HAMILTON CITY COUNCIL
AQUATIC FACILITY REVIEW

OPUS

DECEMBER 2014

Hamilton City Council
Te kaunihera o Kirikiriroa

Cover Page Photo: Waterworld, Te Rapa. Photo taken by Jeff Neems – Hamilton City Council

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EXECUTIVE SUMMARY

In July 2014, Opus International Consultants Ltd (Opus) were engaged by Hamilton City Council (HCC) to validate the recommendations made for the HCC aquatic facilities in the Waikato Sports Facility Plan Reference Document[1] (Sports Facility Plan). As part of this validation Opus also undertook cost benefit analysis to provide further rationale to substantiate the proposed recommendations[2].

HCC currently owns three aquatic facilities[3] and partners with four school/ university pools (all outdoor) which provide a total pool provision of 1,650m² all year round, and summer only pool provision of 4,112m². The average year of construction for Hamilton's facilities is 1979, which correlates with the Sport NZ National Facilities Strategy for Aquatic Sports[4] (the Aquatics Strategy) which identifies a strong pattern of pool construction in the 1970's.

Over the next twenty years Hamilton's population is projected to grow by 29.5% (2013 to 2033) and a further 16.1% (2033 - 2063)[5]. As such, demand for aquatic facilities is expected to increase, although changes to the visitor profile (decreasing child visits, increasing senior visits) will require HCC to focus on providing superior programmes and a quality swimming experience to ensure repeat visits.

From detailed investigation and discussions with HCC we have prioritised the upgrade of HCC's existing aquatic infrastructure. This will ensure the provision of adequate lane capacity to meet current and forecasted demand. In addition to recommending an upgrade of existing infrastructure, we have also recommended construction of a purpose built aquatic facility on the proviso there is sufficient demand for the facility (refer: Selwyn Aquatic Facility Case Study for proposed purpose built facility detail). It is recommended that the new facility should be aligned to the six-step Sporting Facilities Framework[6]. By aligning to this framework HCC will ensure an appropriate facility is designed and the overall provision of HCC's aquatic network will be strengthened.

Although no recommendations have been made in this report to invest substantially in existing partner pools, it should be noted that in 2012/13 68,033 people visited the partner pools at a cost of $70,000[7] to Council, which equates to a cost to Council of $1.03 per visit. For this reason, we strongly recommend that the existing partnerships are supported and that partnership options are considered in regards to the recommended new facility.

Aquatic Findings (refer to Appendix A for detailed information):

- All year round pool provision is 1,650m² and summer only pool provision is 4,112m²;
- The National Aquatic benchmark[8] for pool provision required in Hamilton is 2,470m² ;
- Currently there is a deficit of 805m² pool provision over autumn / winter;
- Annual visitor numbers for HCC pools have increased by 1.7% and visitor numbers for partner pools has increased 31% from 2010/11 to 2013/14;
- 2013/14 Annual aquatic operational expenditure was $7.5m;
- 2013/14 Annual aquatic revenue was $3.15m.

Key Aquatic Recommendations (refer to Appendix A for detailed information):

- 2015 – 2017: Enclose and heat the Lido pool at Waterworld Aquatic Centre;
- 2020 – 2025: Design and construct an aquatic facility at Rototuna, in partnership with Rototuna Senior / Junior Schools;
- 2033 – 2063: Install a moveable floor in the Dive pool at Waterworld Aquatic Centre;
- 2033 – 2063; Design and construct a new pool to be located at Hamilton Boys High School, in partnership with Hamilton Boys High.

[1] Visitor Solutions (June 2014). *Waikato Sports Facility Plan Reference Document.*
[2] Note: This analysis was modelled on the Sport NZ National Aquatic Benchmark and forecasted population growth for the Hamilton region.
[3] The Municipal Pool on Victoria Street is currently closed pending further investigation by Council.
[4] Aurecon (2014) *Sport NZ National Facilities Strategy for Aquatic Sports*.
[5] Jackson.N., Cameron.M. & Cochrane. B. (2014). 2014 *Review of Demographic and Labour Force Projections for the Waikato Region for the Period 2013 – 2063.*
[6] Sport NZ (2014). *Better Value from New Zealand Sporting Facilities: The New Zealand Sporting Facilities Framework.*
[7] The Partner Pools Review (Draft) discussed the funding payment formula of $2.90 per visitor (approved in 2005) based on the net cost of operating Gallagher Aquatic Centre. This cost was assumed as the formula for funding partner pools (although a maximum amount payable to the partner pools each year was also set).
[8] Sport NZ National Aquatic Benchmark Recommended Guideline: 60 people per square metre of pool for metropolitan centres of more than 100,000 residents.

SCOPE

In July 2014, Opus was engaged by HCC to validate the recommendations made for the aquatic facilities in the Sports Facility Plan[9] and provide cost benefit analysis to provide robust rationale to ensure considered and sustainable investments are made by HCC.

The project scope included:

- Test findings and assumptions made in the Sports Facility Plan;
- Undertake capacity and demand analysis using Sport New Zealand trend data and population growth forecasts;
- Undertake a cost and benefit analysis of aquatic facility provision to meet level of service and fluctuating growth demands;
- Outline options and recommendations for future and existing aquatic facilities.

Model capital and operations cost projections for the following potential aquatic projects (all currently unfunded):

- A proposed aquatic facility for the North East Sector (Rototuna). Leisure pool, learn to Swim pool, hydrotherapy pool and fitness centre (staged);
- An extended partner pool programme and recommended capital investment. Including a potential partnership with Hamilton Boys High School.

METHODOLOGY

Figure 1: Waterworld's water walking balls, Te Rapa.

In order to capture aquatic facilities data and forecast future user trends Opus undertook a study of relevant research including the Sport New Zealand Aquatic Facility Inventory[10], HCC aquatic asset condition assessments[11], HCC aquatic visitor data[12], Leisurecheck Management Measures[13], the National Aquatic Strategy, and the New Zealand Sporting Facilities Framework[14]. Further information was captured through meeting with relevant HCC staff (Deanne McManus-Emery, Mathew Bayliss, Ann-Jorun Bronstad) to discuss the historical information, and review the resulting findings and recommendations.

This review has outlined current aquatic facility capacity and demand, and projected future demand based on population growth over a 50 year period. The demand and capacity findings were then used to guide the cost benefit analysis (Appendix A). To provide further background to the recommendations outlined in this review, refurbishment options and case studies have also been provided at the end of this report.

[9] The Sports Facility Plan was commissioned to understand the current state of play for indoor and aquatic facilities within the Waikato region and provide high level recommendations for a facility network approach. In June 2014 the Sports Facility Plan was finalised and the draft was made public for community comment. The Sports Facility Plan identified several facility gaps and possible partnership approaches for HCC which are detailed in the background section.
[10] Opus International Consultants (2014). *Sport NZ Facility Inventory.*
[11] Provided by Hamilton City Council Property Department (2014)
[12] Provided by Hamilton City Council Community Leisure Department (2014)
[13] Yardstick (2013). *Leisurecheck Management Measure Report.*
[14] Sport NZ (2014). *Better Value from New Zealand Sporting Facilities: The New Zealand Sporting Facilities Framework.*

AQUATIC FACILITIES: BACKGROUND

Figure 2: Recreational activities at Waterworld, Te Rapa.

HCC currently owns and operates three aquatic facilities and partners with four education owned facilities (outdoor), which have an average construction age of 35 years. Note: The Municipal Pools on Victoria Street is currently closed pending a Council decision on its future. An overview of the facilities is detailed in Table 1 and Appendix A.

In 2013 feedback from the user surveys (used to contribute to the Sport Facility Plan) reported four aquatic facilities (17%) in the Waikato region were not meeting current community needs, with one of these being the Waterworld aquatic facility located in Te Rapa. This was attributed to a variety of factors such as levels of facility use, water temperature and lack of children's water play areas. Further to this, responses indicated that 11 aquatic facilities (48%) provide inadequate infrastructure which negatively affects participation numbers. Comments from survey responses included lack of cover, water temperature issues, and lack of children's play areas or other specific facilities such as older people's facilities and therapeutic pools. Over summer six aquatic sport facilities (Waterworld included) reported 100% use at peak hours during the week. The Partner Pools Review (Draft)[15] noted the ongoing pressure on the lane space available at Waterworld and Gallagher. During peak hours (3.30pm to 8pm) Waterworld is booked out at close to 80% occupancy of lane space. This causes friction between casual swimmers, club swim, and learn to swim lessons, as they are all competing for the same space. The Partner Pools Review (Draft) also compared the national guidelines for pool provision against HCC pool provision and found there is a deficit in pool provision over the autumn / winter / spring months (April through to November), however, there is adequate pool provision over summer months (December to March) due to the addition of the partner pools.

> *"Nothing stands still. Communities grow and evolve. People's interests change. The requirements of sporting codes change. Society's expectations change. Facilities age and wear out. Despite all the sporting facilities we have, we just don't have the facilities we need."*
>
> *Better Value from New Zealand Sporting Facilities: The New Zealand Sporting Facilities Framework. Sport NZ (2014).*

Findings from the Sport Facility Plan identified several facility gaps and possible partnership approaches for HCC. The following recommendations (Sport Facility Plan) have been investigated and discussed within this report:

1. Close the Municipal Pool. HCC capital would be better invested in a new indoor community pool, preferably in the north-east of the city;
2. Develop a new standard configuration indoor community pool in the north-east of the city (this will also service the south of the Waikato District). Pool to include; 25m x 8 lane swimming pool, fun pool and learn to swim pool. Investigate the feasibility of a hydrotherapy pool;
3. Investigate school / tertiary partnerships to assist with the provision of additional access for structured aquatic club use (on an as required basis);
4. Maintain existing operational pools and optimise where warranted.

Currently HCC pool provision, over the autumn / winter months (April to November) is insufficient and user conflicts occur at peak times. Over the summer months pool provision is sufficient, however it should be noted that all of the partner (education owned) aquatic facilities are aging. It is recommended that condition assessments are completed by the asset owner to determine the lifespan and associated maintenance costs of these facilities. These assessments will assist HCC in determining whether any capital investment in these facilities is validated.

