

**ANALYSIS OF AQUATIC FACILITY OPTIONS
FOR THE CITY OF PLEASANT HILL**

Prepared For:

The City of Pleasant Hill

Prepared By:

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Project No. 2685

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Section I

INTRODUCTION

The City of Pleasant Hill is engaging in the process of evaluating options for the development and operation of aquatic facilities within its community. In this regard, a survey of the City's residents was undertaken in the summer of 2008. That survey found strong interest among Pleasant Hill residents in having some type of aquatic facilities developed within the City.

In response to the strong support indicated by the citizenry of Pleasant Hill, the City Council voted to commission a study of the various options that might be pursued with regard to the development of some type of aquatic facilities. Accordingly, the Council voted to retain **William L. Haralson & Associates, Inc. (WLHA)**, an economics consulting firm that specializes in conducting market and financial feasibility studies for aquatic facilities. WLHA was requested to consider several aquatic options for the City, based on established criteria. For each option, WLHA was requested to establish use potential, project revenue and income and determine the cost of development for each option. WLHA was instructed to present study findings in such a manner as to permit the Council and City staff to render a decision regarding the best option(s) available for Pleasant Hill.

This study was prepared by Mr. William L. Haralson, Principal of WLHA with the assistance of Ms. Tracy Kahaner, Principal of Kahaner Research. We wish to express our appreciation to the Council and staff of the City of Pleasant Hill for their support in the preparation of this study.

Section II
SUMMARY OF FINDINGS REGARDING
AQUATIC OPTIONS FOR THE CITY OF PLEASANT HILL

This section of the report presents a summary of findings regarding the aquatic options under consideration by the City of Pleasant Hill. Only the salient information is presented in this section. The methodology employed in deriving these findings, as well as other documentation is provided in Sections III through VI as well as the appendix.

We have defined four basic concepts for consideration in this analysis. These are:

- A water park
- A family aquatic center
- A traditional swimming pool
- A spray park

These will be discussed in turn.

WATER PARK

The largest of the concepts under consideration is a water park. While water parks can vary in size, most facilities of this type contain a number of water-related attractions, including various types of pools, water slides and children's play structures. They also include an array of support facilities, including food service facilities, lockers, restrooms, deck furniture, shade and a parking lot. Typically, water parks have the capacity to accommodate in-park attendance of 1,500 to 3,000 persons, although some parks are even larger than that. Water parks serve a primary resident market of some 15 miles in radius, with a secondary market extending out 50 miles and, sometimes, further. A number of water parks also serve a tourist market.

Our analysis of the market has revealed that a water park in the City of Pleasant Hill would serve a primary market of some 435 thousand population (based on 2008 estimate) and a secondary market of some 392 thousand, for a total

market of approximately 827 thousand. Within that market area, there exists no competing water parks, although there are a number of aquatic centers, which we will discuss later.

Taking into account the market, competition, weather patterns and the prevailing school year schedule, along with the excellent highway access provided by U. S. Highway 65, we have projected attendance for a water park in Pleasant Hill. Assuming 2010 to be the first year of operation, we have projected attendance of 144 thousand in 2010, 160 thousand in 2012 and 165 thousand in 2014. By comparison, the defunct White Water University reached attendance of 104 thousand in 2004. The higher attendance figures that we have projected assumes a somewhat larger facility, based on what we believe the market will support nearly 15 years after White Water University's last full season.

Based on our projections of annual attendance, we have estimated the park's entertainment capacity requirement to range from just under 1,600 persons in 2010, increasing to nearly 1,800 in 2014. As a rough rule of thumb, we estimate that water park development requires a budget of approximately \$5,000 per unit of entertainment capacity, excluding land costs. Thus, we are estimating development costs of nearly \$8 million in 2010, increasing to \$8.9 million in 2014.

If the City of Pleasant Hill chooses to pursue the water park option, a site of some 10 to 15 acres would be required. Of this roughly six acres would be required for a parking lot, with the park proper, a maintenance yard and group picnic areas making up the difference. If a site of this size range is not available, some of the parking could be located at a satellite location, since peak demand for parking spaces will only occur a few days each season.

Based on our projections of attendance, and assuming per capita expenditures of around \$18.50 in year 1, and escalating at 4.0 percent per annum, park revenue is projected at \$2.7 million in 2010, \$3.2 million in 2012 and \$3.6 million in 2014. After deduction of operating expenses and cost of goods sold, net operating income is projected at \$933 thousand in 2010, \$1.1 million in 2012 and

\$1.2 million in 2014. Assuming bond terms of 4.5 percent interest for 20 years, and further assuming a debt service coverage ratio of 1.3, supportable debt for the project is calculated to be \$9.3 million in 2010, \$11.2 million in 2012 and \$12.5 million in 2014. By comparison, we estimate the cost of improvements to be \$7.8 million in 2010, increasing to \$8.7 million in 2012 and \$8.9 million in 2014. Thus, supportable debt is projected to cover 119 percent of estimated improvement costs (but not land costs) in 2010, increasing to 129 percent in 2012 and 139 percent in 2014.

If the City of Pleasant Hill chooses to develop a water park, there are several ways to proceed. These are as follows:

- The most common approach is for the City to serve as developer and operator. Assuming this scenario, the City would bear the entire cost of developing the park and would be responsible for its operations. The negative factors inherent in this approach are, of course, the large outlay of capital for development and, also, the challenge of managing and marketing the facility. With regard to the latter, it should be noted that water parks are quite management intensive and a park's financial performance depends largely on the level of business acumen that is brought to bear.
- A second approach to developing a water park is for the City to build the park and contract with a private company to operate the park. This approach obviates one of the negative factors cited above. Assuming the private company is sufficiently qualified, the City should be able to compensate that company and still realize a favorable return on its investment.
- A third approach to developing and operating a water park is to offer a site to a private developer and operator of water parks. The City would then receive a lease payment, based on the park's financial performance. This approach has several advantages: (1) the City has a water park without making a substantial investment; (2) the City takes no risk in managing the water park and (3) if the contract is properly written, the City can take possession of the water park, if the private company does not perform satisfactorily.

- And, finally, a fourth approach might involve acquiring White Water University. There is precedent for this measure. A case in point is Magic Waters, in Rockford, Illinois. That park was originally developed by a private entity before it was taken over by the Rockford Park District, who has expanded the park and operated it successfully for a number of years. One advantage to acquiring White Water University is that such a move would preclude a private investor from acquiring and re-opening the park in competition with the City. A challenge in acquiring this site is its size – six acres. Additional land would have to be acquired in close proximity to the site for parking.

FAMILY AQUATIC CENTER

The second aquatic concept under consideration by the City of Pleasant Hill is a family aquatic center. This concept is similar to a water park, except that it has fewer components, a lower capacity, a more constricted market area and is almost always owned and operated by a municipality or other local governmental agency.

Our analysis of market support is based on a 15 mile radius. Our rationale for this definition of market area is based on two factors: the smaller scale and shorter length of stay at a family aquatic center translate into a smaller market area, compared to a water park; and the large number of competing aquatic centers in Central Iowa is a limiting factor with regard to the effective drawing area.

Based on a consideration of the level of market support, coupled with the substantial level of competition, we have projected attendance at the Pleasant Hill family aquatic center to be 60.5 thousand in 2010, 62.5 thousand in 2012 and 64.4 thousand in 2014. Further, we estimate the facility's in-grounds capacity requirement to be 683 in 2010, 705 in 2012 and 727 in 2014. Based on these projections of design period capacity, the entertainment mix should be a minimum of two water slides, approximately 7,000 square feet of pool area and a children's play structure. However, to be competitive with the existing aquatic centers in Central Iowa, we believe that the entertainment mix should exceed our minimum projections.

To accommodate the various facilities comprising a family aquatic center of the scale envisioned, we estimate the site's space requirements to be in the range of five to six acres. Of this, approximately two acres would be needed for the parking lot, with the balance needed to accommodate the park proper, the maintenance area and group picnic areas.

In projecting the facility's revenue, we have assumed the attendance projections presented above and have applied them to estimated per capita expenditures of \$8.83 in 2010, escalating by 4.0 percent per annum in subsequent years. Thus, total revenue is projected at \$534 thousand in 2010, \$596 thousand in 2012 and \$665 thousand in 2014.

After deduction of operating expenses and cost of goods sold, net operating income for the Pleasant Hill family aquatic center is projected at \$149 thousand in 2010, \$167 thousand in 2012 and \$185 thousand in 2014. Supportable debt is calculated at \$1.5 million in 2010, \$1.7 million in 2012 and \$1.9 million in 2014. By comparison, the Pleasant Hill aquatics center is estimated to cost \$6.0 million. Accordingly, we project supportable debt to cover 25 percent of the estimated cost of improvements in 2010, increasing to 28 percent in 2012 and 31 percent in 2014.

TRADITIONAL SWIMMING POOL

The third aquatic concept under consideration for the City of Pleasant Hill is a traditional swimming pool. Actually, we evaluated cost to operate and cost to build for four types of traditional pools. These include the following:

- 25-yard outdoor pool
- 50-meter outdoor pool
- 25-yard indoor pool
- 50-meter indoor pool

We undertook an analysis of supply and demand for traditional pools in Pleasant Hill.

Analysis of Supply

On the supply side, we surveyed a number of free-standing traditional swimming pools throughout Central Iowa. A list of these pools is presented in Section III of this report. Most of the traditional swimming pools that we surveyed are indoor facilities, which may be explained by the cool weather and short season for outdoor pools in Central Iowa.

Of greatest significance are those pools in or near Pleasant Hill. In this regard, we learned of two indoor pools in Pleasant Hill that are owned and operated by the Southeast Polk County School District. One pool is in the old high school and the second is in the new high school. Both pools are 25 yards in length. The older pool has five lanes, while the newer pool has eight lanes. The older pool is closed for renovation and will reopened for the fall semester in 2010. The newer pool is scheduled to open on June 1, 2009. The first priority for both of these pools is to support school programs – not the public at large. However, discussions with Mr. Dan Janssen of the Southeast School District’s staff revealed the likelihood that at least one of these pools will be open to the public on some basis. If this is the case, demand for an indoor lap pool in Pleasant Hill will be largely met.

A third indoor pool that is noteworthy is located at the Altoona Campus, some six miles north of University Avenue and U. S. Highway 65. This facility is a six lane, 25-yard pool that is open to the public. The pool is just one of many components that comprise the Altoona fitness and community center. This center is heavily promoted on a membership basis; however, daily admission is available at rates of \$12.50 for non-members and \$6.25 for persons accompanied by a member. Both the distance and the price of admission may detract from the appeal of this facility among Pleasant Hill residents, but it does represent an option for lap pool users.

The nearest outdoor pool is located at Teachout Aquatic Center, located some 4.9 miles west of Pleasant Hill, on the east side of the City of Des Moines. This is an old pool that was converted to an aquatic center. In addition to the leisure facilities that have been added to Teachout, the facility includes three short-

course lap pool, which are not suitable for competition but can accommodate lap swimmers.

Analysis of Demand

Based on our research, including interviews with individuals associated with swimming in Pleasant Hill, we did not get a sense that there is much pent-up demand for another traditional pool in the City. If one of the high school pools is made available for public swimming, any demand that may exist is likely to be satisfied. However, in the event that demand for a traditional pool should surface in the future, the cost to build and operate one type of pool or another should be known. Shown below are typical figures regarding operating deficits and cost to construct for the four types of traditional swimming pools. As shown, deficits for 25-yard pools, whether indoor or outdoors are relatively low, compared to the deficits for 50-meter pools. Further, it may be noted that the cost to construct indoor pools is significantly greater than outdoor pools, due entirely to the cost of erecting buildings to accommodate the pools.

<u>Pool Type</u>	<u>Deficit</u>	<u>Cost to Construct</u>
25-yard outdoor pool	\$38,021	\$1,578,650
50-meter outdoor pool	\$227,633	\$2,917,300
25-yard indoor pool	\$35,973	\$6,078,650
50-meter indoor pool	\$312,348	\$10,917,300

Finally, it should be noted that some type of traditional pool could be included within either a water park or family aquatic center, as several of the existing aquatic facilities have done.

SPRAY PARKS

The last and smallest concept to be considered is the spray park, which also is called the spray pad and WaterSprayground®. Spray parks are comprised of a cluster of fountains and other play features that utilize water in very creative ways. Spray parks can be any size depending on the number of features that are included.

There are two types of spray parks: those that are situated in a pool; and those that have a drain, which keeps the water from accumulating or pooling. The advantage to the latter type of spray park is that it prevents the possibility of drowning, thus, obviating the need for a life guard.

Compared to the other concepts previously discussed, spray parks are relatively inexpensive, starting at under \$100,000. Likewise, they are relatively inexpensive to operate, with the major costs being utilities. On the other hand, spray parks are not normally a revenue generator, since no admission is charged and there is virtually no opportunity to generate in-park spending, since attendance is usually not high enough to justify the expenses of staffing a food and beverage outlet.

Spray park users fall within a narrow age group, ranging from toddlers to ages 9 or 10.

There are two environments in which spray parks are found: at free-standing sites, such as neighborhood parks; and as components of larger attractions. In fact, spray parks are found in some of the aquatic centers that were surveyed in and around the Greater Des Moines area. If the City of Pleasant Hill chooses to pursue the option of a spray park, possible environments could be free-standing facilities in either Doan's Park or Copper Creek Lake Park, or as part of a water park or family aquatic center.

