, end suction, horizontal base mounted, vertical split case, rated @ 100' head, single stage, 2000 GPM, 75 H.P., 6" discharge, includes drip proof motor	Q2	0.5	48 Ea.	\$11,900.00	\$1,775.00	\$0.00	#####	\$15,800.00
2.21123E+11	Pump, general utility, centrifugal, end suction, horizontal base mounted, vertical split case, rated @ 100' head, single stage, 300 GPM, 15 H.P., 2" discharge, includes drip proof motor	Q2	1.56	15.385 Ea.	\$4,400.00	\$565.00	\$0.00	\$4,965.00	\$5,700.00
2.21123E+11	Pump, general utility, centrifugal, end suction, horizontal base mounted, vertical split case, rated @ 100' head, single stage, 750 GPM, 30 H.P., 4" discharge, includes drip proof motor	Q2	1.2	20 Ea.	\$5,100.00	\$735.00	\$0.00	\$5,835.00	\$6,725.00
2.21123E+11	Pump, general utility, centrifugal, end suction, horizontal base mounted, vertical split case, rated @ 100' head, single stage, 1050 GPM, 40 H.P., 5" discharge, includes drip proof motor	Q2	1	24 Ea.	\$6,825.00	\$885.00	\$0.00	\$7,710.00	\$8,825.00
2.21123E+11	Pump, general utility, centrifugal, end suction, horizontal base mounted, vertical split case, rated @ 100' head, single stage, 500 GPM, 20 H.P., 4" discharge, includes drip proof motor	Q2	1.44	16.667 Ea.	\$5,000.00	\$610.00	\$0.00	\$5,610.00	\$6,425.00
2.21114E+11	Pipe, plastic, PVC, 4" diameter, schedule 80, includes couplings 10' OC, and hangers 3 per 10'	Q1	46	0.348 L.F.	\$9.30	\$12.30	\$0.00	\$21.60	\$28.50
2.21114E+11	Pipe, plastic, PVC, 6" diameter, schedule 80, includes couplings 10' OC, and hangers 3 per 10'	Q1	38	0.421 L.F.	\$21.50	\$14.90	\$0.00	\$36.40	\$46.00
2.21114E+11	Pipe, plastic, PVC, 8" diameter, schedule 80, includes couplings 10' OC, and hangers 3 per 10'	Q2	47	0.511 L.F.	\$32.00	\$18.95	\$0.00	\$50.95	\$63.50
2.21114E+11	Pipe, plastic, PVC, 10" diameter, schedule 80, includes couplings 10' OC, and hangers 3 per 10'	Q2	42	0.571 L.F.	\$54.50	\$21.00	\$0.00	\$75.50	\$91.50
2.21114E+11	Pipe, plastic, PVC, 12" diameter, schedule 80, includes couplings 10' OC, and hangers 3 per 10'	Q2	38	0.632 L.F.	\$69.00	\$23.00	\$0.00	\$92.00	\$112.00
3.31113E+11	Public Water Utility Distribution Piping, piping Polyvinyl Chloride, 14" diameter, AWWA C905, PR 100, DR 41, excludes excavation or backfill, unless specified	B20A	213	0.15 L.F.	\$24.00	\$5.30	\$0.00	\$29.30	\$34.00
33529600750	Concrete finishing, walls, sandblast, heavy penetration styrene-propylene-diene-monomer roofing, (EPDM), 0.40	E11	375	0.085 S.F.	\$1.19	\$3.00	\$0.53	\$4.72	\$6.90
75323204700	P.S.F., partially adhered, 60 mils	G5	35	1.143 Sq.	\$89.00	\$32.50	\$4.78	\$126.28	\$158.00
61516100400	Wood roof decking, cedar planks, 3" thick	2 Carp	320	0.05 S.F.	\$6.15	\$1.89	\$0.00	\$8.04	\$9.65
72216100130	Roof Deck Insulation, fiberboard high density, 1-1/2" thick, R3.8 structural concrete, in place, elevated slab, flat plate, 120 psi	1 Rofc	800	0.01 S.F.	\$0.65	\$0.26	\$0.00	\$0.91	\$1.17
33053402100	superimposed load, 15' span, includes forms(4 uses), reinforcing	C14B	30.24	6.878 C.Y.	\$244.00	\$256.00	\$25.50	\$525.50	\$695.00

**TABLE 3: BASIC UPGRADE**

CSI Line No.	ESTIMATOR	Descriptions	Tim Gremmer				Labor		Equipment		Subcontract	
			unit	Quantity	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension
15626500250		Temporary Fencing, chain link, rented up to 12 months, 6' high, 11 ga, over 1000'	L.F.		\$2.10	\$ -	\$1.53	\$ -	\$0.00	\$ -		
24113175200		Demolish, remove pavement & curb, remove concrete, mesh reinforced, to 6" thick, excludes hauling and disposal fees	S.Y.	133.33	\$0.00	\$ -	\$5.55	\$ 740	\$3.97	\$ 529		
24113175500		Demolish, remove pavement & curb, concrete, rod reinforced, 7" to 24" thick, remove with backhoe, excludes hauling	C.Y.		\$0.00	\$ -	\$59.00	\$ -	\$42.50	\$ -		
24116172500		Bldg. footings and foundations demolition, remove concrete walls, plain concrete, 12" thick, excludes disposal costs and dump fees	S.F.		\$0.00	\$ -	\$13.97	\$ -	\$2.13	\$ -		
24116172600		Bldg. footings and foundations demolition, remove concrete walls, plain concrete, for average reinforcing, excludes disposal costs and dump fees, add	S.F.									
31113653050		C.I.P. concrete forms, slab on grade, edge, wood, 7" to 12" high, 4 use, includes erecting, bracing, stripping and cleaning	SFCA		\$0.70	\$ -	\$2.62	\$ -	\$0.00	\$ -		
31113852000		C.I.P. concrete forms, wall, job built, plywood, to 8' high, 1 use, includes erecting, bracing, stripping and cleaning	sfca		\$2.71	\$ -	\$4.74	\$ -	\$0.00	\$ -		
31513500550		Waterstop, PVC, ribbed, with center bulb, 3/8" thick x 6" wide	L.F.		\$2.63	\$ -	\$2.30	\$ -	\$0.00	\$ -		
32110600600		Reinforcing steel, in place, slab on grade, #3 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	Ton		\$1,250.00	\$ -	\$625.00	\$ -	\$0.00	\$ -		
32110600700		Reinforcing steel, in place, walls, #3 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	Ton		\$1,250.00	\$ -	\$475.00	\$ -	\$0.00	\$ -		
32405300110		Fibrous reinforcing, synthetic fibers, add to concrete, 1-1/2 lb. per C.Y.	C.Y.	21.00	\$8.70	\$ 183	\$0.00	\$ -	\$0.00	\$ -		
33053404820		Structural concrete, in place, slab on grade, over 10000 S.F., 6" thick, includes finishing only	S.F.	1,200.00	\$1.97	\$ 2,364	\$0.73	\$ 876	\$0.01	\$ 12	\$ 1.00	\$ 1,200
33053405020		Structural concrete, in place, slab on grade, 8" thick, includes textured finish only	S.F.		\$2.67	\$ -	\$0.81	\$ -	\$0.01	\$ -		