[15] Community Development and Leisure Community Group (2013), *Report on Partner Pools Review (Draft).*

Table 1: Hamilton City Council owned Pools / Partnership Pools

Facility	Description	Visitor Numbers 2013/2014 (p/a)	Total opening hours (p/a)	Current Total Pool Capacity (m²)
Waterworld Aquatic Centre (1976)	Indoor 50m pool, 25m training pool, diving pool, toddlers' pool, outdoor 50m leisure pool, hydrotherapy pool, spa pools, sauna, play slides / hydroslides, gym and aerobics rooms, and water playground. Open all year.	477,858	5,252	1325 (all year round) 800 (summer only)
Gallagher Aquatic Centre (1997)	Indoor 25m indoor, toddler pool, play equipment. Open all year	99,237	5,176	325 (all year round)
Partner Pools programme	Operational grants (total of $92,446 per annum (2013/2104)) provided to:			
	Waikato University (1965)	17,156	636	750 (summer only)
	Te Rapa Primary School (2001)	3,626	480	250 (summer only)
	Fairfield College (1963)	21,670	480	442 (summer only)
	Hillcrest Normal School (1971)	24,474	480	220 (summer only)
	Note: Pools only operate during summer. Clubs are the main community users of these pools			
Municipal Pools (closed)	Outdoor 25m pool, and two smaller pools (15m and 10m). From 1912 to 2005 the Municipal Pools were a key component of Hamilton's aquatic infrastructure, until their closure due to pool leakage and concerns around pool wall structural integrity Note: This facility is currently closed and under review. Public consultation will be undertaken in 2014 on the options for future use. Both HCC and lobby group Sink or Swim have undertaken detailed design work outlining costs to repair and operate pool[16].			
Total		**644,020 visitors**	**12,504 hours**	**1650 (all year round)** **4112 (summer only)**

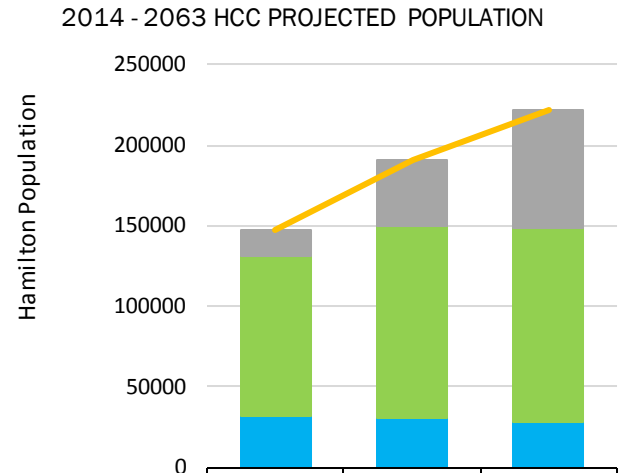
[16] Swimming Waikato. *10 year plan submission to Hamilton City Council 2012-000694. 19 April 2012*
Opus International Consultants (2012), *Options Report - Municipal Pool Complex*

AQUATIC FACILITIES: PROJECTED POPULATION

Over the next seventeen years Hamilton's population is projected to grow by 29.5% (2013 to 2033) and a further 16.1% (from 2033 - 2063)[17]. Figure 3 forecasted population growth of the following shows the three age groups – children (0-14 years), adults (15-64 years) and seniors (65+). This graph illustrates a decrease in child visits, a small increase in adults, whilst seniors more than triple their numbers from 16,670 to 73,030. This trend mirrors the findings in the Aquatics Strategy which highlights the implications of a declining younger age group of whom are the largest visitor group (85%) and an increasing older age group that have the smallest number of visits (20-40%).

When planning for further infrastructure investment it is crucial that HCC remains cognisant of these trends. As the dominant users (children/youth) of the facility decline and the senior population increases further research should be undertaken to understand what recreation options the senior population will choose. At recent workshops (with industry professionals) it has been has suggested that the senior population will pursue outdoor recreational pursuits (i.e. walking, cycling) rather than structured indoor activities. Whilst taking into account overall trends, we have also considered user feedback from Waterworld Get Smart research. Users have requested hydrotherapy pools, and we note that hydrotherapy pools not only provide for elderly people but athletes with injuries and those with disabilities to restore and rehabilitate. We have recommended that the proposed new aquatic facility includes a hydrotherapy pool, not only to meet user needs, but to provide programmable income.

Bearing in mind the demographic profile discussed above, this review has recommended an upgrade of the Lido (existing facility) in the short term so current demand can be met. However, in regards to long term aquatic provision, if aquatic demand is clearly demonstrated it is strongly recommended that the purpose built facility should be built taking into account present-day user requirements.



	2013	2033	2063
Senior 65+	16670	40776	73030
Adult 15-64	99435	119812	120051
Child 0-14	31184	30155	28309
Total Hamilton Population	147289	190743	221390

Figure 3: 2014 - 2063 HCC Projected Population

[17] Jackson.N., Cameron.M. & Cochrane. B. (2014). 2014 *Review of Demographic and Labour Force Projections for the Waikato Region for the Period 2013 – 2063.*

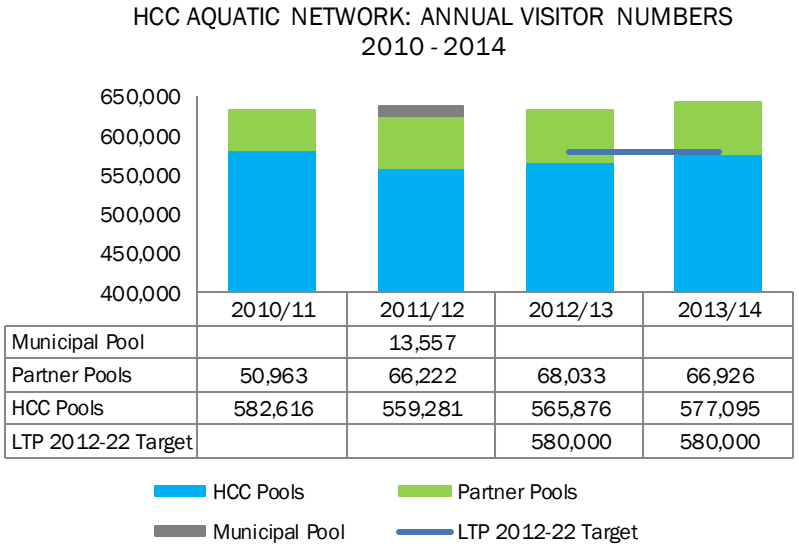
AQUATIC FACILITIES: VISITOR NUMBERS

For the last four years visitor demand to HCC owned pools and HCC partner pools have remained relatively constant (1.7% increase). As this historic data shows, there has been no spike in aquatic visits over the last four years, so it can be assumed (if facility and programme provision stays status quo) that the demand for aquatic provision may only marginally increase, even with forecasted population growth.

The HCC aquatic network annual visitor numbers shown in figure 4 illustrates that the closure of the Municipal Pool in 2011/2012 merely transferred the 13,000 visits to alternative HCC owned pools or partner pools. This user data highlights the importance of HCC ensuring there is a 'demand' for the two proposed developments prior to construction thus ensuring user visits do not simply 'transfer' from one facility to another.

Furthermore, when enhancing or developing facilities it is critical for a robust decision making process to be undertaken. We have referenced the six-step Sporting Facilities Framework recently developed by Sport NZ to ensure HCC is guided by an appropriate framework. By using the framework, all of those involved in the provision and management of sporting facilities can deliver benefits for the community. It is recommended any redevelopment or new facility should be aligned to the six-step Sporting Facilities Framework[18]. By aligning to this framework HCC will ensure an appropriate facility is designed and the overall provision of HCC's aquatic network is strengthened.

To gain further understanding of the future demographic profile for HCC aquatic facilities we have modelled the HCC population projections (figure 3) against the actual 2013 / 2014 HCC aquatic visits (figure 4). The outcome of this comparison (figure 5) shows projected visits trend towards a slight increase in adult (14- 64) visits during 2013 to 2033, however this trend flattens out over 2033 to 2063. There is a noticeable increase in senior (65+) visits from 2013 to 2063 which is reflective of the Aquatic Strategy recommendations which discuss the need to adapt and refurbish existing facilities to meet the needs of an ageing population. This could include tailoring programmes, to ensure higher utilisations in low use times. The Aquatic Strategy also emphasises that the older age group (50+) have different expectations for aquatic facilities, including; temperature, access, covered and water depth. It is recommended that HCC carry out thorough consultation with this user group to ensure their design requirements are satisfied.



	2010/11	2011/12	2012/13	2013/14
Municipal Pool		13,557		
Partner Pools	50,963	66,222	68,033	66,926
HCC Pools	582,616	559,281	565,876	577,095
LTP 2012-22 Target			580,000	580,000

Figure 4: HCC Aquatic Network Annual Visitor Numbers

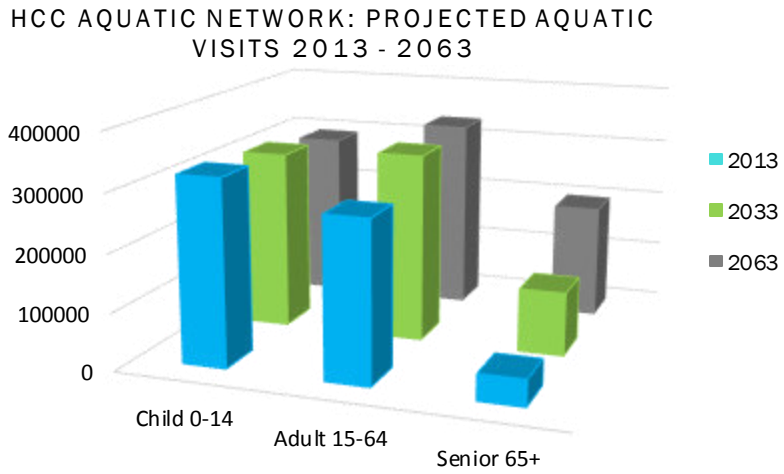


Figure 5: HCC Projected Aquatic Visits 2013 - 2063

[18] Sport NZ (2014). *Better Value from New Zealand Sporting Facilities: The New Zealand Sporting Facilities Framework.*

AQUATIC FACILITIES: REVENUE

Although the projected aquatic visits show an overall increase (modelled on projected population growth over 2013 - 2063), it cannot be assumed that this will correlate into increased income for the facility. It should be noted that the trend towards a higher senior visitor rate means less income per visitor (refer: figure 6) for the facility (based on a standard senior visit rate of $3.00). Aquatic facilities should ensure that their services for children (especially learn to swim programmes, standard lesson rate of $14.00) and adults (standard adult visit rate of $6.00) continue to provide excellent customer service, and a quality swimming experience to ensure repeat visits. Furthermore, focus on revenue generation through add-on services and facility utilisation needs to be one of the key drivers for HCC. For further information refer to the HCC Service Delivery Options Review[19].

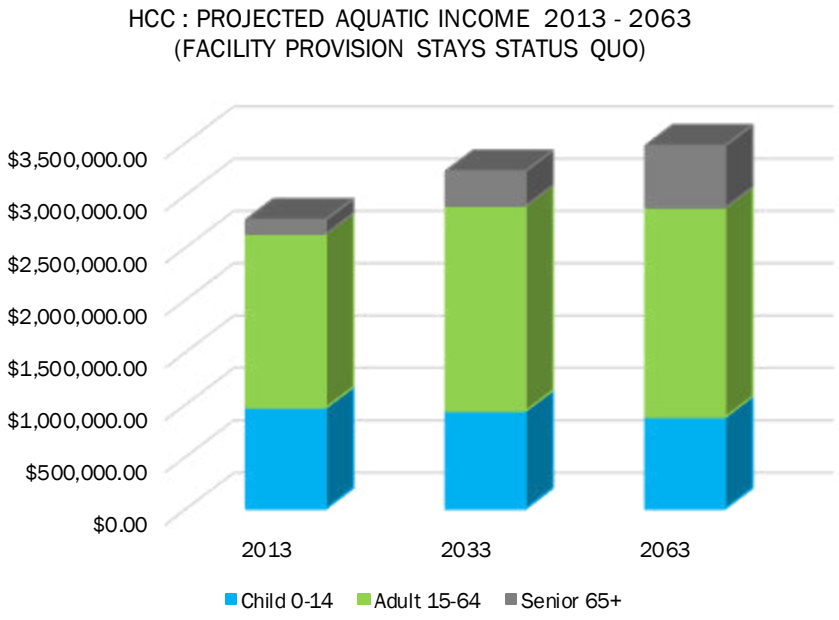


Figure 6: HCC Projected Aquatic Income

[19] Opus International Consultants. (2014) *Hamilton City Council Service Delivery Options.*
[20] Further detail on moveable floors is on page 23.
[21] Sport England (January 2012). Affordable Community Swimming Pools

Add-On Services

Add on services such as the Fitness Centre at Waterworld provide additional income to offset aquatic operational expenses. The Get Smart Survey, Waterworld, July 2014 showed 61% of the people surveyed went to Waterworld to improve fitness, and 45% went to Waterworld to maintain their health. It would be prudent to ensure this user group that makes up a large percentage of the visits (and therefore income) have access to both sufficient pool space for casual swimming and the fitness centre service for continued health and fitness opportunities.

Provision of a Learn to Swim programme at every aquatic facility should also be prioritised. Not only does the programme provide an additional revenue stream, it teaches our children much needed survival skills in water. All of the recommendations in this review have considered the provision of Learn to Swim programmes, and recognise that partnering with a school would further ensure aquatic facilities are located on or near a school site. This would increase the opportunity for students to undertake swimming lessons (either supervised by a teacher or as a structured swimming lesson) and remove the major barriers including accessibility and cost.