Section III

MARKET ANALYSIS

This section of the report presents an analysis of those factors that are likely to have an impact on the operations of aquatic facilities that might be developed within the City of Pleasant Hill. These factors include demographics, competition, weather and the school year schedule.

DEMOGRAPHICS

There are four types of demographics that could have an impact on aquatic facility operations in Pleasant Hill. These are as follow:

- Population
- Incomes
- Race Composition
- Age Distribution

These four demographic factors will be discussed in turn.

Population

Table 1, on the next page, presents a summary of population levels and trends for a market area extending out 50 miles from the intersection of U. S. Highway 65 and University Avenue in Pleasant Hill. As shown, population data is arrayed for the Census year 2000, with estimates for 2008 and projections for 2013. Further, the population of the market area is segmented into zones. Also, data for the City of Pleasant Hill is shown separately from the balance of the 0 to 5 zones.

As shown in Table 1, the population within the total market area was 745,108 in 2000 and was estimated at 826,739 for 2008. By 2013, the population of the market area is projected to reach 891,552.

Table 1
POPULATION BY DISTANCE
FROM PLEASANT HILL

Distance From Site	2000		2008		2013		Average Annual Change			
							2000-2008		2008-2013	
	<u>Number</u> (000)	<u>Percent of Total</u>	<u>Number</u> (000)	<u>Percent of Total</u>	<u>Number</u> (000)	<u>Percent of Total</u>	<u>Number</u> (000)	<u>Percent</u>	<u>Number</u> (000)	<u>Percent</u>
City of Pleasant Hill	5,070	0.7%	7,430	0.9%	8,735	1.0%	295	5.8%	261	3.5%
Balance of 5 Miles	75,339	10.1%	81,882	9.9%	88,143	9.9%	818	1.1%	1,252	1.5%
Total 0 to 5 Miles	80,409	10.8%	89,312	10.8%	96,878	10.9%	1,113	1.4%	1,513	1.7%
5 to 10 Miles	173,147	23.2%	182,613	22.1%	193,138	21.7%	1,183	0.7%	2,105	1.2%
10 to 15 Miles	135,219	18.1%	163,013	19.7%	182,762	20.5%	3,474	2.6%	3,950	2.4%
Subtotal 0 to 15 Miles	388,775	52.2%	434,938	52.6%	472,778	53.0%	5,770	4.6%	7,568	5.3%
15 to 25 Miles	73,622	9.9%	96,966	11.7%	113,734	12.8%	2,918	4.0%	3,354	3.5%
25 to 50 Miles	<u>282,711</u>	<u>37.9%</u>	<u>294,835</u>	<u>35.7%</u>	<u>305,040</u>	<u>34.2%</u>	<u>1,516</u>	<u>0.5%</u>	<u>2,041</u>	<u>0.7%</u>
Total	745,108	100.0%	826,739	100.0%	891,552	100.0%	10,204	1.4%	12,963	1.6%

Source: ESRI Business Information Solutions

Within the market area, the 0 to 5 mile zone includes all of the City of Pleasant Hill. As shown in the table, the City of Pleasant Hill was estimated to have 8,735 residents in 2008, or less than 1.0 percent of the market area population. The balance of the 0 to 5 mile zone was estimated to have 81,882 residents, or 9.9 percent of the market area population. Thus, the 0 to 5 mile zone accounted for 10.8 percent of the market area population. By comparison, the 5 to 10 mile zone accounts for 22.1 percent, while the 10 to 15 mile zone accounts for 19.7 percent. Thus, the 0 to 15 mile radius, which is the market area from which a family aquatic center would derive most of its support, accounted for 434,938 population, or 52.6 percent of the 50-mile market area.

Incomes

The second demographic factor to be reviewed is income. While there is no proven correlation between incomes and the propensity to attend aquatic facilities, lower incomes can have a depressing effect on per capita spending. Table 2 presents a summary of per capita incomes in the market area. As shown, incomes by zone are indexed against the U. S. average. Incomes in the City of Pleasant Hill

are 3 percent above the national average, while the balance of the 5 mile zone is well below the national average. By contrast, incomes in the 5 to 10 mile zone are 1 percent above the national average. Incomes in the 10 to 15 mile zone are 39 percent above the national average, while those in the 15 to 25 mile zone are 9 percent above the national average. Finally, incomes in the 25 to 50 mile zone are 14 percent below the national average.

Table 2
MARKET AREA PER
CAPITA INCOMES
(2008)

<u>Market Area Zone</u>	<u>Dollars</u>	<u>Index(1)</u>
City of Pleasant Hill	\$ 28,867	1.03
Balance of 5 Mile Zone	\$ 22,740	0.81
0 to 5 Miles	\$ 23,250	0.83
5 to 10 Miles	\$ 28,310	1.01
10 to 15 Miles	\$ 39,210	1.39
15 to 25 Miles	\$ 30,554	1.09
25 to 50 Miles	\$ 24,282	0.86
Total U. S.	\$ 28,151	1.00

(1) U. S. = 1.00
 Source: ESRI Business Information Solutions

Race Composition

Research by WLHA has revealed some differences in the propensity to attend water parks among the three major racial groups in the U. S. In a study of three water parks located in the Dallas area, WLHA found that, in parks of comparable scale, blacks exhibited a lower propensity to attend water parks, compared to either whites or Hispanics. Moreover, our research has revealed that Hispanics are more inclined to come in extended family groups and stay longer. Accordingly, Hispanics are more apt to request private pavilions and shaded areas to accommodate the young and the elderly. Table 3 presents a summary of racial composition in the market area. As shown, data are presented for whites, blacks, Native Americans and “others”. Also, shown are data for Hispanics, although Hispanics are permitted to describe their race as white, black or other. Data for the U. S is also included for comparison. As shown, all zones of the market area are

disproportionately white. While only 72.3 percent of the population was white in 2008, the five zones of the market area had percentages of white population ranging from 80.1 percent in the 0 to 5 mile zone to 96.9 percent in the 15 to 25 mile zone. By comparison, the percentage of the black population, which was 12.6 nationally, ranged from a low of .6 percent in the 15 to 25 mile zone to 8.0 percent in the 5 to 10 mile zone. Moreover, while Hispanics accounted for 15.4 percent of the national population, within the market area, the percent of Hispanics ranged from 1.6 percent in the 15 to 25 mile zone to 10.4 percent in the 0 to 5 miles.

Table 3
RACE COMPOSITION BY
MARKET AREA ZONE: 2008

<u>Market Area Zone</u>	<u>White</u>	<u>Black</u>	<u>Native American</u>	<u>Other</u>	<u>Total</u>	<u>Hispanic (1)</u>
City of Pleasant Hill	92.6%	1.0%	0.3%	6.1%	100.0%	3.7%
Balance of 5 Mile Zone	79.0%	7.3%	0.4%	13.3%	100.0%	11.0%
0 to 5 Miles	80.1%	6.8%	0.4%	12.7%	100.0%	10.4%
5 to 10 Miles	82.1%	8.0%	0.4%	9.5%	100.0%	6.4%
10 to 15 Miles	92.6%	1.6%	0.2%	5.6%	100.0%	2.9%
15 to 25 Miles	96.9%	0.6%	0.2%	2.3%	100.0%	1.6%
25 to 50 Miles	92.4%	1.0%	0.3%	6.3%	100.0%	4.2%
Total U. S.	72.3%	12.6%	0.9%	14.2%	100.0%	15.4%

(1) Hispanics can be any race.

Source: ESRI Business Information Solutions

Age Distribution

Table 4 presents a summary of the age distribution within the market area with figures for the U. S. included for comparison. Age is an important demographic factor in this study, since each of the options under consideration would appeal to a specific age bracket; consequently, it is important to understand

**Table 4
MARKET AREA
AGE DISTRIBUTION: 2008**

<u>Age Category</u>	<u>Pleasant Hill</u>	<u>Balance of 5 Miles</u>	<u>0-5 Miles</u>	<u>5-10 Miles</u>	<u>10-15 Miles</u>	<u>15-25 Miles</u>	<u>25-50 Miles</u>	<u>Total U. S.</u>
Under 5	7.1%	8.3%	8.2%	7.0%	7.4%	7.7%	6.1%	6.9%
5 to 9	7.3%	7.4%	7.4%	6.3%	7.2%	7.5%	5.7%	6.5%
10 to 14	<u>7.3%</u>	<u>7.2%</u>	<u>7.2%</u>	<u>6.2%</u>	<u>7.3%</u>	<u>7.4%</u>	<u>5.8%</u>	<u>6.7%</u>
Subtotal	21.7%	22.9%	22.8%	19.5%	21.9%	22.6%	17.6%	20.1%
15 to 19	6.2%	7.0%	6.9%	6.9%	6.6%	6.9%	8.0%	7.1%
19 to 24	4.8%	6.7%	6.5%	7.5%	6.0%	5.8%	10.6%	7.0%
25 to 34	11.8%	14.3%	14.1%	14.1%	14.2%	12.2%	12.1%	13.3%
35 to 44	15.6%	14.2%	14.3%	14.6%	15.7%	15.4%	12.0%	14.1%
45 to 54	15.5%	13.8%	13.9%	14.4%	15.2%	15.5%	14.3%	14.7%
55 to 64	12.7%	10.1%	10.3%	10.6%	10.8%	10.9%	11.0%	11.1%
65 and Over	<u>11.7%</u>	11.2%	<u>11.2%</u>	<u>12.4%</u>	<u>9.6%</u>	<u>10.7%</u>	<u>14.4%</u>	<u>12.6%</u>
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Median Age	38.7	41.3	41.6	36.4	35.9	36.7	36.5	36.8

Source: ESRI Business Information Solutions

the level of demand emanating from different aspects of the market area population.

Most of the demand for aquatic facilities in the market area stems from the population under 15 years of age. A review of the data in Table 4 shows that percentage of the population under 15 years of age in the U. S. was 20.1 percent in

2008. By comparison, the percentages of population of the various market area zones are clustered around the national average. As shown in Table 4, the 0 to 5 mile zone, the 10 to 15 mile zone and the 15 to 25 mile zone all have higher percentages of their population under 15 years, compared to the national average, but not by much. The 5 to 10 mile zone and the 25 to 50 mile zone, on the other hand, have lower percentages of their population under 15 years of age than the nation as a whole. As shown in the table, only the 25 to 50 mile zone deviates significantly from the national average in terms of the population under 15 years of age.

COMPETITION

Ranking second after demographics, competition is the most significant factor impacting attendance at an aquatic center. In order to assess the influence of competition on the aquatic options under consideration in this study, we conducted a survey of water parks and family aquatic centers within a 50-mile radius of Pleasant Hill. We also surveyed traditional swimming pools, although we are of the opinion that the only traditional pools that merit consideration in this study are the existing one at the existing high school in Pleasant Hill and, the one that is planned at the new high school, the indoor pool in the Altoona Campus and the swimming pools at the Teachout Aquatic Center in east Des Moines.

Water Parks

There are currently no water parks in the greater Des Moines area or within a 50-mile radius of Pleasant Hill. There was a water park in Pleasant Hill, called White Water University, that closed after a shortened 2005 season. That facility was situated on a 6-acre site on University Avenue, a few blocks west of the intersection of University Avenue with U. S. Highway 65. For 2004, the last full season of operation at the park, attendance was just over 104 thousand. We understand that most of the facilities comprising White Water University are still in place, holding out the possibility that this park could re-open at some future date.

Aquatic Centers

Table 5 presents a summary of family aquatic centers in Central Iowa. As will be explained more fully in Section V, a family aquatic center is a smaller version of a water park, usually offering only a few attractions. Table 5 presents a summary of data regarding family aquatic centers within 40 miles of Pleasant Hill. As shown, there are 15 facilities in and around the greater Des Moines area. All of these, except Kokomo Kove, are owned and operated by municipalities. Eight have opened since 2000, six opened during the 1990’s and one opened in 1976. Attendance at the 14 municipal facilities during 2008 ranged from just over 5,200 at Carlisle Aquatic Center to 95,000 at the Valley View Aquatic Center. Average attendance among the 14 aquatic centers shown in Table 5 was just under 50,000 in 2008.

The column on the right in Table 5 shows the distance between Pleasant Hill (interchange of U. S. Highway 65 and University Avenue) and each facility shown in the table. Our experience has revealed that a major factor influencing the competitive environment is the distance between two venues. Accordingly, we will address the competing facilities shown in Table 5 beginning with the facility nearest to Pleasant Hill and ending with the facility that is farthest away. The following is a brief discussion of each facility shown in Table 5.

Teachout Aquatic Center: The competing facility nearest to Pleasant Hill is the Teachout Aquatic Center, which is 4.9 miles west of U. S. Highway 65 in Pleasant Hill. Teachout is an old facility that was originally developed as a lap pool. Then, in 2002, the facility was expanded to include two water slides, a zero depth entry pool, a water mushroom and a shaded swim area. Attendance at Teachout in 2008 was 35,546. Admission rates for 2009 will be \$2.00 for persons ages 3 to 20 and \$4.00 for persons 21 and over. A variety of season passes are available, with individual passes selling for \$45.00 and family passes ranging from \$80.00 to \$140.00, depending on the size of the family. The 2009 operating season will run from June 4th through August 23rd.