CSI Line No.	Descriptions	unit	Quantity	Material		Labor		Equipment		Subcontract	
				Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension
33105350300	Structural concrete, ready mix, normal weight, 4000 PSI, includes local aggregate, sand, portland cement and water, delivered, excludes all additives and treatments	C.Y.		\$107.00	\$ -	\$0.00	\$ -	\$0.00	\$ -		
33105704650	Structural concrete, placing, slab on grade, pumped, over 6" thick, includes vibrating, excludes material	C.Y.		\$0.00	\$ -	\$10.90	\$ -	\$4.25	\$ -		
33105705100	Structural concrete, placing, walls, pumped, 12" thick, includes vibrating, excludes material	C.Y.		\$0.00	\$ -	\$18.40	\$ -	\$7.15	\$ -		
33529300150	Concrete finishing, floors, manual screed, bull float, manual float, broom finish	S.F.	1,200.00	\$0.00	\$ -	\$0.44	\$ 528	\$0.00	\$ -		
33529350140	Control joint, concrete floor slab, sawcut in green concrete, 1-1/2" depth	L.F.		\$0.10	\$ -	\$0.32	\$ -	\$0.08	\$ -		
33529350200	Control joint, clean out control joint of debris	L.F.	100.00	\$0.00	\$ -	\$0.05	\$ 5	\$0.00	\$ -		
33529350320	Control joint, backer rod, polyethylene, 1/4" diameter	L.F.	100.00	\$0.03	\$ 3	\$0.62	\$ 62	\$0.00	\$ -		
33529350380	Control joint, joint sealant, polyurethane, 1/4" x 1/2" (154 LF/Gal)	L.F.	100.00	\$0.34	\$ 34	\$1.13	\$ 113	\$0.00	\$ -		
33923130800	Concrete surface treatment, curing compound, water based, 350 S.F. per gallon, 55 gallon drum, includes material only	Gal.		\$19.10	\$ -	\$0.00	\$ -	\$0.00	\$ -		
33923230200	Curing, burlap/poly blanket, 2 ply	csf		\$17.10	\$ -	\$6.70	\$ -	\$0.00	\$ -		
93013106400	Ceramic tile, exterior walls, frostproof, mud set, 1-3/8" x 1-3/8"	S.F.		\$4.70	\$ -	\$5.85	\$ -	\$0.00	\$ -		
93013107000	Ceramic tile, for epoxy grout, 1/16" joints, 4-1/4" tile, add	S.F.		\$0.40	\$ -	\$0.68	\$ -	\$0.00	\$ -		
99656200400	Wall Coatings, epoxy coatings, max	S.F.	25,000.00	\$1.00	\$ 25,000	\$1.52	\$ 38,000	\$0.00	\$ -		
311413230020	Topsoil stripping and stockpiling, topsoil, sandy loam, ideal conditions, 200 H.P. dozer	C.Y.		\$0.00	\$ -	\$0.20	\$ -	\$0.48	\$ -		
312216101150	Fine grading, fine grade for slab on grade, hand grading	S.Y.	133.33	\$0.00	\$ -	\$1.11	\$ 148	\$0.05	\$ 7		
312316130610	Excavating, trench or continuous footing, common earth, 1 1/2 C.Y. excavator, 6' to 10' deep, excludes sheeting or dewatering	bcy		\$0.00	\$ -	\$0.99	\$ -	\$1.40	\$ -		
312316166080	Structural excavation for minor structures, bank measure, for spread and mat footings, elevator pits, and small building foundations, sand & gravel, 1 C.Y. bucket, machine excavation, hydraulic backhoe	bcy		\$0.00	\$ -	\$4.96	\$ -	\$5.45	\$ -		
312323130015	Backfill, light soil, by hand, no compaction	lcy		\$0.00	\$ -	\$18.05	\$ -	\$0.00	\$ -		
312323130600	Backfill, 6" layers, compaction in layers, vibrating plate, add to above	ecy		\$0.00	\$ -	\$4.21	\$ -	\$0.53	\$ -		
312323170170	Fill, from stockpile, 130 H.P., 2-1/2 C.Y., 300' haul, spread fill, with front-end loader, excludes compaction	lcy		\$0.00	\$ -	\$0.76	\$ -	\$1.51	\$ -		

CSI Line No.	Descriptions	unit	Quantity	Material		Labor		Equipment		Subcontract	
				Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension
312323170800	Fill, gravel fill, compacted, under floor slabs, 12" deep	S.F.		\$0.98	\$ -	\$0.26	\$ -	\$0.02	\$ -		
312323180540	Hauling, excavated or borrow material, loose cubic yards, 5 mile round trip , 1 loads/hour, 12 C.Y. truck, highway haulers, excludes loading	icy		\$0.00	\$ -	\$3.28	\$ -	\$6.50	\$ -		
312513101000	Synthetic erosion control, silt fence, polypropylene, ideal conditions, 3' high	L.F.		\$0.33	\$ -	\$0.31	\$ -	\$0.00	\$ -		
321216140020	Asphaltic concrete, parking lots & driveways, 6" stone base, 2" binder course, 1" topping	S.F.		\$2.06	\$ -	\$0.18	\$ -	\$0.23	\$ -		
321613130435	Cast-in place concrete curbs & gutters, straight, wood forms, 0.066 C.Y. per L.F., 6" high curb, 6" thick gutter, 30" wide	L.F.		\$16.55	\$ -	\$5.10	\$ -	\$0.00	\$ -		
323119105900	Decorative metal fences and gates, tubular picket, steel, staggered picket, 6' sections, 2" posts, 6' high, includes excavation	L.F.	260.00	\$53.50	\$ 13,910	\$3.16	\$ 822	\$0.94	\$ 244		
323119106500	Decorative metal fences and gates, tubular picket, steel, gates, 6' high, 4' wide, includes excavation	Ea.	1.00	\$475.00	\$ 475	\$65.00	\$ 65	\$0.00	\$ -		
328423100900	Underground sprinklers irrigation system, for lawns, residential system, custom, 1-1/2" supply	S.F.	64,000.00	\$0.35	\$ 22,400	\$0.47	\$ 30,080	\$0.00	\$ -		
329119130800	Topsoil placement and grading, loam or topsoil screened, 6" deep, furnish and place, truck dumped	S.Y.		\$2.85	\$ -	\$0.52	\$ -	\$0.37	\$ -		
329223100200	Sodding, bluegrass sod, on level ground, 1" deep, 4 M.S.F.	msf		\$190.00	\$ -	\$72.50	\$ -	\$8.20	\$ -		
331113152040	Public Water Utility Distribution Piping, ductile iron pipe, cement lined, mechanical joint, no fittings, 18' lengths, 6" diameter, class 50, excludes excavation or backfill	L.F.		\$21.50	\$ -	\$9.10	\$ -	\$3.86	\$ -		
333113252080	Public Sanitary Utility Sewerage Piping, piping polyvinyl chloride pipe, B & S, 13' lengths, 8" diameter, SDR 35, excludes excavation or backfill	L.F.		\$6.25	\$ -	\$2.35	\$ -	\$0.00	\$ -		
334113602200	Public Storm Utility Drainage Piping, reinforced concrete pipe (RCP) with gaskets, 12" diameter, 6' lengths, class 3, excludes excavation or backfill	L.F.		\$14.95	\$ -	\$5.65	\$ -	\$0.78	\$ -		

CSI Line No.	Descriptions	unit	Quantity	Material		Labor		Equipment		Subcontract	
				Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension
323113200920	Fence, chain link industrial, galvanized steel, add for line post, 6 ga. wire, 2-1/2" posts @ 10' OC, 8' high, includes excavation, in concrete	L.F.		\$44.50	\$ -	\$3.52	\$ -	\$1.04	\$ -		
323113201400	Fence, chain link industrial, gate, galvanized steel, 6' high fence, 1-5/8" frame, 3' wide, 6' high, includes excavation, in concrete	Ea.		\$203.00	\$ -	\$63.50	\$ -	\$18.80	\$ -		
323113201400	Fence, chain link industrial, gate, galvanized steel, 6' high fence, 1-5/8" frame, 3' wide, 6' high, includes excavation, in concrete	Ea.		\$203.00	\$ -	\$63.50	\$ -	\$18.80	\$ -		
312323200024	Cycle hauling(wait, load,travel, unload or dump & return) time per cycle, excavated or borrow, loose cubic yards, 10 min wait/load/unload, 8 CY truck, cycle 8 miles, 15 MPH, no loading equipment	LCY		\$0.00	\$ -	\$2.90	\$ -	\$3.55	\$ -		
33053406850	Structural concrete, in place, stairs, cast on ground, 3'-6" wide, includes forms(4 uses), reinforcing steel, and finishing, excludes safety treads			\$4.46		\$14.10		\$0.20			
33529600750	Concrete finishing, walls, sandblast, heavy penetration	S.F.	25,000.00	\$ 0.27	\$ 6,750	\$ 0.96	\$ 24,000	\$ 0.17	\$ 4,250		
<b>SAND PLAY AREA</b>											
	Sand Play Area shower	ls	1.00	\$10,000.00	\$ 10,000	\$ 1,500.00	\$ 1,500				
<b>WATER PLAY EQUIPMENT</b>											
	Zero Depth Area Young Children's water Play Equipment	ls	1.00	\$25,000.00	\$ 25,000	\$ 3,000.00	\$ 3,000				
<b>REPLACE RAINDROP</b>											
	VORTEX L2	ls	1.00	137,000.00	\$ 137,000						
	INSTALL	hr	100.00			\$ 38.10	\$ 3,810				