Aquatic Facility Design and Utilisation

When considering additional aquatic provision it important for HCC to consider alternative options to increase income from utilising existing pool space. For this reason we have investigated the following two options; enclose and heat the Lido and installation of a moveable floor in the Waterworld dive pool. By installing a moveable floor the pool can be transformed into a multifunctional facility for learn to swim programmes, casual swimming through to water polo teams[20].

We have also provided background information on the Sport England: Affordable Pools guidance document[21] which provides a range of pool options from a 4 lane 25 meter pool facility through to an 8 lane pool facility with a secondary pool and moveable floor. The estimated costs provided in this report include constructing a basic 8 lane 25m facility for $6M (without a moveable floor) and including a moveable floor is estimated to be $6.3M. By incorporating a moveable floor (refer: pages 23 and 24 for further information) the facility will meet the needs of a broad range of user groups, potentially increasing revenue through increased programme flexibility.

AQUATIC FACILITIES: PARTNER POOLS

As all of the partner pools are currently outdoor facilities we have considered the option of refurbishing these facilities. After discussion with relevant HCC staff and reference to the Municipal Pools Report[22], the most appropriate facility (site has minimal constraints) was Fairfield College. Consideration was given to the possibility of the enclosure of Fairfield College pool, however, after comparative analysis was undertaken of Clive Aquatic Facility (Hawkes Bay) which has recently been enclosed and heated. The project cost of $1.6m was used to estimate the capital costs for Fairfield College (enclosed and heated). It was apparent that the high capital cost combined with an ageing facility and decreasing student numbers would make this proposal unfeasible for HCC.

Although no recommendations have been made in this report to invest substantially in existing partner pools, it should be noted that in 2012/13 68,033 people visited the partner pools at a cost of $70,000[23] to Council, this equates to a cost to Council of $1.03 per visit. Notwithstanding the social benefits that these partnerships bring, the financial benefits to Council (and therefore the ratepayers) are substantial. In comparison, the cost of operating both Waterworld and Gallagher is $6.75 per visit and LeisureCheck (2013) shows the actual cost for pool provision is $10.70 per visit and the net subsidy is around $5.30 per visit. For this reason, we strongly recommend that the existing partnerships are supported and that partnership options are investigated prior to investing in a new facility.

It has been noted that the 2013/14 Council deliberations allocated an additional $20,000 to the partner pools programme for 2013/2014 ($92,446), and the Annual Plan budget for 2014/15 allocated $95,763. We recommend that the partner pools annual contribution remains at $95,763 (figure to include CPI adjustment on an annual basis) which will assist the facility owners to maintain their ageing facilities whilst providing an economically viable service to the community.

It is recommended that condition assessments are completed by the asset owner to determine the lifespan and associated maintenance costs of the facilities. These assessments will assist HCC in determining whether any capital investment in these facilities is validated.

AQUATIC FACILITIES: SWIMMING CLUBS

There are four swimming clubs in Hamilton and cumulatively these clubs represent over 840 club members. These swimming clubs are all members of Swimming Waikato, which is the Regional Sporting Organisation. Swimming Waikato aims to grow swim sports throughout the region via partnerships, performance and participation growth.

Swimming Waikato's submission[24] to HCC highlighted the need for increased pool space in Hamilton in order for swim sports to grow. The submission requests that HCC investigate options for further development of Waterworld Te Rapa and expand the current Partner Pools Programme to include more facilities. We have taken note of Swimming Waikato's submission and have proposed further development of the Lido pool to alleviate user conflict at peak times, and also proposed additional partnerships with Rototuna High School and Hamilton Boys High School.

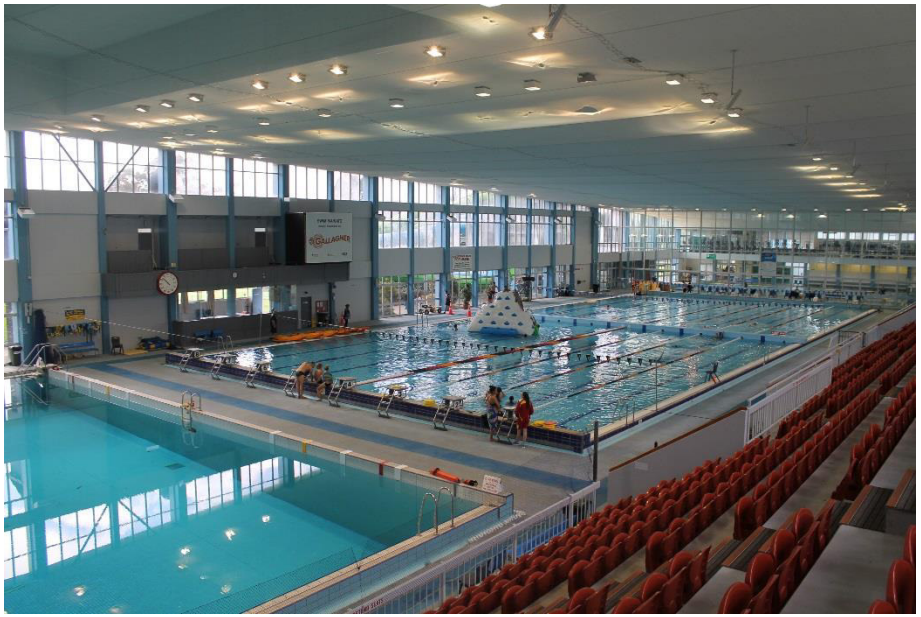


Figure 7: Waterworld dive pool and 50m pool

[22] Opus International Consultants (2012), *Options Report - Municipal Pool Complex*
[23] The Partner Pools Review (Draft) discussed the funding payment formula of $2.90 per visitor (approved in 2005) based on the net cost of operating Gallagher Aquatic Centre. This cost was assumed as the formula for funding partner pools (although a maximum amount payable to the partner pools each year was also set).
[24] Swimming Waikato. *10 year plan submission to Hamilton City Council 2012-000694. 19 April 2012*

AQUATIC FACILITIES: NATIONAL BENCHMARK

Hamilton's current aquatic provision compared to the recommended guidelines show a deficit of 805m² in winter with a projected deficit of 2040m² in 2061 if no refurbishments of existing pool facilities are undertaken or additional aquatic facilities are added to the network. Although, if a new facility is built it should be noted there will be a surplus of aquatic facilities in the summer months (Note: This report has not taken into account any of the partner pools that may close due to end of life span). Figure 7 illustrates the pool provision required when comparing to the national benchmark.

Although we have recommended two major redevelopments over the next twenty years, the use of benchmarks is only one indicator that we have used. For example, we have recommended that the Lido Pool be covered and heated within the next three years which means that with a conservative investment (which may be less than estimated) user demand can be met, resulting in a significant opportunity to increase two target markets (learn to swim and casual users). By undertaking this development HCC can establish the demand for further pool space, without undertaking a significant investment.

Figure 8: Hillcrest Normal School (HCC partner pool)

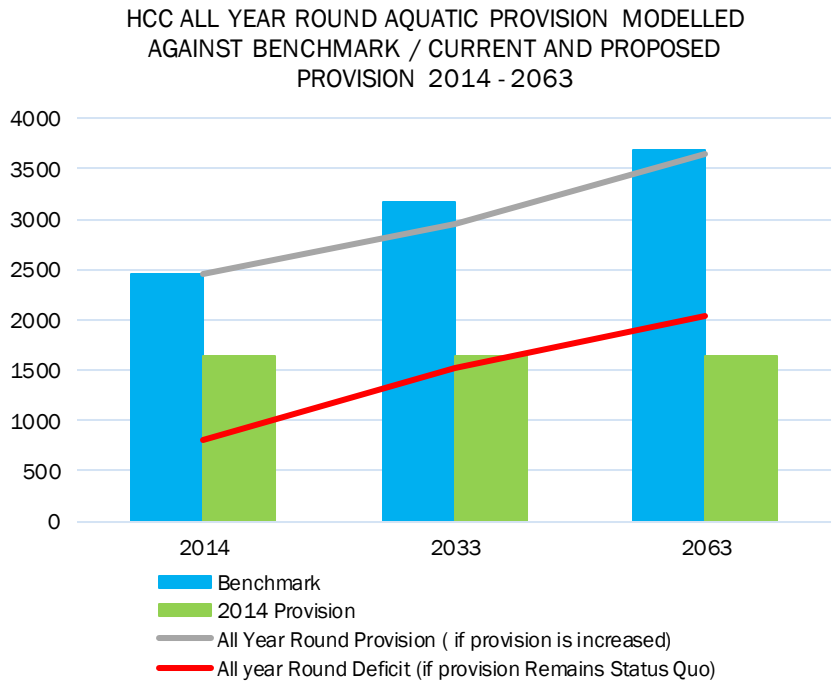


Figure 9: HCC All Year Round Aquatic Provision Compared to Benchmark[25]

[25] Aquatics Strategy outlines a series of benchmarks for measuring the provision of pools by region, these include: Population per Standard pool (25m x 8lanes, 500m2) with the metropolitan area average being 22,043 people per standard council pool and 10,714 per pool (including non-council pools); 1m² of community accessible pool for every 60 people in Metropolitan areas and 1m² of pool for every 35 people in Provincial areas

AQUATIC FACILITIES:

- HEATED/UNHEATED

- INDOOR / OUTDOOR

Whether a pool is heated or unheated will affect the demand for the facility. As noted in the Aquatic Strategy the older age group (50+) have different expectations for aquatic facilities, including; temperature, access, covered and water depth. Table 2 shows the Hamilton provision of heated aquatic facilities is marginally higher than the Waikato and National statistics.

Historically outdoor pools were built to provide seasonal aquatic opportunities for lower capital costs than its indoor counterparts. All of HCC's partner pools are outdoor facilities including; University of Waikato's U-Leisure pool, Fairfield College, Te Rapa Primary and Hillcrest Normal School. Table 2 shows the National provision of indoor versus outdoor pools[26], which suggests that HCC are 9% lower than the benchmark for indoor pool provision.

We do not recommend the addition of any outdoor pools to be added to the HCC aquatic network. It is not considered a sustainable investment due to the costs to retain heat and user preference for covered facilities.

Table 2: Regional Provision of Community Indoor Pools vs Outdoor Pools, Heated vs Unheated Pools

Region	% Indoor	% Outdoor	% Heated	% Unheated
Hamilton	50%	50%	78%	22%
Waikato	55%	45%	71%	29%
New Zealand	59%	41%	77.6%	22.4%

Figure 10: Hydrotherapy aquarobics at Gallagher Aquatic Centre[27]

[26] The National Aquatics Strategy
[27] Sourced from HCC

AQUATIC FACILITIES: TRENDS

The 2011 Sport New Zealand Young Peoples Survey[28] (The Young Peoples Survey) received responses from 2,034 students aged 5-18 in the Waikato region. The survey found that over 90% of year 1-6 students and over 85% of year 7-13 students participated in swimming at least a few times a year.

Table 3: Sport New Zealand Trends

Frequency of Participation	Swimming 1-6 Yrs.	Swimming 7-13 Yrs.	Water Polo 1-6 Yrs.	Water Polo 7-13 Yrs.
Not at all	7.2%	13.5%	81.%	87.6%
A few times a year	62.2%	67.5%	14.8%	9.6%
Weekly	30.5%	19%	4.2%	2.7%

Table 3 indicates that swimming as an activity remains relatively popular with all age groups participating at least a few times a year. There is a decline in participation as children get to 7-13 years, with both swimming and water polo declining with each incremental age bracket. The continued provision of learn to swim will support the retention of participants in swimming, alongside providing crucial water safety skills. Increased provision of local community pools will increase the number of children swimming, through the development of water confidence and swim skills to encourage ongoing participation. Sport NZ National Aquatics Facilities Strategy [29] investigated aquatic user's reasons for engagement (The Aquatics Participation Study) and list users main reasons for swimming including: 25% relaxation, 13% social and 36% listed as youth (which includes learn to swim programmes). It is clear that a large portion of aquatic facility users are not primarily involved for formal sports participation opportunities.