Table 5
FAMILY AQUATIC CENTERS IN
THE AREA AROUND PLEASANT HILL

<u>Name of Facility</u>	<u>Location</u>	<u>Year Opened</u>	<u>Attendance</u>	<u>Miles From Pleasant Hill</u>
Teachout Aquatic Center	Des Moines	1993	35,546	4.9
Altoona Aquatic Park	Altoona	2003	70,000	6.0
Kokomo Kove	Altoona	2008	1/	6.0
Carlisle Aquatic Center	Carlisle	2005	5,170 2/	8.0
Holiday Park Aquatic Center	West Des Moines	2003	39,976	12.0
Urbandale City Swimming Pool	Urbandale	1976 3/	63,000	13.6
Nahas Aquatic Center	Des Moines	1995	33,723	14.0
Clive Family Aquatic Center	Clive	2003	65,000	14.1
Norwalk Aquatic Center	Norwalk	1991	32,000	15.1
Prairie Ridge Family Aquatic Center	Ankeny	1997	70,000	16.4
Northwest Aquatic Center	Des Moines	1993	35,691	16.5
Valley View Aquatic Center	West Des Moines	2003	95,062	19.0
Indianola Veterans Memorial A. C.	Indianola	1997	45,220	19.0
Pella Aquatic Center	Pella	2004	58,931	37.7
Fawcett Family Aquatic Center	Nevada	2001	44,556	41.0

1/ Attendance subsumed in Adventureland Park's attendance

2/ Attendance count does not include 321 season passes.

3/ The city is planning on spending some \$500,000 on renovations and repairs beginning in March, 2009

Source: William L. Haralson & Associates, Inc. survey of aquatic centers.

Kokomo Kove: This facility is the only privately-owned and operated aquatic center in the greater Des Moines area. It opened in June, 2008 as a part of Adventureland amusement park, which is located in Altoona, some six miles north of Pleasant Hill. As such, it is not considered to be a free-standing park, and separate attendance for Kokomo Kove is not tallied. Also, a separate admission fee is not charged and Adventureland admission is \$31.00 for adults and \$27.00 for children. The attraction consists of seven water slides and a variety of water guns, tipping buckets, net bridges and other play features designed for the pre-teen market.

Altoona Aquatic Park: A second aquatic center in Altoona is the Altoona Aquatic Park, which is located six miles north of Pleasant Hill. This facility was opened in 2003. Facilities consist of a six-lane lap pool, a plunge pool with water slides, children's play features and a sand play area. This facility operates from Memorial Day to Labor Day. Admission rates are \$4.00 for residents and \$5.25 for non-residents. Season passes are available for residents for \$75.00 for children and \$125.00 for families. Non-resident passes cost \$100.00 for children and \$160.00 for non-residents. Attendance at the park in 2008 was estimated by staff at 60 to 70 thousand.

Carlisle Aquatic Center: The Carlisle Aquatic Center, located in Carlisle some 8.0 miles south of Pleasant Hill, opened in 2005. It consists of a 5,500-square foot pool with a zero depth entry, floor geysers, a frog slide, a Rain Drop fountain, and a six lane lap pool. This facility is open from Memorial Day through Labor Day. Admission rates are \$3.00. Individual season passes are available for \$53.00, while family passes cost \$106.00. Attendance in 2008 was 5,170 plus season pass attendance, which is not counted.

Holiday Park Aquatic Center: This facility is one of two aquatic centers that are owned and operated by the City of West Des Moines.. Opened in 2003, Holiday Park Aquatic Center is located some 12 miles west of Pleasant Hill. Facilities at Holiday Park include three water slides and an interactive spray zone. The center is open from the day after local schools recess and stays open as late as possible. Admission prices are \$4.00 for ages 3 to 12 and \$7.00 for those 13 and older. Attendance in 2008 was 39,976.

Urbandale City Swimming Pool: This facility arguably qualifies as a family aquatic center. Components include a six-lane indoor swimming pool with dimensions of 25 meters by 25 yards, plus a few outdoor spray features. The pool is open all year. The pool was built in 1976; however, the Urbandale City council has voted to spend an additional \$500,000 for renovations and repairs. Admissions

are \$4.00 with annual passes available for \$110.00 for residents and \$140.00 for non-residents. Attendance in 2008 was 63,000.

Nahas Aquatic Center: This aquatic center is one of three pools that have been retrofitted by the City of Des Moines. This facility is located 14 miles southwest of Pleasant Hill. Facilities include two water slides, a zero depth entry pool, a water mushroom and a shaded swim area. For 2009 the operating season will extend from June 5th through August 23rd. Admission rates are \$2.00 for children and \$4.00 for adults. Season passes are available for \$45.00 for individuals and \$140 for families. Attendance in 2008 was 33,723.

Northwest Aquatic Center: Northwest Aquatic Center is another one of old swimming pools that the City of Des Moines has retrofitted to become an aquatic center. Facilities include a leisure pool with a zero-depth entry, spray fountains, water slides and a sand play area. In addition, the center includes three short-course lap lanes. Northwest has the same operating season as Nahas and Teachout, and the same admission rates. Attendance at this facility in 2008 was 35,691

Clive Aquatic Center: Clive Aquatic Center is located 14 miles straight west of Pleasant Hill. This facility opened in 2003 with a six-lane swimming pool, two water slides, a children's leisure pool and a lazy river. The operating season is roughly Memorial Day through Labor Day. Admission rates are \$4.00 for children and \$7.00 for persons 13 years of age and older. Season passes are available for \$80.00 for residents and \$115.00 for non-residents. Attendance in 2008 was 65,000.

Norwalk Aquatic Center: This facility, which opened in 1991, is located some 15.1 miles southwest of Pleasant Hill. This aquatic center is comprised of a zero depth entry pool, a water slide and a baby pool with water features. The pool operates from Memorial Day to Labor Day. Admission rates for 2009 will be \$4.00. Attendance in 2008 was 32,000.

Prairie Ridge Family Aquatic Center: This facility is owned and operated by the City of Ankeny. It is located 16.4 miles northwest of Pleasant Hill. Opened in

1997, it contains a splash park of approximately 13,000 square feet and three water slides. The center is open from Memorial Day to Labor. Admission rates are \$3.00 for residents and \$5.00 for non-residents. Admission to the splash park only is \$1.00 for residents and \$2.00 for non-residents. Season passes are available for \$45.00 for residents and \$75.00 for non-residents. Attendance at this facility in 2008 was 70,000.

Valley View Aquatic Center: This facility is the second aquatic center developed by the City of West Des Moines. Valley View is located 19.0 miles west of Pleasant Hill. This facility, which opened in 2003, has three swimming pools, a large leisure pool with spray features, four water slides and a 600-foot lazy river. This center's operating season extends from the day after local schools recess for the summer and stays open as long as possible. Admission rates at this facility are \$4.00 for ages 3 through 12, \$7.00 for those 13 years of age and up, except for seniors, who are charged \$5.00. Attendance in 2008 was 95,062.

Indianola Veterans Memorial Aquatic Center: This facility, which was opened in 1997, is located 19 miles southwest of Pleasant Hill. Facilities there include a 7,000-square foot zero depth entry pool and a 5,000 square foot children's pool. The larger pool includes a one meter diving board, a water therapy seat, a water cascade, leapin' lily pads and a sidewinder water slide. The smaller pool includes an interactive play area. This facility is open from Memorial Day through Labor Day. Admission rates are \$3.35 for residents and \$3.75 for non-residents. Individual season passes are available for \$56.00 for residents and \$66.00 for non-residents. Season passes for families are available for \$113.00 for residents and \$133 for non-residents. Attendance during the 2008 season was 45,220.

Pella Aquatic Center: This facility, which opened in 2004, is located 37.7 miles southeast of Pleasant Hill. Facilities include an indoor, six-lane 25 meter pool, which pre-dates the rest of the aquatic center. In 2004, the aquatic center opened with a zero depth toddler pool, various deck sprays, a play structure, and other water elements. The latest addition is an adventure river. This facility operates between Memorial Day and Labor Day, except for the indoor pool, which is open year-round. Admission rates for children are \$4.00 for residents and \$5.00 for

non-residents. Admission rates for adults are \$4.50 for residents and \$5.50 for non-residents. Attendance for the 2008 summer season was 58,931.

Fawcett Family Aquatic Center: This facility, which opened in 2001, is owned and operated by the City of Nevada. It is located some 41 miles north of Pleasant Hill. Facilities there include a 360,000-gallon pool with water slides, water play features, sand volleyball, a sand play area and a six-lane lap pool and diving board. The facility operates from Memorial Day to Labor Day. General admission is \$4.00, individual season passes are available for \$75.00 and family season passes are available for \$1.50.

Proposed Family Aquatic Centers: We also learned of the following proposed plans for new aquatic facilities in Central Iowa.

- The City of Ankeny is planning to open a new facility, to be called Cascade Falls, around Memorial Day of 2010. This facility will include a 7,500 square foot lap pool, a 7,200 square foot leisure pool and an 8,100 square foot lazy river. This center will be located in the Prairie Trail development.
- Polk City will be studying the feasibility of developing a community recreation center, which may include a family aquatic center.
- Urbandale's 10-year capital improvement program calls for the development of a \$5 million aquatic center in 2013 at a location inside the Walnut Creek Regional Park in Western Urbandale. The project will require voter approval.
- The cities of Grimes and Johnston had proposed a joint venture to develop an aquatic center consisting of a zero depth entry pool with a play structure, floatables, tumble buckets and a spray zone, a lazy river with water slides, a 25-yard, eight-lane swimming pool and two helix slides with a deck run out. This project was approved by the voters of Grimes but rejected by the voters of Johnston.

Swimming Pools

Traditional swimming pools have served a variety of roles over the years. They have provided a venue for competitive swimming, diving, learn to swim, therapy, water volleyball and recreational activities. However, with the advent of water parks, family aquatic centers and spray parks, the role of traditional swimming pools has been reduced to non-recreational uses, when these other types of aquatic facilities are available. . Free-standing swimming pools in and around Pleasant Hill– those not associated with aquatic centers –are discussed below.

Pleasant Hill: The Southwest Polk County School District operates an indoor swimming pool at the Southeast Polk County High School on University Avenue, east of U. S. Highway 65 in Pleasant Hill. This facility, which is a 25 yard pool with five lanes, is closed for renovation and will reopen for the fall semester of 2010. The school district has also built a new high school on University Avenue next to the City of Pleasant Hill’s proposed sports complex. This facility, which will open in June, 2009, is a 25-yard pool with eight lanes. Discussions with school district staff revealed that no decision has been made regarding the use of either one of these pools for public use, although chances are one of the two pools will be open to the public on a limited basis.

Altoona: In addition to its family aquatic center, the City of Altoona has a six-lane, 25-yard swimming pool at the Altoona Campus. The facility is just one of many components comprising Altoona’s fitness and community center. Other components include a 10,000 square-foot weight room, an indoor track, meeting rooms, three racquetball courts and a two-court gymnasium. This complex is available on a membership basis but also on a daily basis. Daily admission rates are \$12.50 for non-members or \$6.25 if accompanied by a member.

Des Moines: The City of Des Moines operates the following swimming pools:

- Ashworth Pool – An outdoor pool located between Interstate Highway 235 and the Racoon River.
- Birdland Pool – An outdoor pool located at 6th Avenue and Holcomb Avenue, near the east bank of the Des Moines River.

Des Moines School District: The Des Moines School District operates five indoor, 25-yard pools. These are:

- Central Campus
- East High School
- Lincoln High School
- North High School
- Roosevelt High School

YMCA: The YMCA of Greater Des Moines currently operates four indoor short-course swimming pools. These are:

- The Ankeny Family YMCA
- The Grubb Family YMCA, located at 1611 11th Street in Des Moines
- The Riverfront Family YMCA, located 101 Locust Street in Des Moines
- The Walnut Creek Family YMCA, located at 948 73rd Street in Des Moines

Drake University: Drake University operates an indoor, 25 meter pool.

WEATHER

In addition to demographics and competition, a third factor that can impact the operations of aquatic facilities is weather, which can influence the level of attendance or usage of outdoor aquatic facilities and/or the length of the operating season.

Table 6 presents a summary of monthly data regarding long-term weather patterns in the Des Moines area. Factors displayed include normal high and low temperatures, precipitation data and humidity.

Table 6
CLIMATOLOGICAL DATA FOR THE
DES MOINES METROPOLITAN AREA

<u>Month</u>	<u>Temperature</u>		<u>Days</u>	<u>Precipitation</u>		<u>Relative Humidity</u>
	<u>High</u>	<u>Low</u>		<u>Inches/Mo</u>	<u>Inches/Day</u>	
January	27.0	10.1	7.4	1.01	0.14	67%
February	33.2	15.8	7.2	1.12	0.16	65%
March	44.2	26.0	10.1	2.20	0.22	60%
April	61.0	39.9	10.5	3.21	0.31	55%
May	72.6	51.6	11.3	3.96	0.35	55%
June	81.8	61.4	10.6	4.18	0.39	55%
July	86.2	66.3	9.2	3.22	0.35	57%
August	84.0	63.7	9.2	4.11	0.45	58%
September	75.7	54.4	8.6	3.09	0.36	59%
October	65.0	43.3	7.6	2.16	0.28	55%
November	47.6	29.5	7.2	1.52	0.21	64%
December	33.7	17.6	8.0	1.05	0.13	69%

(1) Days with .01 inches or more of precipitation

Source: National Oceanic and Atmospheric Administration

Normal Temperatures

As shown, normal high and low temperatures each exhibit a bell-shaped curve. Beginning in January, normal high temperatures average 27.0. From January through July, temperatures rise to a plateau of 86.2 degrees, then, beginning in August, temperatures begin to drop, reaching 33.7 degrees in December.