CSI Line No.	Descriptions	unit	Quantity	Material		Labor		Equipment		Subcontract	
				Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension
	<b>EXISTING MECHANICAL BUILDING</b>										
75323204700	Ethylene-propylene-diene-monomer roofing, (EPDM), 0.40 P.S.F., partially adhered, 60 mils	Sq.	8.75	\$89.00	\$ 779	\$32.50	\$ 284	\$4.78	\$ 42		
61516100400	Wood roof decking, cedar planks, 3" thick	S.F.	875.00	\$6.15	\$ 5,381	\$1.89	\$ 1,654		\$ -		
72216100130	Roof Deck Insulation, fiberboard high density, 1-1/2" thick, R3.8	S.F.	875.00	\$0.65	\$ 569	\$0.26	\$ 228		\$ -		
33053402100	Structural concrete, in place, elevated slab, flat plate, 125 psf superimposed load, 15' span, includes forms(4 uses), reinforcing steel, and finishing	C.Y.	3.00	\$244.00	\$ 732	\$256.00	\$ 768	\$25.50	\$ 77		
	Upgrades of valves and equipment in Pool Mechanical room	ls	1.00	\$15,000.00	\$ 15,000	\$5,000.00	\$ 5,000				
	<b>SUBTOTAL</b>				\$ 265,579		\$ 40,244		\$ 5,161		\$ 1,200
	SALES TAX GC M&E	%	5.5%		\$ 14,607						
	SALES TAX SUBS M&E 50% OF TOTAL	%									\$ 33
	<b>SUBTOTAL</b>				\$ 280,186		\$ 80,487		\$10,321		\$ 1,233
	<b>MARK-UPS</b>										
	MATERIAL		10.0%		\$ 28,019						
	LABOR		56.0%				\$ 45,073				
	EQUIPMENT		10.0%					\$ 1,032			
	SUBCONTRACT		10.0%								\$ 123
	<b>SUBTOTAL</b>				\$ 308,205		\$ 125,560		\$11,354		\$ 1,356
	BOND AND INSURANCE		2.5%		\$ 7,705		\$ 3,139		\$ 284		\$ 14
	<b>SUBTOTAL</b>				\$ 315,910		\$ 128,699		\$11,637		\$ 1,370
	<b>TOTAL SUBTOTAL</b>										\$ 457,616
	ESTIMATE CONTINGENCY @ 10%	10%									45,761.65
	<b>ESTIMATED TOTAL</b>										\$ 503,378

**TABLE 2: COST ESTIMATE FOR ALTERNATIVE 2, ADVENTURE POOL**

CSI Line No.	ESTIMATOR	Tim Gremmer										
		Descriptions	unit	Material		Labor		Equipment		Subcontract		
				Quantity	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension
15626500250		Temporary Fencing, chain link, rented up to 12 months, 6' high, 11 ga, over 1000'	L.F.	400.00	\$2.10	\$ 840	\$1.53	\$ 612	\$0.00	\$ -		
24113175200		Demolish, remove pavement & curb, remove concrete, mesh reinforced, to 6" thick, excludes hauling and disposal fees	S.Y.	10.00	\$0.00	\$ -	\$5.55	\$ 56	\$3.97	\$ 40		
24113175500		Demolish, remove pavement & curb, concrete, rod reinforced, 7" to 24" thick, remove with backhoe, excludes hauling	C.Y.	5.00	\$0.00	\$ -	\$59.00	\$ 295	\$42.50	\$ 213		
24116172500		Bldg. footings and foundations demolition, remove concrete walls, plain concrete, 12" thick, excludes disposal costs and dump fees	S.F.		\$0.00	\$ -	\$13.97	\$ -	\$2.13	\$ -		
24116172600		Bldg. footings and foundations demolition, remove concrete walls, plain concrete, for average reinforcing, excludes disposal costs and dump fees, add	S.F.									
31113653050		C.I.P. concrete forms, slab on grade, edge, wood, 7" to 12" high, 4 use, includes erecting, bracing, stripping and cleaning	SFCA	181.00	\$0.70	\$ 127	\$2.62	\$ 474	\$0.00	\$ -		
31113852000		C.I.P. concrete forms, wall, job built, plywood, to 8' high, 1 use, includes erecting, bracing, stripping and cleaning	sfca	1,080.00	\$2.71	\$ 2,927	\$4.74	\$ 5,119	\$0.00	\$ -		
31513500550		Waterstop, PVC, ribbed, with center bulb, 3/8" thick x 6" wide	L.F.	540.00	\$2.63	\$ 1,420	\$2.30	\$ 1,242	\$0.00	\$ -		
32110600600		Reinforcing steel, in place, slab on grade, #3 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	Ton	10.50	\$1,250.00	\$ 13,125	\$625.00	\$ 6,563	\$0.00	\$ -		
32110600700		Reinforcing steel, in place, walls, #3 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	Ton	1.60	\$1,250.00	\$ 2,000	\$475.00	\$ 760	\$0.00	\$ -		
32405300110		Fibrous reinforcing, synthetic fibers, add to concrete, 1-1/2 lb. per C.Y.	C.Y.	290.00	\$8.70	\$ 2,523	\$0.00	\$ -	\$0.00	\$ -		
33053404820		Structural concrete, in place, slab on grade, over 10000 S.F., 6" thick, includes finishing only	S.F.	18,200.00	\$1.97	\$ 35,854	\$2.00	\$ 36,400	\$0.01	\$ 182	\$ 1.00	\$ 18,200
33053405020		Structural concrete, in place, slab on grade, 8" thick, includes textured finish only	S.F.	4,550.00	\$2.67	\$ 12,149	\$0.81	\$ 3,686	\$0.01	\$ 46		
33105350300		Structural concrete, ready mix, normal weight, 4000 PSI, includes local aggregate, sand, portland cement and water, delivered, excludes all additives and treatments	C.Y.	113.00	\$107.00	\$ 12,091	\$0.00	\$ -	\$0.00	\$ -		

CSI Line No.	Descriptions	unit	Quantity	Material		Labor		Equipment		Subcontract	
				Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension
33105704650	Structural concrete, placing, slab on grade, pumped, over 6" thick, includes vibrating, excludes material	C.Y.	396.00	\$0.00	\$ -	\$10.90	\$ 4,316	\$4.25	\$ 1,683		
33105705100	Structural concrete, placing, walls, pumped, 12" thick, includes vibrating, excludes material	C.Y.	113.00	\$0.00	\$ -	\$18.40	\$ 2,079	\$7.15	\$ 808		
33529300150	Concrete finishing, floors, manual screed, bull float, manual float, broom finish	S.F.	22,750.00	\$0.00	\$ -	\$0.44	\$ 10,010	\$0.00	\$ -		
33529350140	Control joint, concrete floor slab, sawcut in green concrete, 1-1/2" depth	L.F.	2,000.00	\$0.10	\$ 200	\$0.32	\$ 640	\$0.08	\$ 160		
33529350200	Control joint, clean out control joint of debris	L.F.	1,000.00	\$0.00	\$ -	\$0.05	\$ 50	\$0.00	\$ -		
33529350320	Control joint, backer rod, polyethylene, 1/4" diameter	L.F.	1,000.00	\$0.03	\$ 30	\$0.62	\$ 620	\$0.00	\$ -		
33529350380	Control joint, joint sealant, polyurethane, 1/4" x 1/2" (154 LF/Gal)	L.F.	1,000.00	\$0.34	\$ 340	\$1.13	\$ 1,130	\$0.00	\$ -		
33923130800	Concrete surface treatment, curing compound, water based, 350 S.F. per gallon, 55 gallon drum, includes material only	Gal.	52.00	\$19.10	\$ 993	\$0.00	\$ -	\$0.00	\$ -		
33923230200	Curing, burlap/poly blanket, 2 ply	csf	60.00	\$17.10	\$ 1,026	\$6.70	\$ 402	\$0.00	\$ -		
93013106400	Ceramic tile, exterior walls, frostproof, mud set, 1-3/8" x 1-3/8"	S.F.		\$4.70	\$ -	\$5.85	\$ -	\$0.00	\$ -		
93013107000	Ceramic tile, for epoxy grout, 1/16" joints, 4-1/4" tile, add	S.F.		\$0.40	\$ -	\$0.68	\$ -	\$0.00	\$ -		
311413230020	Topsoil stripping and stockpiling, topsoil, sandy loam, ideal conditions, 200 H.P. dozer	C.Y.	1,300.00	\$0.00	\$ -	\$0.20	\$ 260	\$0.48	\$ 624		
312216101150	Fine grading, fine grade for slab on grade, hand grading	S.Y.	6,000.00	\$0.00	\$ -	\$1.11	\$ 6,660	\$0.05	\$ 300		
312316130610	Excavating, trench or continuous footing, common earth, 1 1/2 C.Y. excavator, 6' to 10' deep, excludes sheeting or dewatering	bcy	330.00	\$0.00	\$ -	\$0.99	\$ 327	\$1.40	\$ 462		
312316166080	Structural excavation for minor structures, bank measure, for spread and mat footings, elevator pits, and small building foundations, sand & gravel, 1 C.Y. bucket, machine excavation, hydraulic backhoe	bcy	600.00	\$0.00	\$ -	\$4.96	\$ 2,976	\$5.45	\$ 3,270		
312323130015	Backfill, light soil, by hand, no compaction	lcy		\$0.00	\$ -	\$18.05	\$ -	\$0.00	\$ -		
312323130600	Backfill, 6" layers, compaction in layers, vibrating plate, add to above	ecy	1,000.00	\$0.00	\$ -	\$4.21	\$ 4,210	\$0.53	\$ 530		
312323170170	Fill, from stockpile, 130 H.P., 2-1/2 C.Y., 300' haul, spread fill, with front-end loader, excludes compaction	lcy	1,000.00	\$0.00	\$ -	\$0.76	\$ 760	\$1.51	\$ 1,510		
312323170800	Fill, gravel fill, compacted, under floor slabs, 12" deep	S.F.		\$0.98	\$ -	\$0.26	\$ -	\$0.02	\$ -		