This supports our recommendation of developing the Lido to provide flexibility for a range of recreational user groups including learn to swim, alongside aquatic sports and lane swimming.

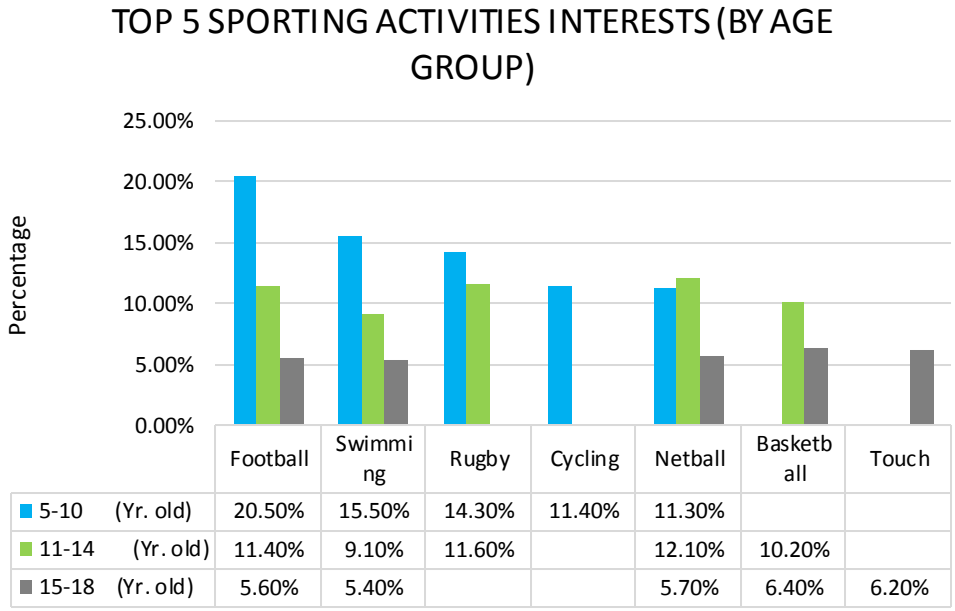


Figure 11: Top 5 Sporting Activities

Figure 8 specifies the top 5 sporting activities by age group. Swimming decreases in popularity as children reach their teenage years but still features in the top 5 sports. Provision of aquatic facilities in the vicinity of Rototuna Junior and Senior High School and/or in conjunction with Hamilton Boys High School would mean increased access to these facilities. It is strongly recommended that HCC partner with both Rototuna High School and Hamilton Boys High School in future investigations regarding provision of aquatic facilities.

[28] Sport New Zealand (2011), *Sport New Zealand Young Peoples Survey*
[29] National Facilities Strategy for Aquatic Sports (Final Revised Edition). Revision 7 Sport New Zealand. 9 August 2013.

AQUATIC FACILITIES: LEARN TO SWIM

Figure 12: Waterworld learn to swim programme[30]

Swim and survival skills are a basic fundamental skill for our children, yet the swimming standards of children in New Zealand have been declining at an alarming rate [31]. On average (in the last five years) 108 New Zealanders per annum have died by drowning. Drowning is consistently the third highest cause of unintentional death in New Zealand.[32]

There are two major factors currently affecting provision for swimming education, and these are; accessibility and cost. Traditionally schools were recognised as the primary venue for learn to swim programmes, however this can no longer be presumed as fewer pools are being built and existing pools are not being renewed due to high operational costs. Due to no pool located on site and limited accessibility to public pools, some students miss out on vital swimming education.

Although, learn to swim programmes have been established at some public pool facilities, the cost to attend is high. Table 4 indicates a range of costs for a 25 minute learn to swim class across New Zealand, with an average of $12.77 of approximately 9-10 weeks per school term. A standard school term is approximately 9- 10 weeks[33]. Although learn to swim classes are a fantastic opportunity to ensure children learn correct techniques, the fee is a barrier to some families as due to an increase in inflation, utility costs and entry prices, many parents do not have the financial means for swimming lessons.[34]

We have recognised that partnering with a school (refer to recommendations shown in Appendix A – Cost Benefit) not only distributes the capital investment required between Local Government and the Ministry of Education, it also ensures aquatic facilities are located on or near a school site, thus increasing the opportunity for students to undertake swimming lessons (either supervised by a teacher or as a structured swimming lesson). In this case the major barriers including accessibility and cost can be managed to benefit our youth.

Table 4: Learn to swim admission costs[35]

Learn to swim programme	Gallagher Pool Cost (per person)[36]	Whangarei Aquatic Centre Cost (per person)[37]	Christchurch Pools Cost (per person)[38]	ASB Aquatic & Fitness Centre Cost (per person)[39]	Whangarei Aquatic Centre Cost (per person)[40]
25 minute class	$14.00	$13.50	$11.20[41]	$11.66	$13.50

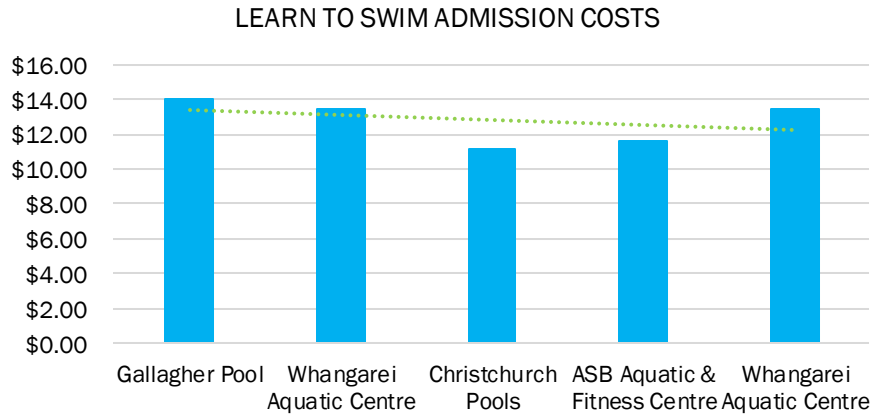


Figure 13: Learn to swim admission costs

[30] Sourced from HCC
[31] http://watersafety.org.nz/statistics/
[32] http://watersafety.org.nz/statistics/
[33] http://www.minedu.govt.nz/theMinistry/EducationInNewZealand/SchoolTermsAndHolidays/2014SchoolTermsAndHols.aspx
[34] http://www.stuff.co.nz/nelson-mail/news/4650428/Learning-to-swim-a-costly-exercise
[35] Note: Prices are for school age students
[36] http://www.hamiltonpools.co.nz/index.php?section=22
[37] http://wellington.govt.nz/recreation/pools/learn-to-swim/existing-customers
[38] http://www.ccc.govt.nz/cityleisure/recreationsport/classes/swimeducation.aspx
[39] http://www.clmnz.co.nz/asb/swim-school/payment-options/
[40] http://www.clmnz.co.nz/whangarei/swim-school/lesson-costs/
[41] Swimsmart programme

AQUATIC FACILITIES: ASSET CONDITION

Figure 14: Waikato University pool [42]

Table 5: Condition Assessment Grading[43]

Element	Condition Grade				
	1 Very Good Condition	2 Good Condition	3 Moderate Condition	4 Poor Condition	5 Very Poor Condition
Estimated Proportion of life consumed	Up to 45%	Between 45% to 90%			90% to 100%

The Aquatics Strategy identified a strong pattern of pool construction in the 1970's, this is trend is reflected in Hamilton with the average pool age being 1979. HCC facilities Waterworld Te Rapa and Gallagher Aquatic Centre were constructed in 1976 and 1997 respectively, and are noted by the HCC 2012 asset management database to have comprehensively recorded, assessed and managed assets onsite.

The HCC 2012 asset management database was provided for the purposes of this report and the majority of aquatic and indoor facility assets were found to be condition 1(c1) and 2(c2). There are a small number of pool facility assets that have been graded as a condition 4 (c4) or condition 5 (c5)[44]. As the majority of the condition 4 and 5 assets were surveyed in 2013, it would be assumed that these assets have been or are due to be repaired or replaced. The minority were surveyed in 2011 and it would be expected that these assets have been repaired or replaced some time ago. Table 5 illustrates the condition grade and the estimated proportion of the remaining life of the asset.

Regardless, of refurbishments it is noted that Waterworld is an aging facility, and it is strongly recommended that all pool and plant condition assessments and recommendations are adequately budgeted for to ensure the positive experience (i.e. well maintained and clean facilities, clean and warm water, clean air) for the user is not diminished.

[42] https://education.waikato.ac.nz/about/virtual-tour-faculty-of-education/
[43] NAMS (2006), *International Infrastructure Management Manual*.
[44] Note: This is for Gallagher Aquatic Centre and Waterworld. Municipal Pool is not included.

AQUATIC FACILITIES: NEW FACILITIES

"The key issue is that there is not enough funding available to build and operate every facility that the National Sporting Organisation (NSO) desire… therefore there must be a compromise between the asset owner and the NSO… that is, the facility is built to meet the needs, not the wants"

Aurecon (2014) Sport NZ National Facilities Strategy for Aquatic Sports.

Table 6: National and International Aquatic Facility Examples – Construction Costs

Pool	Estimated Gross Floor Area (GFA)[45] m²	Cost to construct	Summary of facility
Albany Stadium Pool, Auckland (Option One). Physical works planned to start 2014.	3,300	$19.7M	Projected annual visitation of 355,000 by 2031. Large leisure based aquatic space and member fitness centre
Albany Stadium Pool, Auckland (Option Two) Physical works planned to start 2014.	4,000	$21.7M	Projected annual visitation of 355,000 by 2031. Separate programmable pool, large leisure based aquatic space and member fitness centre. Proposed that this type of pool would support a financially sustainable operating model.
Otahuhu Recreation Precinct, Auckland 	3,000	$18M	• 25-metre lap pool • Teaching pool with ramp • Toddlers' pool with fun water features for young children • Leisure and "bombing" pool - a deep-water pool for older children and youth • Outdoor splash pad with interactive water features adjoining an dedicated outdoor picnic area • Upstairs fitness centre overlooking the indoor pool , saunas and a spa pool

[45] GFA should include all built elements including basement, plant rooms, fitness centre, change rooms, circulation areas, administration, utility and service areas, entry and reception.

SELWYN AQUATIC CENTRE

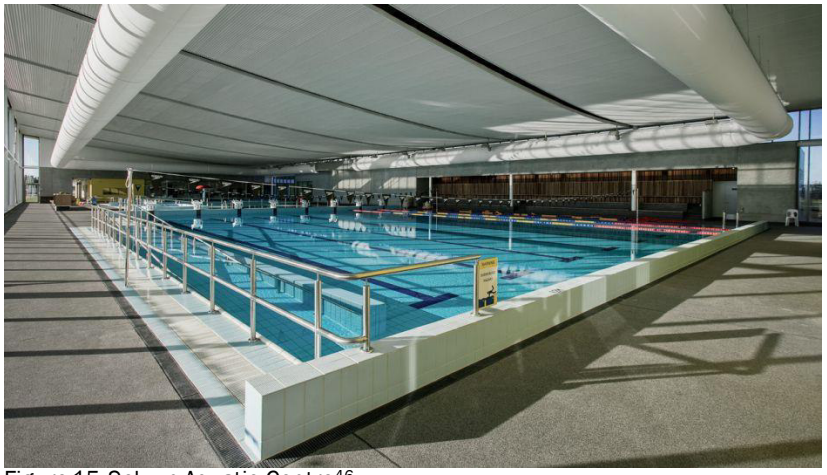


Figure 15 Selwyn Aquatic Centre[46]:

Figure 16: Selwyn Aquatic Centre[47]:

Background

Selwyn Aquatic Centre is owned and operated by the Selwyn District Council (SDC) and cost $14.7M to develop. The SDC has acquired land to extend the facility with a fitness centre (potentially including a basketball stadium) as outlined in their LTP.