Normal low temperatures run parallel to normal high temperatures. Beginning in January, temperatures in the Des Moines area average 10.1 degrees. Thereafter, temperatures rise to a plateau in July at 66.3 degrees before beginning the decline culminating in a year-end low of 17.6 percent.

Precipitation

The second weather factor of importance is precipitation. The three columns in the middle of Table 6 present data regarding precipitation in the Des Moines area. The first column shows average precipitation days, the second column shows inches of rain equivalent per month and the third column shows the inches of rain equivalent per precipitation day.

As with normal high and low temperatures, precipitation also forms a bell-shaped curve. Beginning in January, the Des Moines area averages 7.4 precipitation days. This frequency remains nearly unchanged in February but increases in March, April and May before starting a decline that extends through November before exhibiting a slight up tick in December.

Precipitation per month exhibits a similar pattern to the number of precipitation days per month. As shown in Table 6, inches of precipitation per month is lowest in January at 1.01 inches. From January, inches of precipitation per month increases through June and remains high until it begins to drop in September, finishing the year at 1.05 inches per month. Inches of precipitation per day follows a similar pattern as the monthly data.

Humidity

The third weather factor to be considered is humidity. As shown in Table 6, humidity in the Des Moines area is 55 percent or higher throughout the years. For most human activity, high humidity coupled with high temperatures creates an uncomfortable situation. Such is not necessarily true where aquatics are concerned. In fact, humidity serves to hold warmth in the air when the sun is blocked by clouds or some other obstruction. Anyone who has had the opportunity to swim in a dry desert environment can attest to rapidity with which the heat can be dissipated from the air and the water, when the sun sets.

THE SCHOOL YEAR SCHEDULE

The school year is, perhaps, the most significant factor influencing the length of the operating season for most aquatic facilities. When the grade schools and high schools are in session, aquatic facilities of all types lose most of their market. Moreover, when high schools and colleges go back in session, aquatic facilities lose most of their hourly staff. Therefore, it is not surprising that most aquatic facilities structure their operating schedule to reflect the local school year schedule.

The two school districts that would have the greatest impact on any aquatic facilities that might be developed in Pleasant Hill are the Southeast Polk County School District and the City of Des Moines School District. Most schools in the Southeast Polk County School District currently let out around May 22nd and resume classes on August 18th. Schools in the Des Moines School District let out classes around June 3rd and 4th and resume classes on August 21st. These school schedules will shape the schedule of any water park or family aquatic center and probably other aquatic facilities as well. We would expect a schedule for most aquatic facilities to extend from late May through Labor Day weekend, with daily operations extending from the end of school in Southeast Polk County through the third weekend in August.

Section IV

ANALYSIS OF THE WATER PARK CONCEPT

A water park is a water-themed amusement park consisting of an array of pools and flumes and support facilities. To qualify as a water park, a venue must include at least three basic elements: (1) water slides; (2) some type of leisure pool and (3) some type of water-oriented children's play structure. In addition, a water park must augment these three elements with an array of other water features in order to attain the threshold level of entertainment value.

THE HISTORY OF WATER PARKS IN THE U. S.

Generally recognized as the first water park in North America, Wet 'n Wild opened in Orlando, Florida in 1977. That park consisted of a small children's water playground, a small "activity pool", five water slides and a wave pool of approximately 18,000 square feet.

Following the opening of Wet 'n Wild, a number of water parks were opened in the South over the next few years. Most of these parks were developed by operating companies that were already in the "dry" amusement park business. These included Adventure Island in Tampa, Florida, Wild Waters, in Ocala, Florida, White Water, in Branson, Missouri and Oceans of Fun, in Kansas City, Missouri. All of these parks were opened within five years of the opening of Wet 'n Wild and all were relatively successful operations.

However, beginning in the early 1980,'s the young water park industry was characterized by the entry of a second generation of water parks, many of which were developed by individuals and groups with no prior amusement park experience. As a consequence, a number of parks were built on a foundation of mistakes that caused the demise of some water parks before they even had a chance to succeed. The most common mistakes were poor timing of opening, under-capitalization, poor choice in mix of attractions and, perhaps most significant, poor management and marketing. As a consequence, a number of parks that opened in the early 1980's were forced to close, only to be acquired and

re-opened under new management. With very few exceptions, water parks that were re-opened proved to be successful under more competent management.

Following the shake out of the bad management of the early 1980's, the water park industry in North America stabilized and matured. Today, nearly every major metropolitan area in the U. S. has at least one water park.

SCALE OF DEVELOPMENT

A water park must have the proper scale of development if it is to achieve the optimum level of success. Scale relates to park capacity. As will be shown later in this report, the scale of a water park must be consistent across the board regarding both entertainment components and support facilities, including parking, food service, shade, etc. If the scale of a water park is too small, the capacity of the facilities will be taxed and over-crowding will result in less than optimal attendance. If the park's scale is too large, capital investment will have been wasted resulting in diminished profitability. For these reasons, a water park should have a master plan that allows for timely park expansion in response to market demand.

REQUISITE INVESTMENT LEVEL

There is no single figure that represents the level of investment required to develop a water park. Clearly, there are water parks of different scales of development. However, there are minimum and maximum parameters for development budgets. A rough rule of thumb holds that an allowance of \$5,000 is required for each unit of entertainment capacity in a water park, excluding land costs. Thus, if a water park is developed with a capacity to accommodate, say, 1,500 attendees, then the cost of improvements is likely to be in the range of \$7.5 million. In fact, if much less than this amount is spent, there is some question as to whether the park will have sufficient entertainment value to qualify as a water park. On the other hand, there is a limit regarding the upper range of investment for a water park. In our experience, there are very few markets that can justify an investment level for a water park above \$20 million.

Before a project reaches the “bricks and mortar” stage, it is absolutely imperative that the project have a feasibility study and a master plan. We have noted that the scale of park components be consistent with one another. This consistency is necessary to insure that the park’s development program make judicious use of capital investment. We have witnessed unfortunate cases where this was not the case and the park’s development budget did not square with the project’s end product.

Water parks developed in the public sector typically are not required to pay for development costs using the park’s income; however, the costs of developing the park are real, nevertheless.

LENGTH OF STAY

Length of stay is a critical factor to the operation of a water park. Length of stay, as measured in hours and minutes, is an indicator of the entertainment value of a water park. Depending on the number of attractions offered at a water park, length of stay ranges from 4 to 6 hours.

Length of stay is an important factor to a water park for two reasons. First, length of stay determines the effective market area of a given water park. As a general rule, the radius of a park’s market area, as measured in driving time, is approximately one-fourth the average length of stay of that park. For example, a water park with an average length of stay of four hours can be expected to draw from an effective market area extending out approximately one hour’s driving time. This relationship explains the reason that water parks draw from a more extensive market area than do family aquatic centers, which are smaller and engender a shorter length of stay.

The second reason that length of stay is important to a water park is its correlation with per capita spending patterns. It is a well-established fact that per capita spending, which is comprised of admissions plus in-park spending, increases as the length of stay at a water park increases. More specifically, per capita spending at a water park increases at a rate of roughly \$4.00 per hour. Thus,

a water park with an average length of stay of 4.0 hours can be expected to engender total per capita spending of \$16.00, while a park with a five hour length of stay might have per capita spending of \$20.00. This correlation should be viewed as a rough rule of thumb rather than a hard and fast formula, since there are intervening factors that can result in higher or lower levels of spending in different markets.

DIVERSITY OF ENTERTAINMENT

In addition to scale of development, another important consideration in the planning of a water park is diversity of entertainment. In the early years of the water park industry, the value of diversity of the entertainment experience was not fully appreciated. In that regard, some of the earliest water parks did not strive to achieve optimum diversity. For example, a park might install four water slides with identical slide paths, thereby replicating the exact same entertainment experience four times over. Only later did park planners realize that they could vary the slide paths to create different entertainment experiences. Not only does diversity of entertainment in a water park make for a richer entertainment experience for each individual, it also broadens the park's breadth of market appeal to attract more attendees of different ages, ethnicity and gender.

ECONOMIC IMPACT

Water parks are capable of generating measurable levels of economic impact. As contrasted to family aquatic centers, which draw from a much less extensive market area, water parks draw from an hour's drive or more, generating the potential for longer stays in the proximity of a water park. Consequently, the potential for spending money for fuel and other automobile needs, other retail, restaurants and even lodging is in play.

FINANCIAL PERFORMANCE

Most water parks are owned and operated by the private sector on a for-profit basis. Also, most water parks do, indeed, operate at a profit, although some are marginal operations with the owner's only reward being a salary.

There are four factors that determine the level of profitability of a water park. These are:

- Attendance
- Per Capita Spending
- Operating Expenses
- Development Costs

These are discussed, in turn, below.

Attendance

Attendance is critical to the viability of a water park, since, along with per capita spending, it determines the level of revenue generated by the water park. Attendance is a function of two factors: market support and market penetration.

Market support is an independent variable, meaning that it can not be manipulated by park management. Rather, market support is the level of demand that is latent in the market area, taking into account the presence of competing attractions.

Market penetration is defined as participation times frequency of attendance. As an example, if 10 percent of the population of the market area participate in attending a water park 4 times per season, then the market penetration of the water park in its market area is 40 percent. It should be noted that both of the components of market penetration can be manipulated by park management. Through marketing, pricing and other measures, water park staff can induce increases in both the participation rate and frequency of attendance at a water park, thereby increasing the rate of market penetration and overall level of attendance at a water park.

Per Capita Spending

The second factor that impacts revenue at a water park is per capita spending. Per capita spending is defined as the total revenue engendered by a water park divided by total attendance. In our view, every park has an optimum

level of per capita spending that should be targeted. Using the rule of thumb cited above of \$4.00 per hour, and assuming a five hour length of stay, a water park has an optimum level of per capita spending of \$20.00. That being the case, park management should formulate a budget with the objective of achieving per capita spending for the upcoming season of \$23.00. The first step in this process is to separate out admissions from in-park spending. For this step, it is useful to apply a rule of thumb of 75-25, with 75 percent of the \$20.00 per capita expenditure going to admissions and 25 percent going to in-park spending. Most of the parks for which we have data fall somewhere close to this ratio. Based on this allocation, \$15.00 is the target figure for the park's admission per capita spending level and \$5.00 is the target figure for in-park spending.

In addition to admissions spending, the subject water park is estimated to have the potential to generate \$5.00 of in-park spending, which is also referred to as discretionary spending. In-park spending should be viewed differently than admission spending. Regarding admission spending, the goal should be to maximize revenue by maximizing attendance. Thus, the ticket mix will include a number of discount programs to engender higher ticket sales. By contrast, in-park spending should have the goal of maximizing revenue by *optimizing* per capita in-park spending. The rationale at play here recognizes that the primary motivation driving in-park spending is the attainment of an enhanced entertainment experience. Plainly stated, the attendee sees a trip to the water park as an entertaining experience that is enhanced through the purchase of in-park purchases, such as food, drinks, merchandise and various rentals. Attaining the target for in-park spending is, to some extent, a matter of trial and error, which can be ameliorated by reviewing the experience of other water parks and by observing point of sale operations that may suggest improvements in the logistics of in-park sales.

Operating Expenses

Operating expenses among water parks range from 50 percent on up, with a healthy average considered to be 65 percent. The largest component of operating expenses is payroll and payroll-related expenses, which account for roughly 25 percent of revenue. In this regard, it should be noted that payroll expenses can be

manipulated with tight line schedules and a thoughtful schedule for hours and days of operation. In addition to payroll, another major line item of operating expenses is marketing, which can range from 5 to 10 percent of revenue, depending on location and the size of the park. Other significant operating expenses, include maintenance and repairs, utilities and insurance.

PROJECTED ATTENDANCE

This sub-section presents of an analysis of attendance potential in Pleasant Hill. Included is an analysis of market penetration rates, projected annual attendance, projected attendance patterns and projected facility requirements.

Market Penetration Rates

Two factors are required to project water park attendance: market penetration rates and market area population. Market area population by zone was discussed in Section III. The concept of market penetration rates was discussed above.

Presented below is a summary of market penetration rates at six water parks located around the U. S. It may be noted that the patterns of the six parks shown below are similar in that all achieve their highest rate of market penetration in the 0 to 5 mile zone, followed by the 5 to 10 mile zone and the 10 to 15 mile zone. This pattern is explained by the distance factor: Residents of the 0 to 5 mile zone will attend the water park more frequently than residents of the 5 to 10 mile zone and so on.