CSI Line No.	Descriptions	unit	Quantity	Material		Labor		Equipment		Subcontract	
				Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension
312323180540	Hauling, excavated or borrow material, loose cubic yards, 5 mile round trip , 1 loads/hour, 12 C.Y. truck, highway haulers, excludes loading	lcy		\$0.00	\$ -	\$3.28	\$ -	\$6.50	\$ -		
312513101000	Synthetic erosion control, silt fence, polypropylene, ideal conditions, 3' high	L.F.	1,000.00	\$0.33	\$ 330	\$0.31	\$ 310	\$0.00	\$ -		
321216140020	Asphaltic concrete, parking lots & driveways, 6" stone base, 2" binder course, 1" topping	S.F.		\$2.06	\$ -	\$0.18	\$ -	\$0.23	\$ -		
321613130435	Cast-in place concrete curbs & gutters, straight, wood forms, 0.066 C.Y. per L.F., 6" high curb, 6" thick gutter, 30" wide	L.F.	30.00	\$16.55	\$ 497	\$5.10	\$ 153	\$0.00	\$ -		
323119105900	Decorative metal fences and gates, tubular picket, steel, staggered picket, 6' sections, 2" posts, 6' high, includes excavation	L.F.	231.00	\$53.50	\$ 12,359	\$3.16	\$ 730	\$0.94	\$ 217		
323119106500	Decorative metal fences and gates, tubular picket, steel, gates, 6' high, 4' wide, includes excavation	Ea.	3.00	\$475.00	\$ 1,425	\$65.00	\$ 195	\$0.00	\$ -		
329119130800	Topsoil placement and grading, loam or topsoil screened, 6" deep, furnish and place, truck dumped	S.Y.	4000	\$2.85	\$ 11,400	\$0.52	\$ 2,080	\$0.37	\$ 1,480		
329223100200	Sodding, bluegrass sod, on level ground, 1" deep, 4 M.S.F.	msf	36.00	\$190.00	\$ 6,840	\$72.50	\$ 2,610	\$8.20	\$ 295		
331113152040	Public Water Utility Distribution Piping, ductile iron pipe, cement lined, mechanical joint, no fittings, 18' lengths, 6" diameter, class 50, excludes excavation or backfill	L.F.	240.00	\$21.50	\$ 5,160	\$9.10	\$ 2,184	\$3.86	\$ 926		
333113252080	Public Sanitary Utility Sewerage Piping, piping polyvinyl chloride pipe, B & S, 13' lengths, 8" diameter, SDR 35, excludes excavation or backfill	L.F.	240.00	\$6.25	\$ 1,500	\$2.35	\$ 564	\$0.00	\$ -		
334113602200	Public Storm Utility Drainage Piping, reinforced concrete pipe (RCP) with gaskets, 12" diameter, 6' lengths, class 3, excludes excavation or backfill	L.F.	300.00	\$14.95	\$ 4,485	\$5.65	\$ 1,695	\$0.78	\$ 234		
323113200920	Fence, chain link industrial, galvanized steel, add for line post, 6 ga. wire, 2-1/2" posts @ 10' OC, 8' high, includes excavation, in concrete	L.F.	200.00	\$44.50	\$ 8,900	\$3.52	\$ 704	\$1.04	\$ 208		
323113201400	Fence, chain link industrial, gate, galvanized steel, 6' high fence, 1-5/8" frame, 3' wide, 6' high, includes excavation, in concrete	Ea.	2.00	\$203.00	\$ 406	\$63.50	\$ 127	\$18.80	\$ 38		
323113201400	Fence, chain link industrial, gate, galvanized steel, 6' high fence, 1-5/8" frame, 3' wide, 6' high, includes excavation, in concrete	Ea.	1.00	\$203.00	\$ 203	\$63.50	\$ 64	\$18.80	\$ 19		

CSI Line No.	Descriptions	unit	Quantity	Material		Labor		Equipment		Subcontract	
				Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension
312323200024	Cycle hauling(wait, load,travel, unload or dump & return) time per cycle, excavated or borrow, loose cubic yards, 10 min wait/load/unload, 8 CY truck, cycle 8 miles, 15 MPH, no loading equipment	LCY	500.00	\$0.00	\$ -	\$2.90	\$ 1,450	\$3.55	\$ 1,775		
33053406850	Structural concrete, in place, stairs, cast on ground, 3'-6" wide, includes forms(4 uses), reinforcing steel, and finishing, excludes safety treads			\$4.46		\$14.10		\$0.20			
	PVC GUTTER GRATING	LF	270.00	\$ 26.50	\$ 7,155	\$ 20.00	\$ 5,400				
	DEPTH MARKINGS	EA	30.00	\$ 30.00	\$ 900	\$ 40.00	\$ 1,200				
	SPECIAL AGGREGATE FINISH	SF	5,700.00	\$ 1.10	\$ 6,270	\$ 3.00	\$ 17,100				
	MISCELLANEOUS INSTALLATION	HR	300.00			\$ 26.00	\$ 7,800				
	<b>POOL MECHANICAL</b>										
	NP 3478SHFFG Sand Filter	ea	1.00	\$ 11,666.00	\$ 11,666	\$ 3,000.00	\$ 3,000				
	6" strainer	ea	1.00	\$ 2,372.00	\$ 2,372	\$ 500.00	\$ 500				
230523301080	Valves, iron body, butterfly, wafer type, gear actuator, 200 lb., 6"	ea	2.00	\$310.00	\$ 620	\$175.00	\$ 175				
230523301060	Valves, iron body, butterfly, wafer type, gear actuator, 200 lb., 4"	ea	2.00	\$208.00	\$ 416	\$113.00	\$ 113				
230523306913	Valves, iron body, silent check, bronze trim, globe type, flanged, 125 lb., 4"	ea	1.00	\$425.00	\$ 425	\$113.00	\$ 113				
221123104070	260 gpm RECIRCULATION PUMP	ea	1.00	\$4,500.00	\$ 4,500	\$565.00	\$ 565				
	CONTROLLER (Bec 5)	ea	1.00		\$ -		\$ -			\$ 3,900.00	\$ 3,900
	PULSAR UNIT	ea	1.00		\$ -		\$ -			\$ 2,400.00	\$ 2,400
	260 gpm UV Unit	ea	1.00		\$ -		\$ -			\$23,250.00	\$ 23,250
	Chemical system installation	ea	1.00							\$ 6,250.00	\$ 6,250
235228100300	Swimming pool heater, gas fired, input, 650 MBH, excludes wiring, piping, base or pad	ea	1.00	\$9,975.00	\$ 9,975	\$2,700.00	\$ 2,700				
	Piping	ls	1.00	\$ 20,000.00	\$ 20,000	\$ 5,000.00	\$ 5,000				
	<b>WATER PLAY EQUIPMENT</b>										
	VORTEX L4	LS	1.00	\$292,000.00	\$ 292,000						
	INSTALL	hr	175.00		\$ -	\$ 38.10	\$ 6,668				
221123104090	800 gpm supply pump	ea	1.00	\$6,303.00	\$ 6,303	\$735.00	\$ 735				
	10" strainer	ea	1.00	\$ 3,991.00	\$ 3,991	\$ 500.00	\$ 500				
230523301100	Valves, iron body, butterfly, wafer type, gear actuator, 200 lb., 10"	ea	2.00	\$520.00	\$ 1,040	\$218.00	\$ 436				
230523301090	Valves, iron body, butterfly, wafer type, gear actuator, 200 lb., 8"	ea	1.00	\$355.00	\$ 355	\$194.00	\$ 194				