Facility Features

- 2 disability changing rooms, family changing room and pool side toilet, and first aid room
- 25 meter (8 lane) lap pool, 15m hydrotherapy pool, learn to swim pool and leisure pool
- Wet corridor and a dry corridor
- Ramp access into all pools (except learn to swim)
- Tiered seating for 167 people

Selwyn Aquatic Centre was designed by Warren and Mahoney Architects and construction was opened in June 2013.The facility received multiple accolades including an NZIA Canterbury Sustainable Architecture award, with sustainable design including heat recovery through heat pumps recycling heat back into the water or the facilities atmosphere. The glass panelled facade provides a good natural light source, reducing lighting costs. However the glass panelling is hot in summer and can have the drawback of glare during winter.

Facility Operation

Selwyn Aquatic Centre has 2 lifeguards on duty during daytime hours, with an additional 2-3 lifeguards coming on duty from 3:30pm to cater for the busier afternoon and evening period. The facility is FINA compliant and can host regional level events, and record swim times.

Lessons learnt

The Pool depth was designed as 1.2m – 2.1m, however the facility manager noted that a shallower pool 1m – 1.8m would have allowed for aqua aerobics. Additionally the Hydrotherapy pool was designed to be 1.2m to 1.8m deep, however a shallower design (e.g. 1.0m - 1.6m) would allow for more programme variety/flexibility such as aqua walking therapy. The key lesson here is understand facility user demographics, and how their needs can affect design.

[46] Image sourced from: Warren and Mahoney (2014). http://www.warrenandmahoney.com/en/portfolio/selwyn-aquatic-centre/
[47] Image sourced from: Warren and Mahoney (2014). http://www.warrenandmahoney.com/en/portfolio/selwyn-aquatic-centre/

BAYWAVE TECT AQUATIC & LEISURE CENTRE

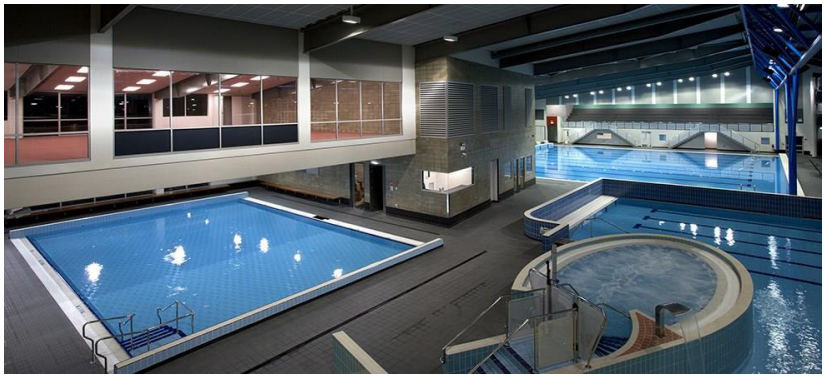


Figure 17: Baywave TECT Aquatic & Leisure Centre

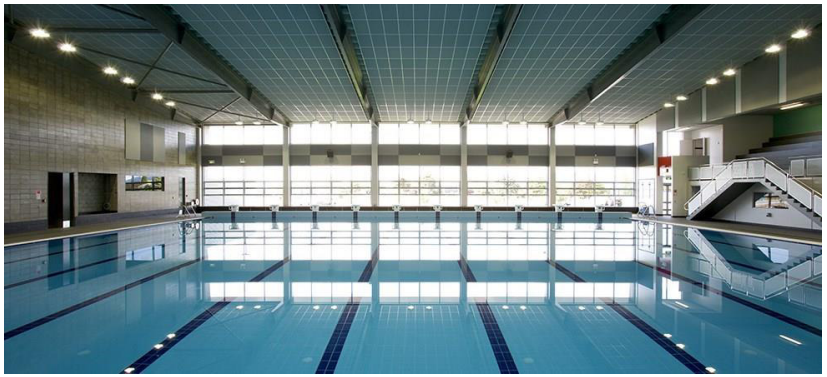


Figure 18: Baywave TECT Aquatic & Leisure Centre

Background

The Baywave TECT Aquatic & Leisure Centre (Baywave) was completed in 2005 and is managed by Bay Venues Ltd, a Council Controlled Organisation (CCO) set up in 2013 to manage facilities for Tauranga City Council (TCC). Baywave receives over 230,000 visitors annually and is one of the region's top attractions[48]. It cost $19.3M to construct.

Facility Features

- 25m lap pool, leisure pool with wave machine, hydro slide, learn to swim pool, and a splash pool.
- 2 disability changing cubicles
- Ramp access into the leisure pool and a hoist for spa pool accessibility
- café and retail store on site
- Gym attached to facility

Baywave was designed by Jasmax Architects[49] and incorporates sustainable design features including geothermal heating and landscaping designed to filter water runoff from the car park and roof. Baywave has received a number of facility accolades including The Holmes Consulting Tourism and Leisure Property Award (Merit).

The learn to swim pool utilises an ultra violet disinfection system, kills up to 99% of bacteria in the water. This allows the pool to use 50% less chlorine improving clarity, scent and comfort of the pool alongside reduced operating costs due to reduced chlorine use.

Facility Use

Baywave hosts a range of clubs and activities including Tauranga Synchronised Swimming, Tauranga Underwater Hockey Club, and Aqua Aerobics. Over summer Baywave also hosts 'Friday Fun Nights' catered for 8-13 year olds. This demonstrates how a versatile facility can provide a broad range of programmes.

[48] Bay Venues (2014). http://www.bayvenues.co.nz/VENUES/Aquatic+Venues/Baywave.html
[49] Jasmax (2014. http://www.jasmax.com/work/tauranga-aquatic-centre-baywave/

SPORT ENGLAND: AFFORDABLE POOL GUIDELINES

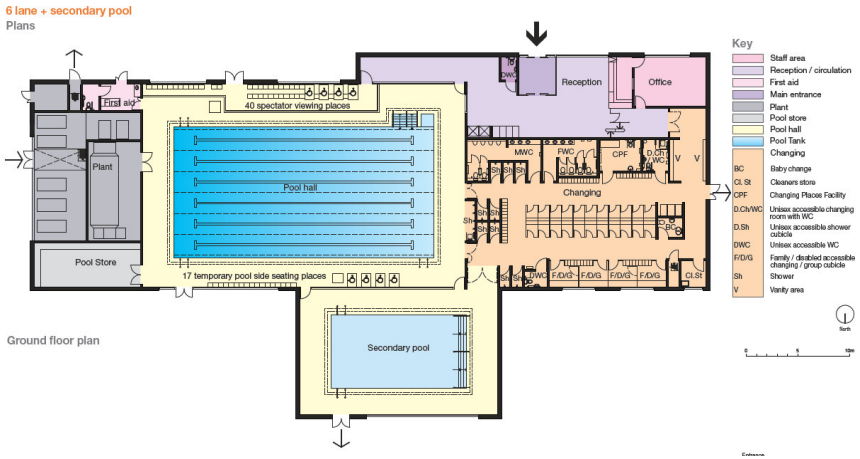


Figure 19: Plan of 6 lane secondary pool

Sport England has developed a set of guidelines (Affordable Pools[50]) to support standardisation of pool construction across the country. The design guidelines provide a range of facility templates that maximise facility sustainability (financial and environmental) and affordability.

The Sport England affordable pools model operates on a concept of maximising potential revenue per m² of facility floor space through the provision of an operational plan and facility design. The facility templates further aim to streamline pool facilities in order to reduce costs, focussing on being a sustainable and functional facility rather than a show piece. Because of streamlining, a swimming pool based on Sport England templates can be opened within 24 months of the decision to proceed.

The Affordable Pools guideline provides a range of pool options from a 4 lane 25 meter pool facility through to an 8 lane pool facility with a secondary pool and moveable floor. Provided costings include constructing a basic 8 lane 25m facility for $6,000,000. Sport England provide a rough cost estimation for a moving floor (in a 25m and 8 lane pool) at $626,997.00 (323,000 GBR pounds) and additionally note the ability of a moveable floor to meet the needs of a broad range of user groups, potentially increasing revenue through increased programme flexibility. Increased programme flexibility can be demonstrated by the ability to use a single pool for learn to swim, recreation and swim sports with specific depth and gradient needs all through the adjustment of the pool floor.

[50] Sport England (January 2012). *Affordable Community Swimming Pools.*

AQUATIC FACILITIES: DEVELOPMENT OPTIONS

We have referenced the 2012 Opus Option Report [51] which detail the associated costs for the repairs of the Municipal Pools, and associated costs for upgrading Hamilton's aquatic network in order to improve the decrease in pool provision if the Municipal Pools are not reinstated. Table 7 indicates the refurbishment options of Municipal pools, and Table 8 evaluates alternative refurbishment options for Hamilton's aquatic network. As shown in Appendix A – Cost Benefit Analysis we have not recommended reinstatement of the Municipal pools due to the high capital cost of the project and the forecasted use of the facility. Instead we have recommended development of the Lido pool which provides extra capacity and a lower capital cost.

Table 7: Municipal Pool Refurbishment / Removal Options

Pool	Estimated Gross Floor Area (GFA) m²	Cost to construct[52]	Summary of refurbishment options
Municipal Pool (rebuild)	500 m²	$8.8M	Rebuild 25-metre pool, enclose and heat.
Municipal Pool (repairs)	500 m²	$5.84M	Main pool repairs, pool plantroom Strengthening and maintenance (10years) of buildings
New Aquatic Centre (to replace Municipal Pool)	600 m²	$6.93M	25-metre lap pool and teaching pool Changing Rooms, plant room and associated offices
Municipal Pool (new 25m pool)	500 m²	$5.03M	25-metre pool
Municipal Pool (demolish)	0	$720,500	Demolish Aquatic Centre

Figure 20: Design for Municipal pools by local architect[53]

Table 8: Recommended Aquatic Facility Refurbishment Options[54]

Pool	Estimated Gross Floor Area (GFA) m²	Cost to construct	Summary of refurbishment options
Waterworld New learner pool	400 m²	$1,720,000	Learn to swim pool Changing rooms Storage and associated office
Waterworld Upgrade Lido Pool	1500 m²	$4,435,000	Construct enclosure for Lido Pool Canopy over walkway
Fairfield College Pool	500 m²	$392,500	Upgrade changing rooms Install and upgrade pool plant equipment (boiler and chlorination pumps), stormwater drainage 40 Carparks and lighting Extend boiler room .5m for second boiler Enclosure estimated from Clive Pool of $1.6m

Figure 21: Waterworld[55]

[51] Opus International Consultants (2012), *Options Report - Municipal Pool Complex*
[52] Contingency of 10% has been added to the 2012 Opus report estimates
[53] http://www.stuff.co.nz/waikato-times/news/8061477/Councillors-debate-fate-of-Municipal-Pools
[54] Opus International Consultants (2012), *Options Report - Municipal Pool Complex*
[55] http://www.hamiltonpools.co.nz/index.php?section=12

MOVEABLE FLOOR: BACKGROUND

In order to get the most out of an aquatic facility, a wide range of activities need to be catered for. By changing the depth and dimensions of a pool, the pool will become suitable for a wide range of activities. We have proposed a moveable floor for the Waterworld diving pool, as the pool is currently unused for long periods during the day. By installing a moveable floor the pool will be transformed into a multifunctional facility for learn to swim programmes through to water polo teams.