	0-5	5-10	10-15	15-25	25-50
	<u>Miles</u>	<u>Miles</u>	<u>Miles</u>	<u>Miles</u>	<u>Miles</u>
Park A	60%	39%	10%	7%	6%
Park B	68%	24%	13%	8%	4%
Park C	44%	20%	9%	5%	n/a
Park D	50%	25%	11%	n/a	n/a
Park E	45%	30%	20%	8%	n/a
Park F	50%	---13%---		10%	5%

Source: William L. Haralson & Associates, Inc.

Projected Attendance

Table 7 presents our projections of attendance for a water park in Pleasant Hill. As shown, the table is presented in three parts. The top part of the table contains market zone population, based on the data presented in Table 1, the middle part of the table contains our estimated market penetration rates, based primarily on the penetration data presented previously, and the bottom part is the product of applying the estimated market penetration rates to the projected population figures shown in the top part of Table 7.

As shown in Table 7, attendance for the water park is projected at 145 thousand in 2010 (the assumed first year of operation), increasing to 160 thousand in 2012 and 165 thousand in 2014.

It is also of interest to note the distribution of attendance at the water park. Shown below is a comparison of attendance distribution as shown in Table 7 compared to White Water University for 2002.

Table 7
PROJECTED ATTENDANCE AT THE
PLEASANT HILL WATER PARK

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
<u>Market Population (000)</u>					
City of Pleasant	7,952	8,213	8,474	8,735	8,996
Balance of 5-mile Radius	84,386	85,639	86,891	88,143	89,395
5 to 10 Miles	186,823	188,928	191,033	193,138	195,243
10 to 15 Miles	170,913	174,862	178,812	182,762	186,712
15 to 25 Miles	103,673	107,027	110,380	113,734	117,088
25 to 50 Miles	298,917	300,958	302,999	305,040	307,081
Visiting Friends/Relatives	225,037	228,821	232,605	236,389	240,173
<u>Estimated Market Penetration</u>					
City of Pleasant	75.0%	75.0%	75.0%	75.0%	75.0%
Balance of 5-mile Radius	50.0%	50.0%	50.0%	50.0%	50.0%
5 to 10 Miles	25.0%	25.0%	25.0%	25.0%	25.0%
10 to 15 Miles	12.0%	13.5%	15.0%	15.0%	15.0%
15 to 25 Miles	8.0%	9.0%	10.0%	10.0%	10.0%
25 to 50 Miles	4.0%	4.5%	5.0%	5.0%	5.0%
Visiting Friends/Relatives	4.0%	4.0%	4.0%	4.0%	4.0%
<u>Projected Attendance(000)</u>					
City of Pleasant	5,964	6,160	6,356	6,551	6,747
Balance of 5-mile Radius	42,193	42,819	43,445	44,072	44,698
5 to 10 Miles	46,706	47,232	47,758	48,285	48,811
10 to 15 Miles	20,510	23,606	26,822	27,414	28,007
15 to 25 Miles	8,294	9,632	11,038	11,373	11,709
25 to 50 Miles	11,957	13,543	15,150	15,252	15,354
Visiting Friends/Relatives	9,001	9,153	9,304	9,456	9,607
Total Attendance	144,624	152,146	159,873	162,403	164,932

Source: William L. Haralson & Associates, Inc.

<u>Zone</u>	<u>New Water Park</u>	<u>White Water</u>
0-15 Miles	66%	53%
15-25 Miles	14%	20%
Beyond 25 Miles	20%	27%

As shown, we are projecting a somewhat higher percentage of attendance deriving from the 0 to 15 mile zone. Of course, it should be noted that the figures for White Water University are based on the 2002 season, when the population of the market area was less and other conditions may have been different.

Projected Attendance Patterns

Table 8 presents our projections of attendance patterns at the Pleasant Hill water park. This exercise is required to derive planning parameters for the park. As shown in Table 8, projected attendance is carried forward from Table 7. Next, the peak month's attendance is calculated based on a factor of 40 percent, the peak month percentage of attendance that is commonly achieved by water parks in the upper Midwest. Next, average weekly attendance during the peak month is calculated based on 4.43 weeks during the peak month, which is likely to be July or August. Next, the peak day during the peak month is estimated to equate to 25 percent of weekly attendance. Actually, Saturday is usually the busiest day of the week followed closely by Sunday, while week days account for about half of total weekly attendance. Next, we have estimated so-called "design period" attendance at 60 percent of peak day attendance. This figure provides the basis for establishing planning parameters for all of the support facilities in the water park, including parking, food service, etc. The exception is the entertainment components, which are based on 80 percent of design period attendance on the assumption that not everyone in the park needs to be entertained at all times. Rather, they will spend some time eating, lying about, etc.

Table 8
PROJECTED ATTENDANCE PATTERNS
AT THE PROPOSED WATER PARK

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Total Attendance	144,624	152,146	159,873	162,403	164,932
Peak Month @ 40%	57,850	60,858	63,949	64,961	65,973
Average Weekly Attendance During Peak Month	13,059	13,738	14,436	14,664	14,892
Peak Day of Week at 25%	3,265	3,434	3,609	3,666	3,723
Design Period Attendance Level @ 60% of Peak Day	1,959	2,061	2,165	2,200	2,234
Entertainment Capacity @ 80% of Design Day	1,567	1,649	1,732	1,760	1,787

Source: William L. Haralson & Associates, Inc.

Projected Facility Requirements

Table 9 presents our projections of facility requirements based on the design period projections derived in Table 8. As shown in Table 9, we have carried forward peak in-park attendance and entertainment capacity projections. Next, we have calculated required entertainment capacity by allocating 60 percent of projected entertainment capacity to pools and 40 percent to slides. As shown, pool capacity is projected at 940 persons in 2010, increasing to 1,072 by 2014. Assuming 20 square feet per person, the water park will require 18,800 square feet of pool area in 2010, increasing to 21,440 by 2014.

For water slides, we have calculated capacity requirements of 627 in 2010, increasing to 715 in 2014. Assuming throughput of 100 persons per hour, the water park will require six flumes in 2010, increasing to seven flumes by 2011.

Table 9
PROJECTED FACILITY REQUIREMENTS
AT THE PROPOSED WATER PARK

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Peak In-Park Attendance	1,959	2,061	2,165	2,200	2,234
Entertainment Capacity Requirements @ 80% of Peak In-Park Attendance	1,567	1,649	1,732	1,760	1,787
Pools					
Pool Capacity Requirements @ 60% of Entertainment Capacity	940	989	1,039	1,056	1,072
Pool Area Required @ 20 Square Feet Per Unit of Pool Capacity	18,804	19,782	20,787	21,116	21,445
Flumes					
Slide Capacity Requirements @ 40% of Entertainment Capacity	627	659	693	704	715
Flumes Required @ 100 units of Capacity Per Flume	6	7	7	7	7
Food & Beverage Facilities					
Peak Hour Servings @ 30% of Peak In-Park Attendance	588	618	650	660	670
Serving Outlets @ 75 Servings Per Hour	8	8	9	9	9
Lockers					
@ One Locker For Every Four Persons In-Park	490	515	541	550	558
Shade					
@ 10 Square Feet of Shade for Every Person In-Park	19,588	20,607	21,653	21,996	22,338
Parking					
One Space For Every Four Persons In-Park Plus 25% For Peak Days	612	644	677	687	698
Acres Required For Parking	4.90	5.15	5.41	5.50	5.58

Source: William L. Haralson & Associates, Inc.

In addition to the entertainment components, Table 9 presents projections of requirements for the major support facilities. These include food and beverage facilities, lockers, shade and parking.

FINANCIAL ANALYSIS OF THE WATER PARK

This subsection presents an analysis of projected financial performance of the Pleasant Hill water park. Included is a discussion of per capita expenditures, projected revenue, projected operating expenses, projected net operating income and estimated development costs.

Per Capita Expenditures

Revenue generated by a water park is the product of two factors: park attendance and per capita expenditures. Attendance was addressed in the previous subsection, while per capita expenditures are addressed here.

As previously noted, per capita expenditures fall into two categories: admissions and in-park spending. Admissions is the largest category – accounting for 75 percent of total spending. Table 10 shows the methodology we employed in deriving first year per capita spending for the water park. As shown, Table 10 takes the form of a matrix that arrays various admission rates, distribution of attendance and weighted per capita expenditures for each category of admission.

**Table 10
ESTIMATED PER CAPITA EXPENDITURE
FOR ADMISSION: FIRST YEAR**

<u>Category</u>	<u>Rate/Cost</u>	<u>% of Total</u>	<u>Weighted Per Capita</u>
<u>General Admission</u>			
Adult	\$ 17.95	35%	\$ 6.28
Child	\$ 14.95	20%	\$ 2.99
<u>Resident Admission</u>			
Adult	\$ 4.95	2%	\$ 0.10
Child	\$ 3.95	1%	\$ 0.04
<u>Groups/Promotions</u>			
Adult	\$ 14.36	20%	\$ 2.87
Child	\$ 11.96	10%	\$ 1.20
Season Passes	\$ 49.95	8%	\$ 0.50
Complimentary	\$ -	4%	\$ -
Total		100%	\$ 13.98

Source: William L. Haralson & Associates, Inc.

As shown, we have judged the marquee price of admission, which is synonymous with the adult general admission rate, to be \$17.95. This rate is intended to establish the value of the water parks's experience. However, as any park manager appreciates, a water park can only achieve maximum attendance if management is willing to discount the water park's marquee admission rate. In Table 10, there are several instances of admission discounting. First, general admission rates for children have been discounted \$3.00, with a first year admission rate of \$14.95. Next, resident rates for adults and children are discounted deeply, a measure that is justified given the small percentage of attendance accounted for by Pleasant Hill residents. In addition to resident discounts, we have allowed for discounts for a variety of group functions and promotions, which, in aggregate, are 20 percent off of general admission rates. We have also assumed that season passes will be available for an average of \$49.95.

For each of the attendance categories of admission shown in Table 10, we have estimated the percent of attendance. Note that the largest categories of attendance are general admission and groups/promotions. By contrast, we estimate that only 3 percent of attendance will be accounted for by residents, although some residents will also be accounted for in the season pass count.

Having established rates for the various categories of admission and estimated the percent of attendance attributable to each category, we have multiplied these two factors together to derive weighted per capita expenditures for admission. The figure at the lower right corner of Table 10, \$13.98, is the overall weighted average for per capita spending for the first year of the water park's operation.

In addition to admissions, the water park can be expected to generate a quarter of its revenue from in-park spending. Presented below are estimated first year in-park spending at the Pleasant Hill water park, based on water park industry experience.

<u>Category</u>	<u>Amount</u>
Food and Beverage	\$3.50
Facility Rental	.40
Merchandise	.25
Locker Rental	.10
Parties	.15
Lessons	.05
Miscellaneous	<u>.10</u>
Total In-Park Expenditures	\$4.55

Projected Revenue

Table 11 presents our projections of revenue for the Pleasant Hill water park. In generating these projections, we brought projected attendance forward from Table 7 and multiplied those attendance figures by each category of estimated per capita expenditures as shown above. As shown in Table 11, total park revenue is projected at \$2.7 million in 2010, \$3.2 million in 2012 and \$3.6 million in 2014.

Table 11
PROJECTED REVENUE AT THE PLEASANT HILL WATER PARK

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Attendance	144,624	152,146	159,873	162,403	164,932
<u>Per Capita Expenditures</u>					
Admissions	\$13.98	\$14.54	\$15.12	\$15.72	\$16.35
Food & Beverage	3.50	3.64	3.79	3.94	4.09
Facility Rental	0.40	0.42	0.43	0.45	0.47
Merchandise	0.25	0.26	0.27	0.28	0.29
Locker Rental	0.10	0.10	0.11	0.11	0.12
Parties	0.15	0.16	0.16	0.17	0.18
Lessons	0.05	0.05	0.05	0.06	0.06
Miscellaneous Income	0.10	0.10	0.11	0.11	0.12
Total	\$18.53	\$19.27	\$20.04	\$20.84	\$21.68
<u>Projected Revenue</u>					
Admissions	\$ 2,021,633	\$ 2,211,841	\$ 2,417,146	\$ 2,553,603	\$ 2,697,109
Food & Beverage	506,186	553,811	605,216	639,383	675,314
Facility Rental	57,850	63,293	69,168	73,072	77,179
Merchandise	36,156	39,558	43,230	45,670	48,237
Locker Rental	14,462	15,823	17,292	18,268	19,295
Parties	21,694	23,735	25,938	27,402	28,942
Lessons	7,231	7,912	8,646	9,134	9,647
Miscellaneous Income	14,462	15,823	17,292	18,268	19,295
Total	\$ 2,679,675	\$ 2,931,795	\$ 3,203,926	\$ 3,384,800	\$ 3,575,017

Source: William L. Haralson & Associates, Inc.

Operating Expenses

Table 12 presents our projections of operating expenses for the Pleasant Hill water park. Since the park has no site plan, we are not able to determine labor and utility expenses. Consequently, we have used typical operating expenses from the water park industry. As shown in Table 12, projected revenue has been carried forward from Table 11. Further, line item operating expenses have been projected as a percent of revenue. As shown, the major expense factor is salaries, wages and supplements, which are estimated at 25 percent of revenue. The second largest of expenses is advertising and promotion, which is set at 10 percent of revenue. In total, operating expenses are estimated at 66.2 percent of revenue. In addition, expenses include the cost of sales for food and beverage and merchandise. Overall, operating expenses and the cost of sales are projected at \$1.7 million in 2010, \$2.1 million in 2012 and \$2.3 million in 2014.