CSI Line No.	Descriptions	unit	Quantity	Material		Labor		Equipment		Subcontract	
				Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension
230523306916	Valves, iron body, silent check, bronze trim, globe type, flanged, 125 lb., 8"	ea	1.00	\$1,275.00	\$ 1,275	\$194.00	\$ 194				
	Piping	ls	1.00	\$ 15,000.00	\$ 15,000	\$ 5,000.00	\$ 5,000				
	<b>SHADE STRUCTURE</b>										
	SHADE STRUCTURE	EA	1.00	\$ 65,000.00	\$ 65,000						
	INSTALL SHADE STRUCTURE	hr	100.00		\$ -	\$ 38.10	\$ 3,810				
	FOUNDATIONS	EA	12.00	\$ 100.00	\$ 1,200	\$ 200.00	\$ 2,400				
	<b>LANDSCAPING</b>										
		LS	1.00	\$ 25,000.00	\$ 25,000	\$ 5,000.00	\$ 5,000				
	<b>SUBTOTAL</b>				\$ 589,611		\$ 166,114		\$ 15,019		\$ 54,000
	SALES TAX GC M&E	%	5.5%		\$ 32,429						
	SALES TAX SUBS M&E 50% OF TOTAL	%									\$ 1,485
	<b>SUBTOTAL</b>				\$ 622,040		\$ 234,717		\$ 15,019		\$ 55,485
	<b>MARK-UPS</b>										
	MATERIAL		10.0%		\$ 62,204						
	LABOR		56.0%				\$ 131,441				
	EQUIPMENT		10.0%					\$ 1,502			
	SUBCONTRACT		10.0%								\$ 5,549
	<b>SUBTOTAL</b>				\$ 684,244		\$ 366,158		\$ 16,521		\$ 61,034
	BOND AND INSURANCE		2.5%		\$ 17,106		\$ 9,154		\$ 413		\$ 610
	<b>SUBTOTAL</b>				\$ 701,350		\$ 375,312		\$ 16,934		\$ 61,644
	<b>TOTAL SUBTOTAL</b>										\$ 1,155,240
	ELECTRICAL @ 20%	20%									231,047.92
	MECHANICAL @ 10%	10%									115,523.96
	ESTIMATE CONTINGENCY @ 10%	10%									115,523.96
	<b>ESTIMATED TOTAL</b>										\$ 1,617,335

**TABLE 3: ALTERNATIVE 2, 416 FOOT LONG LAZY RIVER AND WATERSLIDES**

CSI Line No.	ESTIMATOR	Descriptions	Tim Gremmer									
			unit	Quantity	Material		Labor		Equipment		Subcontract	
					Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension
15626500250		Temporary Fencing, chain link, rented up to 12 months, 6' high, 11 ga, over 1000'	L.F.	400.00	\$2.10	\$ 840	\$1.53	\$ 612	\$0.00	\$ -		
24113175200		Demolish, remove pavement & curb, remove concrete, mesh reinforced, to 6" thick, excludes hauling and disposal fees	S.Y.	50.00	\$0.00	\$ -	\$5.55	\$ 278	\$3.97	\$ 199		
24113175500		Demolish, remove pavement & curb, concrete, rod reinforced, 7" to 24" thick, remove with backhoe, excludes hauling	C.Y.	10.00	\$0.00	\$ -	\$59.00	\$ 590	\$42.50	\$ 425		
24116172500		Bldg. footings and foundations demolition, remove concrete walls, plain concrete, 12" thick, excludes disposal costs and dump fees	S.F.		\$0.00	\$ -	\$13.97	\$ -	\$2.13	\$ -		
24116172600		Bldg. footings and foundations demolition, remove concrete walls, plain concrete, for average reinforcing, excludes disposal costs and dump fees, add	S.F.									
31113653050		C.I.P. concrete forms, slab on grade, edge, wood, 7" to 12" high, 4 use, includes erecting, bracing, stripping and cleaning	SFCA	661.96	\$0.70	\$ 463	\$2.62	\$ 1,734	\$0.00	\$ -		
31113852000		C.I.P. concrete forms, wall, job built, plywood, to 8' high, 1 use, includes erecting, bracing, stripping and cleaning	SFCA	7,500.00	\$2.71	\$ 20,325	\$4.74	\$ 35,550	\$0.00	\$ -		
31513500550		Waterstop, PVC, ribbed, with center bulb, 3/8" thick x 6" wide	L.F.	932.00	\$2.63	\$ 2,451	\$2.30	\$ 2,144	\$0.00	\$ -		
32110600600		Reinforcing steel, in place, slab on grade, #3 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	Ton	7.00	\$1,250.00	\$ 8,750	\$625.00	\$ 4,375	\$0.00	\$ -		
32110600700		Reinforcing steel, in place, walls, #3 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	Ton	14.30	\$1,250.00	\$ 17,875	\$475.00	\$ 6,793	\$0.00	\$ -		
32405300110		Fibrous reinforcing, synthetic fibers, add to concrete, 1-1/2 lb. per C.Y.	C.Y.	328.52	\$8.70	\$ 2,858	\$0.00	\$ -	\$0.00	\$ -		
33053404820		Structural concrete, in place, slab on grade, over 10000 S.F., 6" thick, includes finishing only	S.F.	20,628	\$1.97	\$ 40,637	\$2.00	\$ 41,256	\$0.01	\$ 206	\$ 1.00	\$ 20,628
33053405020		Structural concrete, in place, slab on grade, 8" thick, includes textured finish only	S.F.	5,824.00	\$2.67	\$ 15,550	\$0.81	\$ 4,717	\$0.01	\$ 58		
33105350300		Structural concrete, ready mix, normal weight, 4000 PSI, includes local aggregate, sand, portland cement and water, delivered, excludes all additives and treatments	C.Y.	80.75	\$107.00	\$ 8,640	\$0.00	\$ -	\$0.00	\$ -		

CSI Line No.	Descriptions	unit	Quantity	Material		Labor		Equipment		Subcontract	
				Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension
33105704650	Structural concrete, placing, slab on grade, pumped, over 6" thick, includes vibrating, excludes material	C.Y.	144.52	\$0.00	\$ -	\$10.90	\$ 1,575	\$4.25	\$ 614		
33105705100	Structural concrete, placing, walls, pumped, 12" thick, includes vibrating, excludes material	C.Y.	80.75	\$0.00	\$ -	\$18.40	\$ 1,486	\$7.15	\$ 577		
33529300150	Concrete finishing, floors, manual screed, bull float, manual float, broom finish	S.F.	26,452.00	\$0.00	\$ -	\$0.44	\$ 11,639	\$0.00	\$ -		
33529350140	Control joint, concrete floor slab, sawcut in green concrete, 1-1/2" depth	L.F.	2,000.00	\$0.10	\$ 200	\$0.32	\$ 640	\$0.08	\$ 160		
33529350200	Control joint, clean out control joint of debris	L.F.	1,000.00	\$0.00	\$ -	\$0.05	\$ 50	\$0.00	\$ -		
33529350320	Control joint, backer rod, polyethylene, 1/4" diameter	L.F.	1,000.00	\$0.03	\$ 30	\$0.62	\$ 620	\$0.00	\$ -		
33529350380	Control joint, joint sealant, polyurethane, 1/4" x 1/2" (154 LF/Gal)	L.F.	1,000.00	\$0.34	\$ 340	\$1.13	\$ 1,130	\$0.00	\$ -		
33923130800	Concrete surface treatment, curing compound, water based, 350 S.F. per gallon, 55 gallon drum, includes material only	Gal.	75.58	\$19.10	\$ 1,444	\$0.00	\$ -	\$0.00	\$ -		
33923230200	Curing, burlap/poly blanket, 2 ply	C.S.F.	100.00	\$17.10	\$ 1,710	\$6.70	\$ 670	\$0.00	\$ -		
93013106400	Ceramic tile, exterior walls, frostproof, mud set, 1-3/8" x 1-3/8"	S.F.	832.00	\$4.70	\$ 3,910	\$5.85	\$ 4,867	\$0.00	\$ -		
93013107000	Ceramic tile, for epoxy grout, 1/16" joints, 4-1/4" tile, add	S.F.	832.00	\$0.40	\$ 333	\$0.68	\$ 566	\$0.00	\$ -		
311413230020	Topsoil stripping and stockpiling, topsoil, sandy loam, ideal conditions, 200 H.P. dozer	C.Y.	1,300.00	\$0.00	\$ -	\$0.20	\$ 260	\$0.48	\$ 624		
312216101150	Fine grading, fine grade for slab on grade, hand grading	S.Y.	6,000.00	\$0.00	\$ -	\$1.11	\$ 6,660	\$0.05	\$ 300		
312316130610	Excavating, trench or continuous footing, common earth, 1 1/2 C.Y. excavator, 6' to 10' deep, excludes sheeting or dewatering	B.C.Y.	330.00	\$0.00	\$ -	\$0.99	\$ 327	\$1.40	\$ 462		
312316166080	Structural excavation for minor structures, bank measure, for spread and mat footings, elevator pits, and small building foundations, sand & gravel, 1 C.Y. bucket, machine excavation. hydraulic backhoe	B.C.Y.	600.00	\$0.00	\$ -	\$4.96	\$ 2,976	\$5.45	\$ 3,270		
312323130015	Backfill, light soil, by hand, no compaction	L.C.Y.		\$0.00	\$ -	\$18.05	\$ -	\$0.00	\$ -		
312323130600	Backfill, 6" layers, compaction in layers, vibrating plate, add to above	E.C.Y.	200.00	\$0.00	\$ -	\$4.21	\$ 842	\$0.53	\$ 106		
312323170170	Fill, from stockpile, 130 H.P., 2-1/2 C.Y., 300' haul, spread fill, with front-end loader, excludes compaction	L.C.Y.	200.00	\$0.00	\$ -	\$0.76	\$ 152	\$1.51	\$ 302		