While it is a significant capital investment of at least $1,000,000, the increased flexibility allows for a greater range of bookings by more user groups. This can be a cost effective way of addressing competitive needs for sports such as underwater hockey and water polo, who require a minimum depth of 2m with a flat bottom whilst also meeting community use needs and learn to swim needs depth wise. As of 2009, four pools[56] had been installed in New Zealand with moveable floors. Moveable floors have the ability to hold between 75 and 200kgs per square metre[57]. The Standard maximum depth difference between one floor and the other is 60cm. This can be adjusted to more depending on specific wishes and demands of the user groups.

SINGLE MOVEABLE FLOOR
Cost: $850,000 plus

DUO MOVEABLE FLOOR
Cost: $850,000 plus

Figure 22: Pool floor configurations for dive pool

CASE STUDIES

DIOCESAN SCHOOL FOR GIRLS, AUCKLAND. Total Cost: $12,000,000

Figure 23: Diocesan School for Girls swimming pool[58]

A variable pool floor (20m x 25m) has been installed, allowing a 2 metre deep sports pool to be reconfigured to a shallower depth. This was due to the school having 2 distinct user groups, with students needing floor gradient in order to facilitate learn to swim programmes across a range of ages and the school also hosting a very competitive aquatics sporting scene, requiring a flat bottom floor at least 2 metres deep.

Rather than developing 2 separate pools for each purpose, the pool was designed with a moveable floor, which allows the pool to service both internal user groups without the cost of a second pool. Furthermore increased flexibility around pool usage has allowed the school to offset the capital cost of the pool with increased rental to external user groups.

[56] http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10557086
[57] http://www.variopool.nl/uploads/pdf/variopoolUK2008.pdf
[58] http://www.civitas.co.nz/projects/diocesan-schoool-aquatic-centre. The moveable floor is a buoyant polypropylene floor system that is pulled down using cables connected to hydraulic rams in the basement. The complex was designed collaboratively by McIldowie Partners and Upton Architects.
http://www.nzherald.co.nz/sport/news/article.cfm?c_id=4&objectid=10557279

MOVEABLE FLOOR CASE STUDIES

COASTLAND AQUATIC CENTRE, Kapiti Coast

Total Cost: $18,000,000

Coastland Aquatic Centre has had a rise and fall (25m x 25m) floor installed with a maximum depth of 2.4M.

Additional facilities include 160 spectator seats, learners and toddlers' pools, twin hydroslides, a spa pool, sauna, change and service space, commercial space and external courtyards.

A future stage has been included in the design that would contain a 50m competition pool and a hydrotherapy pool to accommodate the long term vision for the area. The facility was designed collaboratively by ASC Architects and LHT Design.

Figure 24: Coastland Aquatic Centre[59]

HUIA POOL, Hutt Valley

Burwell Hunt designed Huia Pool in 1979. The pool was opened in 1981 and the moveable floor was the first of its kind in Australasia. The moveable floor is 18m x 25m with water depth ranging between .8m – 2m. However, it should be noted that the technology used for this floor has changed significantly, and the floor would not be built like this now. The hydraulic rams have been replaced 3 times in 34 years. The tiles on the top of the floor have reached the end of their life and require repairs every year. The floor computer has been replaced once and the programme is updated every 5 years. The floor is due to be completely replaced in 2017.

Figure 25: Huia Pool[60]

ST. CUTHBERTS COLLEGE CENTENNIAL POOL, Auckland

Total Cost: $17,200,000

St. Cuthberts College is currently installing a 20m x 25m long pool with moveable floor capability allowing for a wide variety of water sports including competitive swimming and water polo. The depth of the pool varies from 0m – 2m.

The centre includes a learner's pool, a viewing deck, changing facilities and a student support area. A UV filtration system has been installed to minimise chlorine use and a vacuum-sand filter for crystal clear water. This is expected to be completed at the end of 2015.

Figure 26: St Cuthberts College Centennial Pool[61]

[59] http://www.kapiticoast.govt.nz/Your-Council/Aquatic-centre-and-civic-building/
[60] http://www.huttvalleynz.com/Sights-and-activities/Family-Activities/Swimming-Pools/Indoor-Swimming-Pools2/Huia-Swimming-Pool/
[61] https://www.stcuthberts.school.nz/support-us/the-centennial-centre-for-wellbeing/

HYDROTHERAPY POOLS

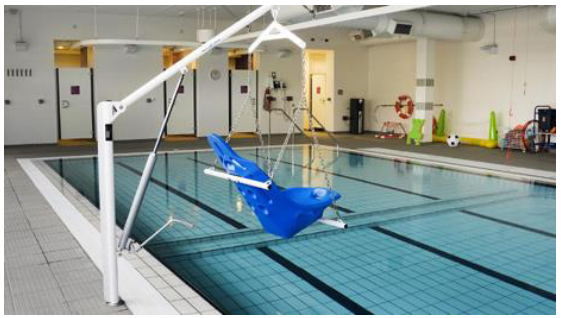


Figure 27: Children's hydrotherapy pool in Newport, Wales[62]

The demand for the hydrotherapy pool in Waterworld has been steadily increasing as there is a growing demand for warmer indoor pool facilities from older adults. Our recommendation for the new aquatic facility includes a hydrotherapy pool, as it is considered to meet user needs, and also provides programmable income. Hydrotherapy pools not only provide for elderly people but athletes with injuries and those with disabilities that can restore and rehabilitate. It is recommended the minimum space required for each client is 2.5m x 2.25m, for example a 5m x 9m hydrotherapy pool would accommodate up to eight patients.

Hydrotherapy pools do require varying depths and installing moveable floors allow flexibility in depth and support in operating the range of pool temperatures. A moveable floor combined with a removable staircase (Refer to Figure 30: Removable staircase on page 264) provides a multipurpose aquatic space. Although the cost may be a barrier to users as the average cost is $6.40, as outlined in the table below.

Table 9: Hydrotherapy Pool Prices[63]

Dimensions	Maximum adjustable water depth	Material	Total Price
Moveable floor 5.0 x 9.0m	0 - 1.8m (based on pool depth of 2.4m)	Stainless steel frame with polypropylene panels (20mm thick)	$220,000
Hydrotherapy Pool (10m x 4.5m)	1.2 – 2.2m	As per standard pool design	$300,000 - $500,000[64]
Hydrotherapy Pool (5m x 9m)	Not applicable	As per standard pool design	$220,500 ($3,000/m²)[65]

Table 10: Hydrotherapy admission costs

Admission	Hamilton Pools Cost (per person)[66]	Whangarei Aquatic Centre Cost (per person) [67]	Wellington Regional Aquatic Centre Cost (per person)[68]	Nelson ASB Aquatic & Fitness Centre Cost (per person)[69]
Hydrotherapy 1 swim	$6.00	$6.50	$5.90	$7.20
Hydrotherapy 10 swims	$55.50	$58.00 / $40.00 (senior)	$48.80	$60.00
Hydrotherapy 20 swims	$99.00	$116.00	$97.60	$120.00
Hydrotherapy 30 swims	$130.00	$174.00	$146.40	$180.00

[62] http://www.bbc.co.uk/news/uk-wales-south-east-wales-15245716
[63] Note: The moveable floor is a buoyant construction which can be adjusted to any desired depth by means of a hydraulic actuating system and stainless steel cables.
[64] http://www.swimmingpool-design.co.uk/swimmingpooldesign/faqs.php
[65] http://www.pinelog.co.uk/commercial-pools/faq.html
[66] http://www.hamiltonpools.co.nz/index.php?section=4
[67] http://www.clmnz.co.nz/whangarei/aquatics/hydrotherapy-pool/
[68] http://wellington.govt.nz/recreation/pools/swimming-pools/wellington-regional-aquatic-centre
[69] http://www.clmnz.co.nz/asb/contact/prices/

ACCESSIBILITY OPTIONS

MIVA DISABLED ACCESS PLATFORM LIFT

Cost: $55,000

Designed to allow all people with all levels of disabilities to access pool. The access platform can be used standing up or in a chair.

The platform uses an electrically driven motor to adjust itself to the desired pool depth. The unit can be installed alongside a new pool or can be situated in a corner of an existing pool (minimum depth of 1.5m).

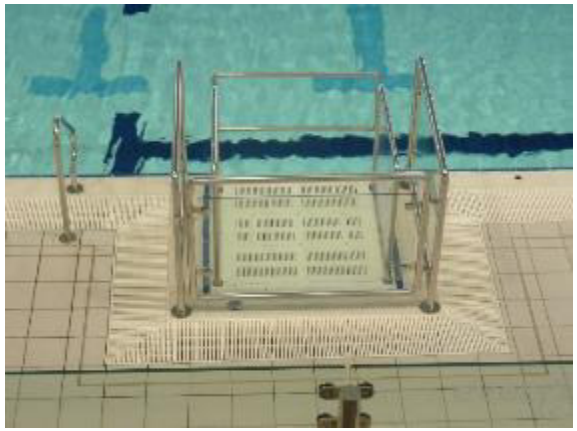


Figure 28: Disabled access platform lift[70]

INTEGRATED STAIRS

Cost: $32,000

Integrated stairs are designed to move up and down together with a moveable floor.

Figure 29: Integrated stairs[71]

REMOVABLE STAIRCASE

Cost: $15,000 (including fence)

Stainless steel adjustable stairs are designed to remain horizontal as they move up and down together with a moveable floor. They can be removed if necessary.

Figure 30: Removable staircase[72]

[70] Sourced from Variopool
[71] Sourced from Variopool
[72] Sourced from Variopool

HARD TOP CANOPY

Figure 31: Hard top canopy over swimming pool

In order to meet increasing demand for sport facilities in Hamilton, a range of options have been investigated for aquatic facilities, including installation of a hard top canopy.

Hard top canopies for outdoor sport are constructed from a polyester reinforced PVC membrane which is full recyclable, and are supported by a steel superstructure and cables. The hard top canopy enables year-round facility usage, and is a cost effective method for covering an existing outdoor facility as opposed to constructing a new indoor aquatics centre. With limited climate control it may not be suitable for learn to swim programmes or other activities requiring higher and stable temperatures.

The PVC membrane (ref: image[73]) allows sunlight through, meaning no lighting is required during the daytime. Additionally the PVC membrane has reflective qualities, which means that the requirement for lighting in the evening is 50% less than what would be required from an indoor structure of the same size

Maintenance is limited to an annual fresh water rinse of the membrane, and the lifespan of the membrane is approximately 25 years.

Table 11: Hard top PVC membrane canopy price

	Length (m)	Width (m)	Area (m²)	Cost (excl GST)
Swimming Pool (25m x 17m)	30	20	600	$330,000[74]

ADVANTAGES	DISADVANTAGES
• Low Capital Investment (from $300,000) • Low Maintenance cost (annual cleaning only) • Low level of lighting required • Long lifecycle (25 years +) • Good Acoustic Properties (limited sound from heavy rain)	• No or limited climate control capabilities

[73] http://www.imagefs.com/modern-design-and-shape-of-swimming-pool-for-the-purpose-of-enjoyment/conventional-olympic-swimming-pools-design-with-line-mark-plus-canopy-with-lamp-above/
[74] Cost includes design of canopy

OPEN AIR POOLS

Historically New Zealand has provided a range of public swimming pool facilities that have been both indoor and outdoor, or a combination of both. Currently HCC have four partner pools that are all outdoor pools, and are also aging facilities. The major disadvantage of an outdoor pool is the inability to swim all year round which means that the provision of outdoor pool facilities are now no longer as financially viable as previously thought. The case studies below have identified decreasing visitor numbers or decreased level of satisfaction levels due to challenging weather patterns, lack of facility availability and increased user expectations. To retain their patrons, facility upgrades have been undertaken with a view to accommodate a wider range of users.