Table 12
PROJECTED OPERATING EXPENSES
FOR THE PLEASANT HILL WATER PARK

		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
	Percent					
	Of Revenue					
Projected Revenue	100.0%	\$2,679,675	\$2,931,795	\$3,203,926	\$3,384,800	\$3,575,017
<u>Operating Expenses</u>						
Salaries, Wages & Supplements	25.0%	\$669,919	\$732,949	800,982	\$846,200	\$893,754
Payroll Taxes	2.8%	73,691	80,624	88,108	93,082	98,313
Advertising/Promotion	10.0%	267,967	293,180	320,393	338,480	357,502
Insurance	4.6%	123,265	134,863	147,381	155,701	164,451
Maintenance/Repairs	4.0%	107,187	117,272	128,157	135,392	143,001
Utilities	2.5%	66,992	73,295	80,098	84,620	89,375
Other	10.0%	267,967	293,180	320,393	338,480	357,502
Subtotal	58.9%	<u>\$1,576,989</u>	<u>\$1,725,362</u>	<u>1,885,511</u>	<u>\$1,991,955</u>	<u>\$2,103,898</u>
<u>Cost of Sales</u>						
Food & Beverage @ 30%	5.7%	\$151,856	\$166,143	181,565	\$191,815	\$202,594
Merchandise @ 50%	0.7%	18,078	19,779	21,615	22,835	24,118
Subtotal	6.3%	\$ 169,934	\$ 185,922	203,180	\$ 214,650	\$ 226,713
Total Operating Expenses	65.2%	\$1,746,922	\$1,911,284	2,088,690	\$2,206,605	\$2,330,610

Source: William L. Haralson & Associates, Inc.

Net Operating Income

Net operating income is the difference between projected revenue and projected operating expenses. As shown in Table 13, projections of revenue and expenses are brought forward from Tables, 11 and 12, respectively. Expenses are subtracted from projected revenue to derive net operating income. As shown in Table 13, net operating income is projected at \$933 thousand in 2010, \$1.0 million in 2012 and \$1.2 million in 2014.

Table 13
PROJECTED NET OPERATING INCOME
AT THE PLEASANT HILL WATER PARK

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Revenue	\$ 2,679,675	\$ 2,931,795	\$ 3,203,926	\$ 3,384,800	\$ 3,575,017
Operating Expenses	\$ 1,746,922	\$ 1,911,284	\$ 2,088,690	\$ 2,206,605	\$ 2,330,610
Net Operating Income	\$ 932,752	\$ 1,020,512	\$ 1,115,236	\$ 1,178,195	\$ 1,244,407

Source: William L. Haralson & Associates, Inc.

Supportable Debt Service

As a measure of the warranted investment level associated with the Pleasant Hill water park, we calculated funds available for debt service by dividing projected net operating income by a debt service coverage ratio of 1.3. The resulting funds available for debt service were then divided by a debt service constant of .076876 (the debt service constant associated with a 20-year bond at 4.5 percent interest). To derive a supportable supportable debt level of \$9.3 in 2010, \$11.2 million in 2012 and \$12.5 million in 2014. This exercise is presented to demonstrate the level of investment in the water park that could theoretically be covered with income generated by the water park's operation. We are not suggesting that this type of financing be employed to pay for the water park; however, the effect on the City's financing would be the same. Finally, Table 14 presents a comparison of estimated supportable debt to estimated development cost of the water park's improvements (excluding land) based on our rule of thumb of \$5,000 per units of entertainment value. Based on that rule of thumb, the cost of improvements (but not site costs) is estimated at \$7.8 million in 2010, \$8.7 million in 2012 and \$8.9 million in 2014. As shown, supportable debt is projected to

cover 119 percent of estimated improvement costs in 2010, increasing to 129 percent in 2012 and 139 percent in 2014. It should be noted

Table 14
PROJECTIONS OF SUPPORTABLE DEBT
FOR THE PLEASANT HILL WATER PARK

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Net Operating Income	\$ 932,752	\$ 1,020,512	\$ 1,115,236	\$ 1,178,195	\$ 1,244,407
Debt Service Coverage Ratio	1.30	1.30	1.30	1.30	1.30
Funds Available for Debt Service	\$ 717,502	\$ 785,009	\$ 857,874	\$ 906,304	\$ 957,236
Debt Service Constant	0.076876	0.076876	0.076876	0.076876	0.076876
Supportable Debt	\$ 9,333,235	\$ 10,211,366	\$ 11,159,190	\$ 11,789,168	\$ 12,451,690
Estimated Cost of Improvements	\$ 7,835,186	\$ 8,242,664	\$ 8,661,300	\$ 8,798,330	\$ 8,935,360
Supportable Debt/Cost of Improvements	119%	124%	129%	134%	139%

Source: William L. Haralson & Associates, Inc.

that the rule of thumb used in this analysis is not precise and should be replaced by a more accurate estimate if the City decides to proceed with the development of a water park.

Section V
ANALYSIS OF THE FAMILY
AQUATIC CENTER CONCEPT

The second aquatic option under consideration in this study is the family aquatic center. This facility is similar to a water park although there are differences between the two. Generally speaking, family aquatic centers are publically-owned and operated, while most water parks are privately-owned and operated.

THE HISTORY OF FAMILY AQUATIC FACILITIES IN THE U. S.

Interestingly enough, the history of family aquatic centers has closely paralleled that of the water park industry. The first instance of a departure from traditional aquatic facilities by a public sector agency occurred in 1969, with the opening of Point Mallard Park in Decatur, Alabama. That facility was initially comprised of a wave pool and an Olympic swimming pool. Later, the facility was expanded to include water slides and a children's play area. By any measure, Point Mallard was a success, although, with age, attendance at this venue has tailed off.

In spite of the success of Point Mallard, the public sector in the U. S. was slow to follow suit. During the 1970's, primary attention was focused on a new concept in the U. S., the wave pool. Following the opening of Point Mallard in 1969, a second wave pool was opened at Waterford Oaks Park, in Oakland County, Michigan in 1976. While this facility was relatively popular, it became much more successful after the addition of a pair of water slides. In subsequent years, a number of wave pools were developed by cities and counties as free-standing attractions.

During the 1980's, the character of family aquatic centers began to change. While the facilities that opened during the 1970's featured wave pools as their anchor attraction, many facilities that opened in the 1980's and later omitted wave pools and opted for other attractions, including family leisure pools, lazy rivers, water slides and spray pads.

A major factor that has influenced the development of family aquatic centers in the U. S. is the public sector mentality. For many years, parks and recreation departments around the country only knew one type of aquatic facility – the traditional rectangular lap pool. For many years, parks and recreation personnel assumed that a lap pool could serve the dual purpose of providing traditional pool needs (competition, learn to swim, etc.) as well as serving as a venue for recreation. With the opening of Point Mallard and other early family aquatic centers, many people in the public sector began to change their way of thinking about what constitutes a water recreation facility. At the same time, an entire industry was emerging comprised of consultants, designers and manufacturers of play features specifically designed to accommodate water recreation.

Today, there are a number of trade shows that feature exhibits related to water-related products and services. These include trade shows produced by the National Recreation & Parks Association, World Waterpark Association, International Association of Amusement Parks & Attractions and Fun Expo.

REQUISITE INVESTMENT LEVEL

Compared to water parks, family aquatic centers require a much lower level of investment for development. To achieve the threshold level of entertainment to qualify as a family aquatic center, an investment of at least \$3.0 million is needed. On the upper end, some family aquatic centers have cost as much as \$10 million, although that price tag is not always evident upon inspection.

SCALE OF DEVELOPMENT

Generally speaking, the scale of development among family aquatic centers is smaller than that of water parks. Many family aquatic centers have only two or three elements, the most common of which are water slides, children’s play structures and family leisure pools.

DIVERSITY OF ENTERTAINMENT

Given that the scale of development of family aquatic centers is less than that of water parks, it stands to reason that family aquatic centers would offer less diversity. As a consequence, it should be expected that the breadth of market appeal would be less than that of a water park.

LENTH OF STAY

The average length of stay at a family aquatic center is somewhat less than that of a water park, since the entertainment value is also less. The average length of stay at family aquatic center generally falls within the range of 3 to 4 hours.

FINANCIAL PERFORMANCE

It is difficult to generalize about the financial performance of family aquatic centers. In contrast to water parks, which are mostly found in the private sector, family aquatic centers are not necessarily profit motivated. In fact, there are numerous philosophies regarding the criteria that should be used to judge the success of a family aquatic center. However, it should be noted that our experience has revealed that family aquatic centers generally have the potential to perform nearly as well as water parks. If management of these facilities is determined to do so, they should be able to cover operating expenses with revenue and in many cases, pay some or all of any debt service on their project.

PROJECTED ATTENDANCE AT THE FAMILY AQUATIC CENTER

This subsection presents an analysis of attendance potential for a family aquatic center in Pleasant Hill. Included are projections of annual attendance, attendance patterns and facility facilities.

The methodology for projecting attendance for the family aquatic center is essentially the same as that used in projecting attendance for the water park. The major difference is that we assume the market area is limited to a 15 mile radius from the assumed location at Highway 65 and University Avenue. A second difference is the lower penetration rates assumed due to our perceived narrower

breadth of market appeal as well as the impact of competing family aquatic facilities in the Des Moines area, which are numerous.

Market Penetration Rates for Family Aquatic Centers

Compared to water parks, the market penetration rates for family aquatic centers vary considerably from venue to venue. We are of the opinion that these variations are explained by the attitudes of public sector managers of family aquatic centers. Some managers place high importance on having their facility make a profit, either to the extent of covering debt service, or at least covering operating expenses. Other managers view their facility as a quality of life issue and show less interest in their venue's financial performance. Still other managers believe that their venue is for the use of residents only and do not make an effort to attract attendance from non-residents.

Another factor that impacts market penetration is the make-up of individual venues. Some family aquatic centers are nothing more than a waterslide and a pool, while others are more elaborate, with multiple slides and pools and elaborate children's play structures. The physical make-up of a family aquatic center impacts market penetration in two ways: by engendering a higher or lower level of entertainment value; and (2) by constraining or expanding the venue's attendance capacity.

A third factor that can impact market penetration rates is pricing. Although most family aquatic centers are priced reasonably, there are some venues that are priced relatively higher than others. This may be a factor, especially in markets that have several competing facilities.

Table 15 presents a summary of market penetration patterns at 12 family aquatic centers in the U. S. Note the wide array of penetration rates shown in the table. For example, in the 0 to 5 mile zone, market penetration rates range from a low of 14.0 percent for Surf & Swim in Garland, Texas to 103.3 percent at Cedarburg Community Pool in Cedarburg, Wisconsin. Given this wide disparity, it is of interest to note that Surf & Swim contains only a wave pool, while

Table 15
MARKET PENETRATION RATES
FOR SELECTED PUBLIC AQUATIC FACILITIES (1) (2)

	<u>0 to 5</u> <u>Miles</u>	<u>5 to 10</u> <u>Miles</u>	<u>10 to 15</u> <u>Miles</u>
Surf & Swim Wave Pool	14.0%	6.0%	3.0%
Bunker Hills Wave Pool	15.0%	9.0%	5.0%
Memorial Park Aquatic Center	62.2%	35.9%	33.0%
North Clackamas Aquatic Park	31.9%	18.8%	3.6%
Koch Park Aquatic Center	15.3%	3.6%	1.3%
Central Aquatics Center	22.1%	2.9%	0.4%
Cedarburg Community Pool	103.3%	3.7%	0.8%
Splash Zone	64.4%	28.1%	20.3%
Crystal Springs Aquatic Center	31.0%	1.9%	1.0%
Clarksville Aquatic Center	18.3%	2.2%	1.9%
Hyland Hills Water World	52.7%	42.8%	6.8%
Chesapeake Beach Water Park	92.9%	29.9%	7.4%

(1) Market penetration rate is a function of participation x frequency of visit. For example, a market penetration rate of 50% might result from 10 percent of the population making 5 visits per year to an attraction.

(2) See Appendix Table 1 for data summary regarding these facilities.

Source: William L. Haralson & Associates, Inc.

Cedarburg Community Pool – in spite of its name – has a leisure pool, waterslides, a children’s area and a lap pool.

A similar lack of pattern is also shown in the 5 to 10 mile and 10 to 15 mile zones. In the 5 to 10 mile zone, penetration rates range from 1.9 percent at Crystal Springs in East Brunswick, New Jersey to 42.8 percent at Hyland Hills Water World in Federal Heights, Colorado. Moreover, in the 10 to 15 mile zone, penetration rates range from a low of 1.0 percent at Crystal Springs to a high of 33 percent at Memorial Park Aquatic Center in Jefferson City, Missouri. Again, these disparities can be explained. In the case of Crystal Springs, managers of that park overtly discourage non-residents from using that facility through pricing, while Water World is very large with virtually no competition. Memorial Park, which has water slides, a children’s area, a lazy river and a lap pool, operates in an environment with virtually no competition.

The one commonality among the facilities shown in Table 15 is that all 12 venues have their highest market penetration rate in the 0 to 5 mile and their lowest market penetration rate in the 10 to 15 miles.