CSI Line No.	Descriptions	unit	Quantity	Material		Labor		Equipment		Subcontract	
				Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension
312323170800	Fill, gravel fill, compacted, under floor slabs, 12" deep	S.F.		\$0.98	\$ -	\$0.26	\$ -	\$0.02	\$ -		
312323180540	Hauling, excavated or borrow material, loose cubic yards, 5 mile round trip , 1 loads/hour, 12 C.Y. truck, highway haulers, excludes loading	L.C.Y.		\$0.00	\$ -	\$3.28	\$ -	\$6.50	\$ -		
312513101000	Synthetic erosion control, silt fence, polypropylene, ideal conditions, 3' high	L.F.	1,000.00	\$0.33	\$ 330	\$0.31	\$ 310	\$0.00	\$ -		
321216140020	Asphaltic concrete, parking lots & driveways, 6" stone base, 2" binder course, 1" topping	S.F.		\$2.06	\$ -	\$0.18	\$ -	\$0.23	\$ -		
321613130435	Cast-in place concrete curbs & gutters, straight, wood forms, 0.066 C.Y. per L.F., 6" high curb, 6" thick gutter, 30" wide	L.F.	20.00	\$16.55	\$ 331	\$5.10	\$ 102	\$0.00	\$ -		
323119105900	Decorative metal fences and gates, tubular picket, steel, staggered picket, 6' sections, 2" posts, 6' high, includes excavation	L.F.		\$53.50	\$ -	\$3.16	\$ -	\$0.94	\$ -		
323119106500	Decorative metal fences and gates, tubular picket, steel, gates, 6' high, 4' wide, includes excavation	Ea.		\$475.00	\$ -	\$65.00	\$ -	\$0.00	\$ -		
329119130800	Topsoil placement and grading, loam or topsoil screened, 6" deep, furnish and place, truck dumped	S.Y.	4,000.00	\$2.85	\$ 11,400	\$0.52	\$ 2,080	\$0.37	\$ 1,480		
329223100200	Sodding, bluegrass sod, on level ground, 1" deep, 4 M.S.F.	M.S.F.	36.00	\$190.00	\$ 6,840	\$72.50	\$ 2,610	\$8.20	\$ 295		
331113152040	Public Water Utility Distribution Piping, ductile iron pipe, cement lined, mechanical joint, no fittings, 18' lengths, 6" diameter, class 50, excludes excavation or backfill	L.F.	80.00	\$21.50	\$ 1,720	\$9.10	\$ 728	\$3.86	\$ 309		
333113252080	Public Sanitary Utility Sewerage Piping, piping polyvinyl chloride pipe, B & S, 13' lengths, 8" diameter, SDR 35, excludes excavation or backfill	L.F.	180.00	\$6.25	\$ 1,125	\$2.35	\$ 423	\$0.00	\$ -		
334113602200	Public Storm Utility Drainage Piping, reinforced concrete pipe (RCP) with gaskets, 12" diameter, 6' lengths, class 3, excludes excavation or backfill	L.F.	50.00	\$14.95	\$ 748	\$5.65	\$ 283	\$0.78	\$ 39		
323113200920	Fence, chain link industrial, galvanized steel, add for line post, 6 ga. wire, 2-1/2" posts @ 10' OC, 8' high, includes excavation, in concrete	L.F.		\$44.50	\$ -	\$3.52	\$ -	\$1.04	\$ -		
323113201400	Fence, chain link industrial, gate, galvanized steel, 6' high fence, 1-5/8" frame, 3' wide, 6' high, includes excavation, in concrete	Ea.		\$203.00	\$ -	\$63.50	\$ -	\$18.80	\$ -		

CSI Line No.	Descriptions	unit	Quantity	Material		Labor		Equipment		Subcontract	
				Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension
323113201400	Fence, chain link industrial, gate, galvanized steel, 6' high fence, 1-5/8" frame, 3' wide, 6' high, includes excavation, in concrete	Ea.		\$203.00	\$ -	\$63.50	\$ -	\$18.80	\$ -		
312323200024	Cycle hauling(wait, load,travel, unload or dump & return) time per cycle, excavated or borrow, loose cubic yards, 10 min wait/load/unload, 8 CY truck, cycle 8 miles, 15 MPH, no loading equipment		500.00	\$0.00	\$ -	\$2.90	\$ 1,450	\$3.55	\$ 1,775		
33053406850	Structural concrete, in place, stairs, cast on ground, 3'-6" wide, includes forms(4 uses), reinforcing steel, and finishing, excludes safety treads	NOS	120.00	\$4.46	\$ 535	\$14.10	\$ 1,692	\$0.20	\$ 24		
	PVC GUTTER GRATING	LF	90.00	\$ 26.50	\$ 2,385	\$ 20.00	\$ 1,800				
	DEPTH MARKINGS	EA	70.00	\$ 30.00	\$ 2,100	\$ 40.00	\$ 2,800				
	SPECIAL AGGREGATE FINISH	SF	5,550.00	\$ 0.90	\$ 4,995	\$ 3.00	\$ 16,650				
					\$ -						
	MISCELLANEOUS INSTALLATION	HR	300.00		\$ -	\$ 26.00	\$ 7,800				
	<b>POOL MECHANICAL</b>										
	NP 4212042120SHFFG Sand Filter	ea	1.00	\$ 28,100.00	\$ 28,100	\$ 3,500.00	\$ 3,500				
	10" Strainer	ea	1.00	\$ 3,991.00	\$ 3,991	\$ 500.00	\$ 500				
230523301100	10" butterfly valves	ea	2.00	\$520.00	\$ 1,040	\$218.00	\$ 436				
230523306916	8" check valve	ea	1.00	\$1,275.00	\$ 1,275	\$194.00	\$ 194				
230523301090	8" butterfly valves	ea	2.00	\$355.00	\$ 710	\$194.00	\$ 388				
221123104100	1050 gpm recirculation pump	ea	1.00	\$7,708.00	\$ 7,708	\$885.00	\$ 885				
	CONTROLLER	ea	1.00		\$ -		\$ -			\$ 3,900.00	\$ 3,900
	PULSAR UNIT	ea	1.00		\$ -		\$ -			\$ 2,400.00	\$ 2,400
	1150gpm UV Unit	ea	1.00		\$ -		\$ -			\$ 37,500.00	\$ 37,500
	Chemical System Installation	ea	1.00		\$ -		\$ -			\$ 6,250.00	\$ 6,250
	Piping	ls	1.00	\$ 5,000.00	\$ 5,000	\$ 5,000.00	\$ 5,000				
235228100360	Pool Heater 970,000 btu	ea	1.00	\$14,600.00	\$ 14,600	\$4,300.00	\$ 4,300				
	<b>WATERSLIDE</b>										