TAWA POOLS, Wellington

Figure 32: Tawa Pools, Wellington[58]

WCC installed a vapour proof barrier to ensure the Tawa Pool facility remains open all year round. After 12 months of construction the roof structure was installed, vapour barrier added, windows replaced with double glazing, and pool plant was upgraded[77]. The upgrade was initially estimated at $1.6m, however due to out of scope variances (earthquake strengthening) the total cost was substantially more.

PARNELL BATHS, Auckland

Figure 33: Parnell Baths[75]

Parnell Baths were Auckland's first salt water baths and hosts the largest salt water pool in New Zealand. They were opened for the first summer season of 1914-1915. In 2002, the baths were refurbished with a cost of $4.2m. The leaking concrete pool floor was repaired and the plant and filtration systems were upgraded. A warm children's pool and spa were introduced as well as an interactive playground[78].

Facilities include 60m salt water pool and heated lido, spa pools, swim school, aqua playground, toddler's pool, café and conference room.

POINT ERIN POOLS, Auckland

Figure 34: Point Erin Pools Mayoral Tour on 21 May 2014 to Pt. Erin Pools to discuss proposed upgrade[76]

Currently Pt Erin is earmarked for a feasibility study to be undertaken and a value of $600,000 to $1.2m has been set aside for this work.

Point Erin facilities include a 33m Competition pool, dive pool, spa pool and toddler's pool.

[75] http://www.clmnz.co.nz/parnellbaths/aquatics/parnell-baths-new-zealand-landmark/
[76] http://www.pippacoom.co.nz/monthly-report/monthly-board-report-june-2014/
[77] Wellington City Council, Quarterly Report, July, August, September 2012
[78] http://www.voicematters.co.nz/wp-content/uploads/2014/09/Parnell-Baths-Paper.pdf

WATER PLAYGROUNDS

Installing unique interactive aquatic playgrounds or toys encourages children and adults to interact. The following are examples of water toys and costs that could be included in the Waterworld or Rototuna developments.

AQUADEK T410-242DMD

Cost: $181,400

For children of ages 4 – 13. This unit can be installed on spray pads without standing water or in shallow pools maximum 300mm depth.

This model provides three decks, two Level 1 at 600mm height, one Level 2 at 1200mm high. It includes three slides, a triple rail slide, two single slides as well as one aquadunker and one domed roof structure.

79

AQUABRELLA

Cost: 6ft - $10,700
8ft - $12,250

For pools to depths of 1.2m.

Mushroom shaped structure that creates a circular water curtain effect. It can be automated and sequenced if required.

80

AQUATIP

Cost: $33,100

This unit can be installed without standing water or in shallow pools with a maximum depth of 300mm.

Structure is light and wind resistant and is easy to install.

81

[79] http://www.watertoys.com/creative/creative.html
[80] http://www.watertoys.com/products/aquabrella/product.htm
[81] http://www.watertoys.com/products/aquatip/product.htm

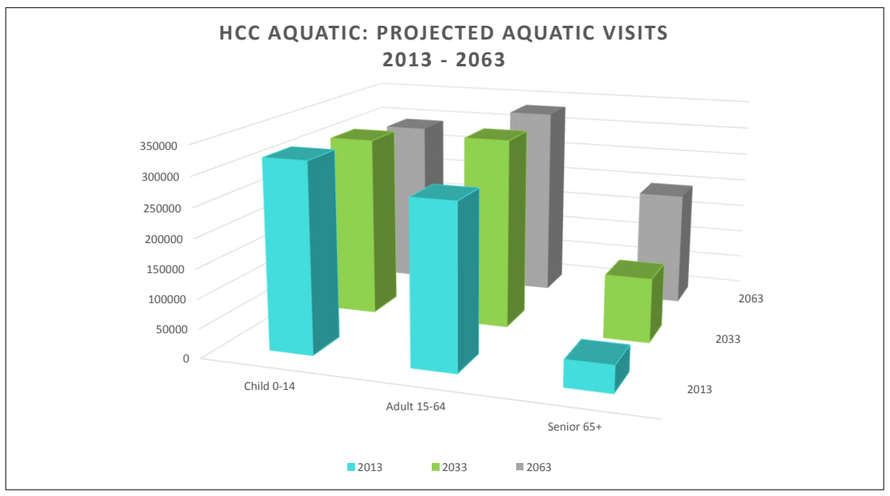
APPENDIX A – COST BENEFIT ANALYSIS

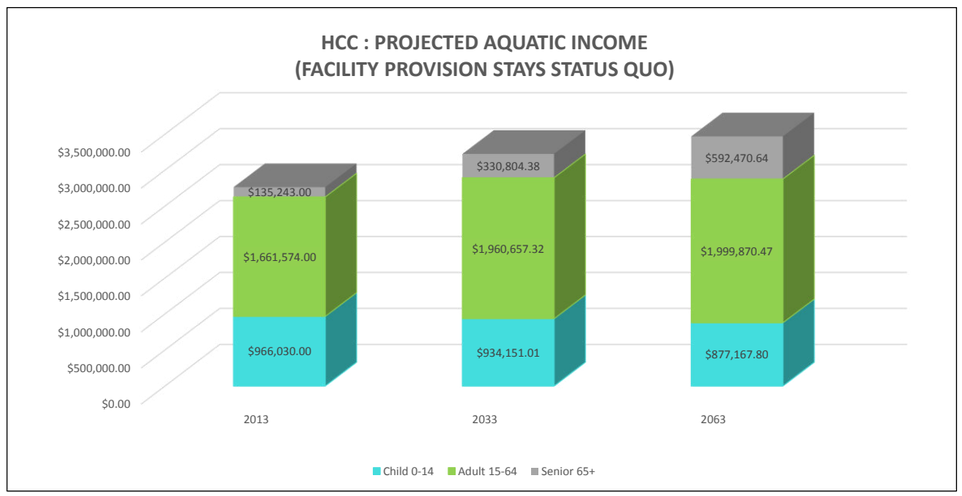
HAMILTON CITY COUNCIL: AQUATIC FACILITY COST BENEFIT ANALYSIS

Introduction
In June 2014, Opus International Consultants Ltd (Opus) was engaged by Hamilton City Council (HCC) to validate the recommendations made for the aquatic and indoor facilities in the Waikato Sports Facility Plan and provide detailed cost benefit analysis to ensure considered and sustainable investment into sport facilities are made by HCC. As a further addition to the main report, this cost benefit analysis has been undertaken to assist HCC analyse the cost of the proposed aquatic and indoor upgrades and assess the resulting benefits. Please Note: This analysis is to be read in conjunction with the 2014 Hamilton City Council Aquatic and Indoor Facility Review.

For further information please contact: Tracy Talbot - Team Leader Parks and Recreation. Opus International Consultants. M: 027 705 4807 . E: tracy.talbot@opus.co.nz

Green - meets criteria to proceed with investigation, design and construction. Amber requires further feasibility assessement to be undertaken. Red do not proceed.	Estimated Construction Cost	Additional Estimated Operational Cost	All year round provision (square metres)	Total change to all year round provision (based on current all year round 1650m2).	Additional Proposed Visitors (per annum)	Income p/a	Years to pay off capital investment (no interest / depreciation included).	Meets community needs? Casual swim, club swim, learn to swim, hydrotherapy.	Risks
2014 - 2017 Waterworld Te Rapa - Enclose Lido and Heat	$4,878,500	$252,960	800	800	74,428	289,575	16.85	Casual swim. Club swim. Learn to swim. Play	Low Risk. Existing infrastructure and HR available. Provision of this pool will alleviate 4-8pm user conflict, and increase opportunity for Learn to Swim Programme. Feasibility Report to investigate use of the indoor 25m pool and whether enclosing outdoor pool may have a negative effect on summer users. Note: As the Lido is currently open for approx. three months of the year we have allowed for existing usage, and therefore the proposed visitors (p/a) and income (p/a) figures are only 75% of the forecasted figures. This also correlates with the information provided by the HCC aquatic managment team.
2020 - 2025 Staged Design, Consent, Construction. Rototuna Aquatic Centre - Enclose and Heated. 50m swim, learn to swim, play	$15,000,000	$1,820,985	500	500	257,024	838,540	17.89	Casual swim. Club swim. Learn to swim. Hydrotherapy. Play. Fitness Centre.	Low Risk. Opportunity for partnership with Rototuna High School. Design needs to be relevant to community use (not competitive swimming), otherwise this facility may compete against Waterworld. Provision of this pool will alleviate 4-8pm user conflict, and increase opportunity for Learn to Swim Programme. Refer case study on Selwyn Aquatic Facility for more information.
2033 - 2063 Waterworld Te Rapa - Moveable Floor installed into Dive Pool	$1,000,000	Minimal increase in operational costs	345	345	28,985	100,800	9.92	Learn to swim. Casual Swim (tbc).	Medium Risk. 10m dive platform can not be used with floor. 10m platform is nearing end of life. Provision of this pool will assist in allieviating 4-8pm user conflict (dependant on whether users are happy with 21 m length), and increase opportunity for Learn to Swim Programme. Note: there is a weight limit on the moveable floor as detailed in the report. The income figures have only allowed for a learn to swim program, as casual swim usage may be limited due to the weight limitation.
2033 - 2063 Hamilton Boys' High School - 30m swim	$2,500,000	No operational cost to HCC	300	300	128,512	0	No income generated from facility	Casual swim. Club swim.	High Risk. Proposed partnership with Hamilton Boys High. User agreement must be negotiated and signed prior to funding being allocated. Pool would need to be available for community use during and after school hours. Pool may be suitable for swimming squads / clubs usage. Note: There is inadequate information available regarding this project to demonstrate that the availability for community use will be sufficient to meet demand.
Fairfield College - Enclose Pool and Heat	$1,600,000	No operational cost to HCC	442		128,512	0	No income generated from facility	Casual swim. Club swim. Learn to swim. Play	High Risk. Aging asset, high capital expense and no return on investment. Number of students at Fairfield College may decrease due to construction of Rototuna College
Municipal - Rebuild, Enclose and Heat	$8,800,000	$1,213,990	390		99,237	386,100	22.79	Casual swim. Club swim. Learn to swim	High Risk. High capital investment exceeds value the facility provides to the community.





HAMILTON CITY COUNCIL: AQUATIC FACILITY COST BENEFIT ANALYSIS

Current Hamilton City Council Aquatic Capacity (square metres)

Facility	Asset Description	Pool Length	Pool Width	Current Provision - Summer Only (m2)	Current Provision - Year round (m2)	Indoor/Outdoor	Heated/Unheated	Seasonal
Waterworld Te Rapa - HCC Facility								
	50m Pool	50	21	1050	1050	Indoor	Heated	No
	25m Pool	25	11	275	275	Indoor	Heated	No
	Lido Pool	50	16	800		Outdoor	Unheated	Yes
Gallagher Aquatic Centre - HCC Facility								
	25m Pool	25	13	325	325	Indoor	Heated	No
Waikato University Pool - HCC Partner Pool								
	50m Pool	50	15	750		Outdoors	Unheated	Yes
Fairfield College - HCC Partner Pool								
	33m Pool	34	13	442		Outdoors	Unheated	Yes
Te Rapa Primary School - HCC Partner Pool								
	25m Pool	25	10	250		Outdoor	Heated	Yes
Hillcrest Normal School - - HCC Partner Pool								
	22m Pool	22	10	220		Outdoor	Heated	Yes
TOTAL PROVISION				**4112**	**1650**			

Options to Increase HCC Aquatic Capacity Profiled Against National Aquatic Benchmark

		Projected increase (m2) if facility constructed	2015	2033	2063	No Year Advised - Facility Development is NOT Reccomended
National Aquatic Benchmark		**2455**	**2455**	**3179**	**3690**	**3690**
2015 - 2017	Enclose and Heat Waterworld Lido Pool	800	800			
2020 - 2025	Rototuna Aquatic Facility	500		500		
2033 - 2063 - if required	Moveable Floor / Waterworld	345			345	
2033 - 2063 - if required	Hamilton Boys High New Indoor Pool (25 x 12 = 300)	300			300	
No year Advised	Enclose and Heat Fairfield Pool	442				442
No year Advised	Municipal Pool	390				390
2014 HCC Provision - Year round (m2) Including new facilities.			**3255**	**3679**	**4335**	**4522**