Projected Annual Attendance

Table 16 presents our projections of attendance at the Pleasant Hill family aquatic center. As with the projections for the water park, Table 16 is comprised of three parts, with the top part containing market population data, the middle part containing our estimated market penetration rates and the bottom part containing our attendance projections for the family aquatic centers.

As shown, we have defined the market area as extending out 15 miles. We have also included the visiting friends and relatives market, which we define as 50 percent of the resident market.

Table 16
PROJECTED ATTENDANCE AT THE
PLEASANT HILL FAMILY AQUATIC CENTER

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
<u>Market Population (000)</u>					
City of Pleasant Hill	7,952	8,213	8,474	8,735	8,996
Balance of 5 Mile Radius	84,386	85,639	86,891	88,143	89,395
5 to 10 Miles	186,823	188,928	191,033	193,138	195,243
10 to 15 Miles	170,913	174,862	178,812	182,762	186,712
Visiting Friends/Relatives	225,037	228,821	232,605	236,389	240,173
<u>Estimated Market Penetration</u>					
City of Pleasant Hill	50.0%	50.0%	50.0%	50.0%	50.0%
Balance of 5 Mile Radius	25.0%	25.0%	25.0%	25.0%	25.0%
5 to 10 Miles	12.0%	12.0%	12.0%	12.0%	12.0%
10 to 15 Miles	5.0%	5.0%	5.0%	5.0%	5.0%
Visiting Friends/Relatives	2.0%	2.0%	2.0%	2.0%	2.0%
<u>Projected Attendance(000)</u>					
City of Pleasant Hill	3,976	4,107	4,237	4,368	4,498
Balance of 5 Mile Radius	21,097	21,410	21,723	22,036	22,349
5 to 10 Miles	22,419	22,671	22,924	23,177	23,429
10 to 15 Miles	8,546	8,743	8,941	9,138	9,336
Visiting Friends/Relatives	4,501	4,576	4,652	4,728	4,803
Total Attendance	60,538	61,507	62,476	63,446	64,415

Source: William L. Haralson & Associates, Inc.

In estimating market penetration rates, we determined that the data presented in Table 16 is of limited benefit, although several of the venues did demonstrate that public aquatic centers are capable of achieving strong market penetration rates, if properly planned and managed. With regard to a family aquatics center in Pleasant Hill, we can only assume that good planning and competent management will be in place. In Table 16, we have estimated market penetration rates that are similar to those presented for water parks, only lower. This downward adjustment does not reflect a lesser level of competency of management; rather it takes into account the lower level of entertainment value of a family aquatic center, a narrower breadth of market appeal and the presence of competition from existing family aquatic centers in the Des Moines area.

As shown in Table 16, annual attendance is projected at 60.5 thousand in 2010, 62.5 thousand in 2012 and 64.4 thousand in 2014.

Projected Attendance Patterns at the Family Aquatic Center

While annual attendance is of utmost importance to revenue and income generation, for purposes of facility planning, patterns of attendance are more important, since they determine the scale of development required. Table 17 presents projected attendance patterns for the family aquatic center. As shown, annual attendance has been carried forward from Table 16. Then, we have carried out the same steps that were taken in Table 8 for the water park with the exception that design period attendance is assumed to be 50 percent of peak day attendance, rather than the 60 percent figure used in Table 8. Based on this assumption, design period attendance is projected at 683 in 2010, 705 in 2012 and 727 in 2014. Further, the entertainment capacity requirements of the project are 547 in 2010, 564 in 2012 and 582 in 2014.

Projected Facility Requirements of the Family Aquatic Center

Table 18 presents projected facility requirements for the Pleasant Hill family aquatic center. As with the water park, the planning of all facilities shown in Table 18 is based on project peak in-park attendance with the exception of the entertainment components, which are tied to the projected entertainment capacity requirements shown in the table. As with the water park, entertainment capacity is allocated on a 60/40 basis in favor of pools. Pool area requirements are projected at 6,980 square feet by 2014, while we project the need for 2 water slides. By 2014, the following quantities of support facilities include 3 serving food serving windows, 182 lockers, 7,270 square feet of shade and 227 parking spaces. At 125 spaces per acre, we project a need for 1.82 acres for parking. Overall, we project a need for approximately 5.0 acres for the family aquatic center.

Table 17
PROJECTED ATTENDANCE PATTERNS
AT THE PLEASANT HILL FAMILY AQUATIC CENTER

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Total Attendance	60,538	61,507	62,476	63,446	64,415
Peak Month @ 40%	24,215	24,603	24,991	25,378	25,766
Average Weekly Attendance During Peak Month	5,466	5,554	5,641	5,729	5,816
Peak Day of Week at 25%	1,367	1,388	1,410	1,432	1,454
Design Period Attendance Level @ 50% of Peak Day	683	694	705	716	727
Entertainment Capacity @ 80% of Design Day	547	555	564	573	582

Source: William L. Haralson & Associates, Inc.

Table 18
PROJECTED FACILITY REQUIREMENTS
AT THE PLEASANT HILL FAMILY AQUATIC CENTER

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Peak In-Park Attendance	683	694	705	716	727
Entertainment Capacity Requirements @ 80% of Peak In-Park Attendance	547	555	564	573	582
Pools					
Pool Capacity Requirements @ 60% of Entertainment Capacity	328	333	338	344	349
Pool Area Required @ 20 Square Feet Per Unit of Pool Capacity	6,559	6,664	6,769	6,874	6,980
Flumes					
Slide Capacity Requirements @ 40% of Entertainment Capacity	219	222	226	229	233
Flumes Required @ 100 units of Capacity Per Flume	2	2	2	2	2
Food & Beverage Facilities					
Peak Hour Servings @ 30% of Peak In-Park Attendance	205	208	212	215	218
Serving Outlets @ 75 Servings Per Hour	3	3	3	3	3
Lockers					
@ One Locker For Every Four Persons In-Park	171	174	176	179	182
Shade					
@ 10 Square Feet of Shade for Every Person In-Park	6,833	6,942	7,052	7,161	7,270
Parking					
One Space For Every Four Persons In-Park Plus 25% For Peak Days	214	217	220	224	227
Acres Required For Parking	1.71	1.74	1.76	1.79	1.82

Source: William L. Haralson & Associates, Inc.

FINANCIAL ANALYSIS OF THE FAMILY AQUATIC CENTER

This subsection presents a financial analysis of the family aquatic center concept were it to be developed in the City of Pleasant Hill. This analysis includes estimates of per capita expenditures, projected revenue, projected operating expenses, projected net operating income and projected supportable debt.

Per Capita Expenditures

Table 19 presents our estimates of per capita expenditures for admission for the first year of operation of the family aquatic center. The methodology employed in deriving the data in Table 19 is the same as was used to derive admissions expenditures for the water park in Table 10, except that the numbers in Table 19 are adjusted to account for the smaller scale of the family aquatic center, compared to the scale of water parks. Also, while there are no competing water parks in the Des Moines area, there are a numbers of family aquatic centers that pose direct competition. A second adjustment in the numbers in Table 19 regards the distribution of attendance. This has two aspects. First, we estimate residents of the City of Pleasant Hill to account for a higher percentage of attendees, since we believe that the family aquatic center is expected to draw from a smaller market area, and we have estimated that the mix of attendance between adults and children will shift in favor of children, since the entertainment mix of the family aquatic center will also tilt in favor of a younger psychographic.

As shown, based on the assumptions cited above, we have estimated the first year per capita for the family aquatic center to be \$5.65.

In addition to the estimated per capita expenditure for admission , we have also estimated in-park per capita expenditures. These expenditures are shown below.

Table 19
ESTIMATED PER CAPITA EXPENDITURE FOR ADMISSION
AT THE FAMILY AQUATIC CENTER: FIRST YEAR

<u>Category</u>	<u>Rate/Cost</u>	<u>% of Total</u>	<u>Weighted Per Capita</u>
<u>General Admission</u>			
Adult	\$ 6.95	25%	\$ 1.74
Child	\$ 5.95	30%	\$ 1.79
<u>Resident Admission</u>			
Adult	\$ 4.95	3%	\$ 0.15
Child	\$ 3.95	4%	\$ 0.16
<u>Groups/Promotions</u>			
Adult	\$ 5.56	10%	\$ 0.56
Child	\$ 4.76	16%	\$ 0.76
Season Passes	\$ 49.95	8%	\$ 0.50
Complimentary	\$ -	<u>4%</u>	<u>\$ -</u>
Total		100%	\$ 5.65

Source: William L. Haralson & Associates, Inc.

<u>Category</u>	<u>Amount</u>
Food & Beverage	\$2.25
Facility Rental	.40
Merchandise	.10
Locker Rental	.15
Parties	.15
Lessons	.05
Miscellaneous	<u>.08</u>
Total In-park Spending	\$3.18

As shown, total per capita expenditures for the first year of operation are estimated at \$3.18. This is lower than the \$4.55 estimated for the water park. Most of the difference between the two numbers is accounted for by the lower figure for food and beverage for the family aquatic center. Our research has shown that food and beverage spending correlates with length of stay at an aquatic center. We have estimated an average length of stay at 4 to 5 hours at a water park, compared to 3 to 4 hours at a family aquatic center.

Projected Revenue

Table 20 presents our projections of revenue for the Pleasant Hill aquatic center. As with the water park, we have carried forward attendance projections from Table 16 and multiplied those projections by per capita expenditures for the corresponding years. As shown, total revenue is projected at \$534 thousand in 2010, \$596 thousand in 2012 and \$665 thousand in 2014.

Table 20
PROJECTED REVENUE AT THE
PLEASANT HILL FAMILY AQUATIC CENTER

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Attendance	60,538	61,507	62,476	63,446	64,415
<u>Per Capita Expenditures</u>					
Admissions	\$5.65	\$5.87	\$6.11	\$6.35	\$6.61
Food & Beverage	2.25	2.34	2.43	2.53	2.63
Facility Rental	0.40	0.42	0.43	0.45	0.47
Merchandise	0.10	0.10	0.11	0.11	0.12
Locker Rental	0.15	0.16	0.16	0.17	0.18
Parties	0.15	0.16	0.16	0.17	0.18
Lessons	0.05	0.05	0.05	0.06	0.06
Miscellaneous Income	0.08	0.08	0.09	0.09	0.09
Total	\$8.83	\$9.18	\$9.55	\$9.93	\$10.33
<u>Projected Revenue</u>					
Admissions	\$ 341,802	\$ 361,166	\$ 381,532	\$ 402,950	\$ 425,470
Food & Beverage	136,210	143,926	152,042	160,577	169,552
Facility Rental	24,215	25,587	27,030	28,547	30,143
Merchandise	6,054	6,397	6,757	7,137	7,536
Locker Rental	9,081	9,595	10,136	10,705	11,303
Parties	9,081	9,595	10,136	10,705	11,303
Lessons	3,027	3,198	3,379	3,568	3,768
Miscellaneous Income	4,843	5,117	5,406	5,709	6,029
Total	\$ 534,312	\$ 564,582	\$ 596,419	\$ 629,899	\$ 665,104

Source: William L. Haralson & Associates, Inc.

Projected Operating Expenses

Table 21 presents our projections of operating expenses for the family aquatic center. In deriving these projections, we have employed the same methodology that was used for the water park. That is, we have applied typical operating ratios to projected revenue to derive line item operating expenses. As shown, total operating expenses, including cost of sales for food and beverage and merchandise are projected at \$385 thousand in 2010, \$430 thousand in 2012 and \$479 thousand in 2014.

Table 21
PROJECTED OPERATING EXPENSES
FOR THE PLEASANT HILL FAMILY AQUATIC CENTER

		<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
	Percent					
	<u>Of Revenue</u>					
Projected Revenue	100.0%	\$534,312	\$564,582	\$596,419	\$629,899	\$665,104
<u>Operating Expenses</u>						
Salaries, Wages & Supplements	25.0%	\$133,578	\$141,146	149,105	\$157,475	\$166,276
Payroll Taxes	2.8%	14,694	15,526	16,402	17,322	18,290
Advertising/Promotion	15.0%	80,147	84,687	89,463	94,485	99,766
Insurance	4.6%	24,578	25,971	27,435	28,975	30,595
Maintenance/Repairs	4.0%	21,372	22,583	23,857	25,196	26,604
Utilities	2.5%	13,358	14,115	14,910	15,747	16,628
Other	10.0%	53,431	56,458	59,642	62,990	66,510
Subtotal	<u>63.9%</u>	<u>\$341,158</u>	<u>\$360,486</u>	<u>380,813</u>	<u>\$402,191</u>	<u>\$424,669</u>
<u>Cost of Sales</u>						
Food & Beverage @ 30%	7.6%	\$40,863	\$43,178	45,613	\$48,173	\$50,866
Merchandise @ 50%	<u>0.6%</u>	<u>3,027</u>	<u>3,198</u>	<u>3,379</u>	<u>3,568</u>	<u>3,768</u>
Subtotal	8.2%	\$ 43,890	\$ 46,376	48,991	\$ 51,742	\$ 54,633
Total Operating Expenses	72.1%	\$385,048	\$406,862	429,805	\$453,932	\$479,302

Source: William L. Haralson & Associates, Inc.

Projected Net Operating Income

Table 22 presents our projections of net operating income for the family aquatic center. As shown, deducting projected revenue from projected operating expenses yields net operating income of \$149 thousand in 2010, \$167 thousand in 2012 and \$186 thousand in 2014.