CSI Line No.	Descriptions	unit	Quantity	Material		Labor		Equipment		Subcontract	
				Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension
	WATERSLIDE (MATERIAL AND INSTALLATION)	LS	1.00							#####	\$311,300.00
	FOUNDATIONS	LS	1.00							\$ 46,800.00	\$ 46,800.00
221113742560	450 gpm pump	ea	1.00	\$ 4,833.00	\$ 4,833.00	\$ 14.90	\$ 14.90				
	6" Strainer	ea	1.00	\$ 2,372.00	\$ 2,372.00	\$ 500.00	\$ 500.00				
331216103400	Water Utility distribution Valves, butterfly valves with boxes, cast iron, mechanical joint, 14" diameter, includes valve box and mechanical joints, excludes excavation and backfill	ea	3.00	\$ 3,925.00	#####	\$ 190.00	\$ 570.00				
230523306918	Valves, iron body, silent check, bronze trim, globe type, flanged, 125 lb., 12"	ea	1.00	\$ 2,650.00	\$ 2,650.00	\$ 292.00	\$ 292.00				
221123104080	800 gpm pump	ea	1.00	\$ 6,303.00	\$ 6,303.00	\$ 610.00	\$ 610.00				
	8" Strainer	ea	1.00	\$ 2,512.00	\$ 2,512.00	\$ 500.00	\$ 500.00				
230523306913	Valves, iron body, silent check, bronze trim, globe type, flanged, 125 lb., 4"	ea	2.00	\$ 425.00	\$ 850.00	\$ 113.00	\$ 226.00				
230523306918	Valves, iron body, silent check, bronze trim, globe type, flanged, 125 lb., 12"	ea	1.00	\$ 2,650.00	\$ 2,650.00	\$ 292.00	\$ 292.00				
	piping	ls	1.00	\$ 2,000.00	\$ 2,000.00	\$ 1,500.00	\$ 1,500.00				
	LAZY RIVER										
221123104120	2000 gpm pump	ea	2.00	\$11,900.00	\$ 23,800	\$1,775.00	\$ 3,550				
	14" strainer	ea	2.00	\$ 5,484.00	\$ 10,968	\$ 500.00	\$ 1,000				
331113158610	14" butterfly valves	ea	4.00	\$3,675.00	\$ 14,700	\$475.00	\$ 1,900	\$65.00	\$ 260		
230523301100	10" butterfly valve	ea	2.00	\$520.00	\$ 1,040	\$218.00	\$ 436		\$ -		
	piping	ls	1.00	\$5,000.00	\$ 5,000	\$4,000.00	\$ 4,000		\$ -		
221123104090	750 gpm water feature supply pump	ea	1.00	\$6,678.00	\$ 6,678	\$735.00	\$ 735		\$ -		
	SHADE STRUCTURES										
	SHADE STRUCTURE	EA	1.00	\$ 65,000.00	\$ 65,000						
	INSTALL SHADE STRUCTURE	hr	100.00		\$ -	\$ 38.10	\$ 3,810				
	FOUNDATIONS	EA	12.00	\$ 100.00	\$ 1,200	\$ 200.00	\$ 2,400				

CSI Line No.	Descriptions	unit	Quantity	Material		Labor		Equipment		Subcontract	
				Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension	Unit Cost	Extension
	<b>LAZY RIVER WATER PLAY TOYS</b>										
	ALLOWANCE	ea	1.00	\$100,000.00	\$ 100,000	\$10,000.00	\$ 10,000				
	<b>SUBTOTAL</b>										
	<b>LANDSCAPING</b>										
		LS	1.00	\$ 25,000.00	\$ 25,000	\$ 5,000.00	\$ 5,000				
	<b>SUBTOTAL</b>				\$ 485,621		\$ 218,774		\$ 11,486		\$ 428,778
	SALES TAX GC M&E	%	5.5%		\$ 26,709						
	SALES TAX SUBS M&E 50% OF TOTAL	%									\$ 11,791
	<b>SUBTOTAL</b>				\$ 512,330		\$ 218,774		\$ 11,486		\$ 440,569
	<b>MARK-UPS</b>										
	MATERIAL		10.0%		\$ 51,233						
	LABOR		56.0%				\$ 122,514				
	EQUIPMENT		10.0%					\$ 1,149			
	SUBCONTRACT		10.0%								\$ 44,057
	<b>SUBTOTAL</b>				\$ 563,563		\$ 341,288		\$ 12,634		\$ 484,626
	BOND AND INSURANCE		2.5%		\$ 14,089		\$ 8,532		\$ 316		\$ 4,846
	<b>SUBTOTAL</b>				\$ 577,652		\$ 349,820		\$ 12,950		\$ 489,473
	<b>TOTAL SITE AND POOLS</b>										\$ 1,429,895
	ELECTRICAL @ 20%	20%									285,978.92
	MECHANICAL @ 10%	10%									142,989.46
	ESTIMATE CONTINGENCY @ 10%	10%									142,989.46
	<b>ESTIMATED TOTAL</b>										\$ 2,001,852

## POOL AND SITE COST ESTIMATE CALCULATIONS

### BASIC UPGRADE CONCEPT #1

paint existing pool	2	75	5	750.00
		60	5.5	330.00
		60	4.5	270.00
				1,350.00

ADVENTURE POOL QUANTITIES	Width	Length	Height	Area	Volume	Length	Tons
Pool dimensions 65' x 70'	65	70		4,550.00			
floor form area: one pour	0.67	270	0	180.90			
wall forms	1	1080	0	1,080.00			
Water Stop (two at gutter)						540	
Reinforcing for floor (#5 double mat)							10.5
strip Topsoil	260	200	0.67		1,290.37		
Fine Grading	260	200		5,777.78			
Trench Excavation	10	180	5		333.33		
Excavation for adventure pool	75	72	3		600.00		
Size Filters:							
Water volume (4,100 cubic feet) in gallons	30,668.00						
Two hour turnover required (GPM)	256						

Suction pipe size	6"		
Return Piping to Pool	4"		
Minimum filter sand area in sf (15 gpm/sf)		17	
Neptune Benson Filter Required	3478SHFFG		
Area provided and actual flow rate		19.6	13.04

**232 FOOT LAZY RIVER QUANTITIES**

Pool floor Removal	10	240	1	88.89
Pool wall removal	5.2	65		338.00

**Forms**

*Wall Forms*

lazy River (outside form, two sides)		464	4.5	2,088.00
(inside form, two sides)		464	3.5	1,624.00
Landing area forms.		152	4.5	684.00
existing pool wall replacement forms				
zero depth area wall, two sides	2	73	3.9	569.40
25 yard pool wall, two side	2	63	4.5	567.00

total form area 5,532.40 say 5200

**WATERSTOP**

zero depth wall (two, cut into concrete)	1	73		73
25 meter wall	1	63		63

New Lazy River wall	2	232		464
Water slide landing area	1	60		60
<b>TOTAL WATERSTOP</b>				<b>660</b>

Structural Conc. Floor 108.53

**REINFORCING STEEL**

**walls**

					reinforcing	Tons
zero depth wall	1	73	3.9	284.70	0.006	1.758307
25 meter wall	1	63	4.5	283.50	0.006	1.750896
new lazy river wall	2	232	4	1,856.00	0.0031	5.731328
water slide landing area wall	1	60	4.5	270.00	0.006	1.66752
dowels for walls over existing concrete pool floor						0.141848
						11.0499
15% lap length						1.657485
						12.70738

**floors**

lazy river floor	14	232		3,248.00		
Landing area floor	26	28		728.00		
total floor area				3,976.00		
tons per sf of floor reinforcing						0.001565
<b>Total Tons of RS in floors</b>				<b>6.84</b>		

**STAIRS**

**STAIR NOSE**

6 treads at 20' wide 120

**Mechanical System**

total pool area 3408

Lazy River volume (gallons)	52060.8		
Lazy River Turnover (gpm)		433.84	
Landing area Volume (gallons)	16336.32		
Landing area turnover		272.27	
Turnover for Lazy River and Landing Area (gpm)		706.112	
pipe size for suction	8"		
pipe size for discharge	6"		
Minimum sand area required in sf (15gpm/sf)		47.07413	
Neptune Benson Filter Required	3696SHFFG		
Sand area provided, flow rate	52.6	13.42418	
Area of Existing Pool to Paint			5,850.00

#### 416 FOOT LONG LAZY RIVER QUANTITIES

##### Mechanical System

Total area	5616		
Lazy River volume (gallons)	93350.4		
Lazy River Turnover (gpm)		777.92	
Landing area Volume (gallons)	16336.32		
Landing area turnover		272.27	
Turnover Required for Lazy River (gpm)		1050.192	
Pipe size for suction line (6 fps/max)	10"		

Pipe size for discharge (10 fps/max) 8"  
 Minimum sand area in square feet (at 15 gpm/sf) 70.0128  
 Neptune Benson Filter required 42120SHFFG  
 Filter area provided and actual flow rate 76.2 13.78205  
 Actual flow rate

**Forms**

*Wall Forms*

lazy River (outside form, two sides) 832 4.5 3,744.00  
 (inside form, two sides) 832 3.5 2,912.00  
 Landing area forms. 152 4.5 684.00

total form area 7,340.00 say 7500

**Lazy river and landing area wall concrete**

lazy River 0.67 832 3.5 72.26  
 landing area 0.67 76 4.5 8.49  
 total wall concrete 80.75

**REINFORCING STEEL**

**walls**

					reinforcing	Tons
new lazy river wall	2	416	4	3,328.00	0.0031	10.27686
water slide landing area wall	1	76	4.5	342.00	0.006	2.112192
		<b>Total</b>				12.38906
15% lap length						1.858358
						14.24741

**floors**

lazy river floor	14	416	5,824.00	
Landing area floor	26	28	728.00	
total floor area			6,552.00	
tons per sf of floor reinforcing				0.001565
Total Tons of RS in floors			11.28	say 7.0

**STAIRS**

STAIR NOSE

6 treads at 20' wide	120			
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## TABLE 4 PROJECTIONS

### ATTENDANCE PROJECTIONS

Attendance Category	Three Year Average Attendance 2005 to 2007	Basic Upgrade Estimated Percent Increase in Attendance	Basic Upgrade Estimated Attendance	Alternative #1 Adventure Pool Estimated Percent Increase in Attendance	Alternative #1 Adventure Pool Estimated Attendance	Alternative #2 416" Lazy River and Waterslide Estimated Percent Increase in Attendance	Alternative #2 416' Lazy River and Waterslides Estimated Attendance
Daily-Infant	2,290	20%	2,748	100%	4,579	35%	3,091
Daily-Youth	15,628	5%	16,409	40%	21,879	80%	28,130
Daily-Adult	11,556	10%	12,712	35%	15,601	40%	16,178
Daily-Group Rate	5,008	5%	5,259	35%	6,761	40%	7,012
Daily-Lap	487	0%	487	0%	487	0%	487
Daily-Aerobics	595	0%	595	0%	595	0%	595
Pass-Youth	9,989	15%	11,487	33%	13,285	60%	15,982
Pass-Adult	5,697	15%	6,552	25%	7,121	45%	8,261
Pass-Family	4,998	15%	5,748	25%	6,248	40%	6,998
Super Pass	1,203	15%	1,383	25%	1,503	40%	1,684
Dollar Days	154	15%	177	15%	177	15%	177
Free Admission	42	5%	44	5%	44	5%	44
<b>Total Attendance</b>	<b>57,646</b>		<b>63,600</b>		<b>78,280</b>		<b>88,638</b>
<b>Projected Daily Attendance (90 Day Season)</b>	<b>641</b>		<b>707</b>		<b>870</b>		<b>985</b>

**SALES PROJECTIONS**

<b>Admission Category</b>	<b>Three Year Average Sales</b>	<b>Basic Upgrade Estimated Percent Increase in Sales</b>	<b>Basic Upgrade Estimated Sales</b>	<b>Alternative #2 Adventure Pool Estimated Percent Increase in Sales</b>	<b>Alternative #2 Adventure Pool Estimated Sales</b>	<b>Alternative #2 416' Lazy River and Waterslide Estimated Percent Increase in Sales</b>	<b>Alternative #2 416' Lazy River and Waterslides Estimated Sales</b>
Daily-Infant	2,290	20%	2,748	100%	4,579	35%	3,091
Daily-Youth	15,628	5%	16,409	40%	21,879	80%	28,130
Daily-Adult	11,556	10%	12,712	35%	15,601	40%	16,178
Daily-Group Rate	5,008	5%	5,259	35%	6,761	40%	7,012
Daily-Lap	487	0%	487	0%	487	0%	487
Daily-Aerobics	595	0%	595	0%	595	0%	595
Pass: Resident-Youth	169	10%	186	50%	254	80%	305
Pass: Nonresident-Youth	29	5%	31	50%	44	80%	53
Pass: Resident-Adult	148	5%	156	30%	193	35%	200
Pass: Nonresident-Adult	27	5%	28	30%	35	35%	36
Pass: Resident-Family	522	5%	548	30%	678	35%	704
Pass: Nonresident-Family	82	5%	86	30%	106	35%	110

**REVENUE PROJECTIONS**

Revenue Category	Proposed Fees	Basic Upgrade Estimated Revenues	Basic Upgrade Estimated Revenues	Alternative #2 Adventure Pool Estimated Sales	Alternative #2 Adventure Pool Estimated Revenues	Alternative #2 416' Lazy River and Waterslides Estimated Sales	Alternative #3 416 Lazy River and Waterslides Estimated Revenues
Daily-Infant	\$ 2.00	\$ 2,748	\$ 5,495	\$ 4,579	\$ 9,159	\$ 3,091	\$ 6,182
Daily-Youth	\$ 3.50	\$ 16,409	\$ 57,432	\$ 21,879	\$ 76,576	\$ 28,130	\$ 98,454
Daily-Adult	\$ 4.00	\$ 12,712	\$ 50,846	\$ 15,601	\$ 62,402	\$ 16,178	\$ 64,714
Daily-Group Rate	\$ 3.50	\$ 5,259	\$ 18,406	\$ 6,761	\$ 23,664	\$ 7,012	\$ 24,541
Daily-Lap	\$ 3.25	\$ 487	\$ 1,583	\$ 487	\$ 1,583	\$ 487	\$ 1,583
Daily-Aerobics	\$ 3.25	\$ 595	\$ 1,934	\$ 595	\$ 1,934	\$ 595	\$ 1,934
Pass: Resident-Youth	\$ 40.00	\$ 186	\$ 7,451	\$ 254	\$ 10,160	\$ 305	\$ 12,192
Pass: Nonresident-Youth	\$ 60.00	\$ 31	\$ 1,848	\$ 44	\$ 2,640	\$ 53	\$ 3,168
Pass: Resident-Adult	\$ 50.00	\$ 156	\$ 7,788	\$ 193	\$ 9,642	\$ 200	\$ 10,013
Nonresident-Adult	\$ 80.00	\$ 28	\$ 2,240	\$ 35	\$ 2,773	\$ 36	\$ 2,880
Pass: Resident-Family	\$ 110.00	\$ 548	\$ 60,253	\$ 678	\$ 74,598	\$ 704	\$ 77,468
Pass: Nonresident-Family	\$ 160.00	\$ 86	\$ 13,720	\$ 106	\$ 16,987	\$ 110	\$ 17,640
Pool Rental	\$ 9,888	10%	\$ 10,877	100%	\$ 19,776	50%	14,832
Concessions	\$ 45,429	25%	\$ 56,786	100%	\$ 90,858	100%	90,858
Vending Commission	\$ 1,800	10%	\$ 1,980	10%	\$ 1,980	10%	1,980
Scholarship Fund	\$ 4,666	5%	\$ 4,899	10%	\$ 5,133	10%	5,133
Miscellaneous	\$ 4,068	5%	\$ 4,271	10%	\$ 4,475	10%	4,475
<b>Total Estimated Revenues</b>			<b>\$ 307,808</b>		<b>\$ 414,339</b>		<b>438,045</b>

**EXPENSE PROJECTIONS**

Cost item	2007 Actual Operating Expenses	Basic Upgrade Estimated Increase in Expenses	Basic Upgrade Estimated Expenses	Alternative #1 Adventure Pool Estimated Increase in Expenses	Alternative #1 Adventure Pool Estimated Expenses	Alternative #2 416" Lazy River and Waterslide Estimated Increase in Expenses	Alternative #2 416' Lazy River and Waterslides Estimated Expenses
Personnel	\$ 170,695	10%	\$ 187,765		\$ 205,240		\$ 253,708
Contractual	\$ 22,203	5%	\$ 23,313	10%	\$ 23,313	10%	\$ 24,423
Utilities (Excluding Electrical and Gas)	\$ 12,739	5%	\$ 13,376	10%	\$ 13,376	10%	\$ 14,013
Utilities/Electrical	\$ 12,556	10%	\$ 13,812	\$ 6,518	\$ 19,074	\$ 17,932	\$ 30,488
Utilities/Gas	\$ 17,345	5%	\$ 18,212	16%	\$ 20,120	31%	\$ 22,722
Insurance/License	\$ 5,404	5%	\$ 5,674	10%	\$ 5,944	10%	\$ 5,944
Materials/Supplies	\$ 21,394	5%	\$ 22,464	20%	\$ 25,673	25%	\$ 26,743
Concession Products	\$ 23,161	5%	\$ 24,319	100%	\$ 46,322	100%	\$ 46,322
Capital Outlay	\$ 13,010	5%	\$ 13,661	25%	\$ 16,263	25%	\$ 16,263
<b>Total Estimated Expenses</b>	<b>\$ 298,507</b>		<b>\$ 322,595</b>		<b>\$ 375,325</b>		<b>\$ 440,626</b>
<b>Total Estimated Revenues</b>	<b>\$ 232,046</b>		<b>\$ 307,808</b>		<b>\$ 414,339</b>		<b>438,045</b>
<b>Net Estimated Income</b>	<b>\$ (66,461)</b>		<b>(14,787)</b>		<b>39,014</b>		<b>(2,581)</b>