Table 22
PROJECTED NET OPERATING INCOME
AT THE PLEASANT HILL FAMILY AQUATIC CENTER

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Revenue	\$ 534,312	\$ 564,582	\$ 596,419	\$ 629,899	\$ 665,104
Operating Expenses	\$ 385,048	\$ 406,862	\$ 429,805	\$ 453,932	\$ 479,302
Net Operating Income	\$ 149,264	\$ 157,720	\$ 166,614	\$ 175,967	\$ 185,802

Source: William L. Haralson & Associates, Inc.

Projected Supportable Debt

Table 23 presents our projections of supportable debt for the family aquatic center, based on projected net operating income. As with the water park, we have carried forward projections of net operating income from Table 22. To these projections, we have applied a debt service coverage ratio of 1.3 to derive our calculations of supportable debt. As shown, supportable debt for the Pleasant Hill family aquatic center is projected at \$1.5 million in 2010, \$1.7 million in 2012 and \$1.9 million in 2014. Discussions with the staff of Counsilman-Hunsaker revealed that the cost to construct a family aquatic center capable of accommodating the attendance levels projected for the Pleasant Hill project would be in the range of \$6.0 million. Since the facility mix shown in Table 18 is of a modest scale, we would not expect the components to be phased; rather, they would all be included in the initial development. This being the case, we have shown the cost of improvements to be a constant \$6.0 million beginning in 2010. Comparing supportable debt to the cost of improvements shows that supportable debt would cover about 25 percent of the cost of improvements in 2010, increasing to about 31 percent by 2014.

Table 23
PROJECTED SUPPORTABLE DEBT
FOR THE PLEASANT HILL FAMILY AQUATIC CENTER

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Net Operating Income	\$ 149,264	\$ 157,720	\$ 166,614	\$ 175,967	\$ 185,802
Debt Service Coverage Ratio	1.30	1.30	1.30	1.30	1.30
Funds Available for Debt Service	\$ 114,818	\$ 121,323	\$ 128,165	\$ 135,359	\$ 142,924
Debt Service Constant 1/	0.076876	0.076876	0.076876	0.076876	0.076876
Supportable Debt	\$ 1,493,554	\$ 1,578,167	\$ 1,667,159	\$ 1,760,746	\$ 1,859,153
Cost of Improvements	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000	\$ 6,000,000
Supportable Debt/Cost of Improvements	25%	26%	28%	29%	31%

Source: William L. Haralson & Associates, Inc.

Section V

ANALYSIS OF TRADITIONAL POOL CONCEPTS

This section of the report presents a brief review of the various types of traditional swimming pools under consideration by the City of Pleasant Hill.

The oldest and most common type of aquatic facilities in the U. S. are traditional rectangular pools, which are frequently called “lap” pools. Throughout the 20th century and up until the present, lap pools have been built by our parks and recreation departments, schools and private health clubs. One estimate puts the number of lap pools in the U. S. at 200,000. As previously noted, for many decades, lap pools were thought to be the answer to all of our aquatic needs. Only since around 1970 have we begun to appreciate the need to have different types of aquatic facilities for leisure entertainment. More and more, our leisure aquatic facilities are moving away from lap pools as a source of entertainment. However, there is still the need for lap pools to accommodate swim teams, diving, water aerobics, swim lessons and water therapy.

TYPES OF LAP POOLS

Basically, there are four main types of lap pools, excluding those pools found in back yards, health clubs and apartment complexes. These four types of lap pools are:

- 25-yard outdoor pools
- 25-yard indoor pool
- 50-meter outdoor pool
- 50-meter indoor pool

So, basically, we have two footprints, both indoor and outdoor. Of these, our research has revealed that most lap pools are 25-yard outdoor pools, which are the least expensive to build. By contrast, the most expensive type of lap pool is the 50-meter indoor pool, which is commonly called a “natatorium”.

LAP POOL USERS

Historically, lap pools have been used by a variety of users, including leisure users, swim teams, divers, those learning to swim and those in therapy sessions. Most users have no specific facility requirements except high school swim teams that usually require a 25-yard pool and college swim teams, who require a 50-meter pool.

COST TO OPERATE

With very few exceptions, lap pools operate at a deficit. This is true of outdoor pools and indoor pools alike. Shown below are summaries of financial operations for the four types of lap pools discussed previously.

<u>Type of Pool</u>	<u>Revenue</u>	<u>Expenses</u>	<u>Deficit</u>
Average of four 25-yard outdoor pools	\$65,251	\$103,277	-\$38,021
Average of three 25- yard indoor pools	\$170,973	\$206,642	-\$35,973
Average of five 50-meter outdoor pools	\$434,371	\$662,004	-\$227,633
Average of five 50-meter indoor pools	\$425,524	\$737,872	-\$312,348

As shown, all four types of lap pools incur some level of deficit. The 25-yard pools generate far less deficit that the 50-meter pools. Moreover, indoor 50-meter pools generate far greater deficits than do outdoor 50-meter pools.

COST TO CONSTRUCT

Table 24 presents a summary of our estimates of cost to construct the four types of lap pools that are being considered in this section. While we are not architects or designers, we have conferred with Counsilman-Hunsaker, a firm that has designed a larger number of swimming pools, including the new pool at Southeast Polk County High School.. We also reviewed study for the pool proposed for the City of Des Moines that was prepared by Water’s Edge Aquatic Design in 2005. Based on these sources, we have generated the estimates presented in Table 24.

Table 24
ESTIMATED DEVELOPMENT COSTS
FOR FOUR TYPES OF LAP POOLS

	<u>Dimensions (Feet)</u>	<u>Footprint</u>	<u>Cost/Sq. Ft.</u>	<u>Total Costs</u>
<u>25 Yard Outdoor Pool</u>				
Pool	75 x 82	6,150	\$175.00	\$ 1,076,250
Deck	314 x 10	3,140	\$160.00	\$ 502,400
Total		9,290		\$ 1,578,650
 <u>50-Meter Outdoor Pool</u>				
Pool	164 x 75	12,300	\$175.00	\$ 2,152,500
Deck	478 x 10	4,780	\$160.00	\$ 764,800
Total		17,080		\$ 2,917,300
 <u>25-Yard Indoor Pool</u>				
Pool	75 x 82	6,150	\$175.00	\$ 1,076,250
Deck	314 x 10	3,140	\$160.00	\$ 502,400
Building	150 x 150	22,500	\$200.00	\$ 4,500,000
Total		31,790		\$ 6,078,650
 <u>50-Meter Indoor Pool</u>				
Pool	164 x 75	12,300	\$175.00	\$ 2,152,500
Deck	478 x 10	4,780	\$160.00	\$ 764,800
Building	200 x 200	40,000	\$200.00	\$ 8,000,000
Total		57,080		\$10,917,300

Source: William L. Haralson & Associates, Inc.

As shown in Table 24, we have estimated the dimensions of the “footprint” of each of the four types of lap pools. For the outdoor pools, we have estimated the amount of pool surface and deck area. For a 25-yard pool, we have estimated a total footprint of 9,200 square feet and for a 50-meter outdoor pool, we have estimated 17,080 square feet. Next, we have estimated the cost of construction to be \$175.00 per square foot for the pools and \$160.00 square feet for the deck. These factors yield a total cost to construct of \$1,578,650 for a 25-yard pool and \$2.9 million for a 50-meter for an outdoor a 50-meter pool.

For the two types of indoor pools, we have assumed the cost of pool and deck construction to be the same as for the outdoor pools; however, we have added a building footprint of 22,500 for a 25-yard indoor pool and 40,000 square feet for a 50-meter pool. Both of these buildings are estimated to cost \$200.00 per square foot. Applying this cost factor to the two building footprints yields total cost to construct of \$4.5 million for the 25-yard pool and \$8.0 million for the 50-meter pool. Thus, the cost of constructing a lap pool ranges from \$1.6 million for an outdoor 25-yard lap pool to \$10.9 million for a 50-meter indoor lap pool.

Section VI

ANALYSIS OF THE SPRAY PARK CONCEPT

An aquatics concept that has evolved in recent years is the spray park. The defining feature of spray parks are creative fountains. Such fountains have been available on a limited basis for several decades; however, the idea of placing a number of these fountains in a cluster to create a mini-attraction has only come about in the last 15 to 20 years or so.

A major promoter of the spray park concept has been Rain Drop Products. Rain Drop Products Company is an offshoot of the WaveTek Company that was founded by Gary Zuercher in 1970. The company developed and introduced the concept of wave making machinery for swimming pools.

In 1981 WaveTek developed the Rain Drop Fountain which was a water play fountain/umbrella designed to be installed in swimming pools. The first Rain Drop was installed in 1982 and was immediately successful. In fact, the Rain Drop Fountain is installed in over 2,000 locations today.

In 1987 Zuercher sold the WaveTek group of companies but retained the Rain Drop Products business with the intention of expanding the business and the product line. In the early 1990's, it became apparent that there was an emerging recognition by designers and owners of commercial and public swimming facilities that the outdated rectangular institutional pool designs of the past could be successfully replaced with new designs incorporating free form design and water play components like those manufactured by Rain Drop Products. These new generation facilities experienced increased attendance, greater appeal and heavier utilization of public swimming pools than ever before. This development was an outgrowth of the creation of the commercial water parks which were so successfully built by private developers in the 1980's and 1990's. By 1994 the Rain Drop Products product line had expanded to over 30 different fountain and water play features and the product line would eventually expand to over 100 water play products.

For its first few years of operation, Rain Drop Products' marketing strategy was to sell fountains as single units. Then, in 1995, they hit upon the idea of selling several fountains as a package. They called this package the "SprayGround[®]." The first installation of this concept was located adjacent to the Bolton Park Pool, in Winston-Salem, North Carolina. The facility consisted of six fountain in a pool of some 1,500 square feet. Its total cost was approximately \$200,000, of which \$100,000 was provided by a Land and Water Conservation grant. This facility proved to be immediately popular to the extent that it reversed the long-term decline in attendance and revenue at Bolton Park Pool.

Following on the success of Rain Drop Products, a number of other companies followed suit. Major companies in the business of manufacturing these parks besides Rain Drop Products include, Vortex, Odyssey, SCS Interactive and Whitewater West Industries, to name but a few.

THE SPRAY PARK NICHE

There are two environments in which spray parks are found. The most common environment is as a free-standing attraction, usually in a neighborhood park, residential subdivision or even a shopping mall. The second environment is inside a larger attraction, such as a water park, where the spray park is one of many attractions.

SCALE OF DEVELOPMENT

There is no rule regarding the scale of development except that a spray park should have several fountains to engender the desired entertainment value. Whether located indoors or outside, spray parks can be as small as 1,000 square feet; however, most are larger --1,500 square feet or more.

COST TO CONSTRUCT

Compared to other types of aquatic attractions, spray parks require a rather modest level of construction from \$100,000 to as much as \$300,000 or more depending on the number of attractions to be included.

FINANCIAL PERFORMANCE

Spray parks are not intended to generate a profit. We are not aware of any spray parks, whether free-standing or a component of a larger attraction that have a user fee. By contrast, a spray park will have operating expenses, including labor, utilities, maintenance and repairs and other minor expenses.

SPRAY PARK USERS

Spray parks have a narrow breadth of market appeal. Users range from toddlers (with adult supervision) up to about age 10.

SPRAY PARK MARKET AREA

A free-standing spray market should be viewed as a neighborhood attraction. As such, they should require minimal support facilities, such as parking, restrooms, changing areas. Spray parks that are part of a larger attraction will serve the same area as the larger attraction and no special facilities should be required just for the spray park with the possible exception of changing rooms.

**Appendix Table 1
PUBLIC AQUATIC FACILITIES DATA SUMMARY**

<u>Facility Name</u>	<u>Location</u>	<u>Market Population(1)</u>	<u>Major Components</u>
Surf & Swim Wave Pool	Garland, Texas	1,835,000	WP
Bunker Hills Wave Pool	Andover, Minnesota	3,048,300	WP, CA, WS
Memorial Park Aquatic Center	Jefferson City, Missouri	435,000	WS, CA, LP, LpP
North Clackamas Aquatic Park	North Clackamas, Oregon	2,183,000	WP, WS, CA, LpP
Koch Park Aquatic Center	Florissant, Missouri	2,636,000	LR, CA, LpP, WS
Central Aquatics Center	Hurst, Texas	4,632,000	WS, CA, LpP
Cedarburg Community Pool	Cedarburg, Wisconsin	2,072,000	LP, WS, CA, LpP
Splash Zone	Charleston, South Carolina	590,000	LP, WS, CA
Crystal Springs Aquatic Center	E. Brunswick, New Jersey	17,500,000	LR, WS, CA, LpP
Clarksville Aquatic Center	Clarksville, Indiana	1,422,300	LP, WS, CA, LpP
Hyland Hills Water World	Federal Hts. Colorado	2,587,200	WP, WS, LR, CA
Chesapeake Beach Water Park	Chesapeake Beach Maryland	5,943,734	LR, WS, CA

Facilities Code

WS: Water Slides

WP: Wave Pool

LP: Leisure Pool

LR: Lazy River

LpP: Lap Pool

CA: Children's Area

(1) 50-Mile Radius

Source: William L. Haralson & Associates, Inc.