Hamilton City Population / National Benchmark

Year	Population	Benchmark	2014 Provision	All Year Round Deficit (if provision stays status quo)	All Year Round Provision (if provision is increased)
2013	147290	2455	1650	805	3255
2033	190744	3179	1650	1529	3679
2063	221390	3690	1650	2040	4335

Sport NZ Benchmark Calculator

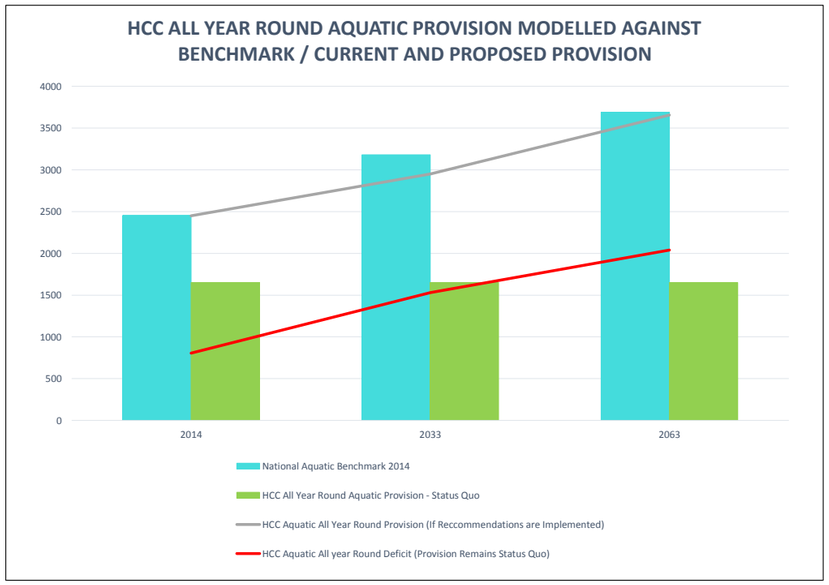
Population	147290
Pool Space (population/60m2)	60
Calculated Benchmark	2455

Type in Population to calculate Benchmark.

Benchmark Information: The Sport NZ Aquatic Benchmark is referenced from the Sport NZ National Aquatic Strategy. As HCC is over 100,000 residents, the benchmark has been modelled on provision of 1m2 of pool space for every 60 residents.

Assumptions Used for Increase in Aquatic Capacity Modelling

Enclose and Heat Waterworld Lido Pool	Calculation based on an assumption that 80% of the Lido Pool is at least 1.5m deep.
Enclose and Heat Fairfield Pool	Calculation based on an assumption that 100% of the Fairfield Pool is at least 1.5m deep.
Hamilton Boys High (HBH) New Indoor Pool	Calculation based on an assumption that the new HBH pool is same dimensions as current (and depth of pool is suitable for community use)
Rototuna Aquatic Facility	Calculation based on an assumption that 500m of pool space is at least 1.5m deep.



HAMILTON CITY COUNCIL: AQUATIC FACILITY COST BENEFIT ANALYSIS

2014 Hamilton Projected Population Reference: Jackson.N. &Cameron.M. & Cochrane.B. (2014) Review of Demographic and Labour Force Projections for the Waikato Region for the Period 2013 - 2063.					
	2013	**2033**	***2033(change)***	**2063**	***2063(change)***
Child 0-14	31184	30155	*-1029*	28309	*-1846*
Adult 15-64	99435	119812	*20377*	120051	*239*
Senior 65+	16670	40776	*24106*	73030	*32254*
Total Hamilton Population	**147289**	**190743**	***43454***	**221390**	***30647***

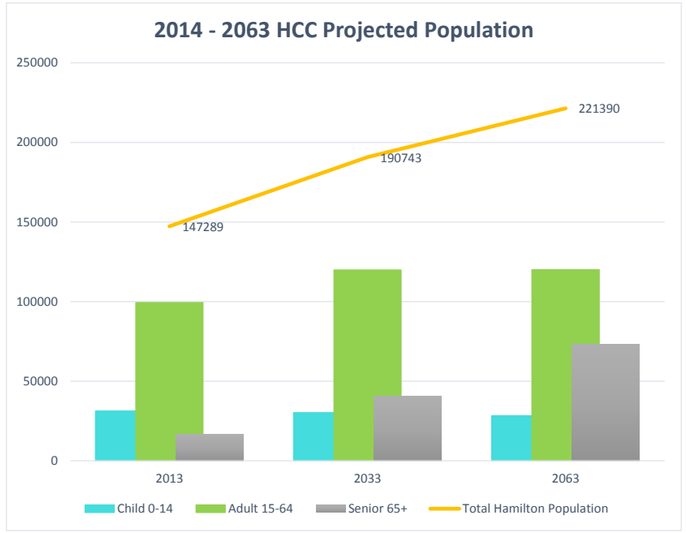
HCC Funded Pools vs LTP Target	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
LTP 2012-22 Target					*580000*	*580000*
HCC Pools	554885	552551	582616	559281	565876	577095
Partner Pools	44322	49085	50963	66222	68033	66926
Municipal Pool	30000	23667		13557		
Total Swim Numbers	**629207**	**625303**	**633579**	**639060**	**633909**	**644021**

Forecasted HCC Aquatic Visits 2013 - 2063. Modelled on Jackson et al. Population Forecasts / Total 2014 HCC Aquatic Visits (2014 Waterworld Aquatic Visitor Profile)					
	2013	**2033**	***2033(change)***	**2063**	***2063(change)***
Child 0-14	322010	311384	*-3.3%*	292389	*-6.1%*
Adult 15-64	276929	326776	*18.6%*	333312	*0.2%*
Senior 65+	45081	110268	*144.6%*	197490	*79.1%*
Total Aquatic Visits	**644020**	**748428**	***16.20%***	**823191**	***10%***

Hamilton Projected Aquatic Income. Modelled on population increase as per Jackson et al forecast, and facility provision remaining status quo. 2013 - 2063.			
	2013	**2033**	**2063**
Child 0-14	$966,030.00	$934,151.01	$877,167.80
Adult 15-64	$1,661,574.00	$1,960,657.32	$1,999,870.47
Senior 65+	$135,243.00	$330,804.38	$592,470.64
Total Income	**$2,762,847.00**	**$3,225,612.71**	**$3,469,508.91**

Addional Aquatic Income. Modelled on Facility Provision Increase of 375 square metres (25m / 6 lane) and population increase as per Jackson et al.			
	2013	**2033**	**2063**
Child 0-14	$148,855.50	$161,925.01	$161,138.16
Adult 15-64	$996,138.00	$339,271.46	$358,084.80
Senior 65+	$20,839.77	$57,830.36	$107,425.44
Total Income	**$386,100.00**	**$559,026.83**	**$626,648.40**

Assumptions:		
Learn to Swim: Number of lessons (per annum)	6 lessons per day, 200 days per annum (10 lessons per term, four terms per annum)	1200
Learn to Swim: Assumed Visits Per Pool (per annum)	1200 lessons per annum, 6 children per lesson	7200
Learn to Swim: Forecasted Revenue (per annum)	7200 visits, $14.00 per lesson	$100,800.00
Hydrotherapy: Assumed Visits Per Pool (per annum)		
Hydrotherapy: Forecasted Revenue (per annum)		
HCC Operated Pools: Visits Per Year	Waterworld and Gallagher Pools Total Visits 2013 / 2014	511,233
Partner Pools: Visits Per Year		
Child (0-14): Actual Pool Visits 2013	Hamilton Visitor Profile is modelled on 2013 Waterworld Visitor Profile. Child(0-14) = 50%	322010
Adult (15-64): Actual Pool Visits 2013	Hamilton Visitor Profile is modelled on 2013 Waterworld Visitor Profile. Adult(15-64) = 43%	276929
Senior (65+): Actual Pool Visits 2013	Hamilton Visitor Profile is modelled on 2013 Waterworld Visitor Profile. Senior(65+) = 7%	45081
Child (0-14): Projected Pool Visits 2033	Hamilton Visitor Profile is modelled on 2013 Waterworld Visitor Profile. Child(0-14) = 50%	311384
Adult (15-64): Projected Pool Visits 2033	Hamilton Visitor Profile is modelled on 2013 Waterworld Visitor Profile. Adult(15-64) = 43%	333312
Senior (65+): Projected Pool Visits 2033	Hamilton Visitor Profile is modelled on 2013 Waterworld Visitor Profile. Senior(65+) = 7%	110268
Child (0-14): Projected Pool Visits 2063	Hamilton Visitor Profile is modelled on 2013 Waterworld Visitor Profile. Child(0-14) = 50%	292389
Adult (15-64): Projected Pool Visits 2063	Hamilton Visitor Profile is modelled on 2013 Waterworld Visitor Profile. Adult(15-64) = 43%	333312
Senior (65+): Projected Pool Visits 2063	Hamilton Visitor Profile is modelled on 2013 Waterworld Visitor Profile. Senior(65+) = 7%	197490
2014 Gallagher Pool Forecasted Number of Visits:		99237
2033 Gallagher Pool Forecasted Number of Visits:	Amended to reflect population increase from 2013 to 2033 of 29.5%	128,512
2063 Gallagher Pool Forecasted Number of Visits:	Amended to reflect population increase from 2033 to 2063 of 16.1% .	149,202
2014 Gallagher Pool Operational Cost		$1,213,990.00
2014 Waterworld Aquatic Facility Operational Cost		$6,323,989.00
Fairfield College Pool - Enclose and heat	Estimated on Clive Pool, Hawkes Bay construction costs	
Rototuna Aquatic Facility	Visitor Numbers have been modelled on Selwyn Aquatic Centre (Christchurch) which has a similar floor plan as the proposed Rotouna Facility	180,000



Fee Per Person 2014	
Aquatic Entry Fee Adult (16 years+)	$6.00
Aquatic Entry Fee Child (5-15 years)	$3.00
Aquatic Entry Fee Under 5 years (Free)	$0.00
Aquatic Entry Fee Spectators	$2.00
Aquatic Entry Fee Senior (60 years +)	$3.00
Aquatic Entry Fee Disabled (Caregiver Free)	$3.00
Aquatic Entry Fee Family Day Pass (Up to 2 Adults and 4 Children)	$19.00
Speedslide (10 years and older) plus general admission (entry fee is per h	$5.00
Hydroslide (5 years and older) plus general admission	$5.00
Sauna & Steam Room (Club Aqua Members $4.00)	$6.00
Learn to Swim (25 min swim class)	$14.00
Hydrotherapy Pool	$6.00
Hydrotherapy Pool Concession Card 10 Swims	$55.50
Adult 10 Swims Concession Card	$47.00
Child and Disabled 10 Swims Concession Card	$27.00

HAMILTON CITY COUNCIL: AQUATIC FACILITY COST BENEFIT ANALYSIS

Condition c3	Property Name (info)	Type	Name (uk)	Quantity	Unit	Unit Rate	
100	Gallagher Aquatic Centre	Floor Finishes	Carpet	79	m2	100	7900
100	Gallagher Aquatic Centre	HVAC & Boiler	Coil Hot/Cold	1	ea	20000	20000
100	Gallagher Aquatic Centre	Joinery, Furniture & Fittings	Timber Bench Seat	27	m	350	9450
100	Gallagher Aquatic Centre	Roof	Fascia	77	m	50	3850
100	Gallagher Aquatic Centre	Security Systems	CCTV Monitor	1	ea	800	800
100	Waterworld Centennial Pools - Common/Externals	Electrical Services	Lamps	1	system	30000	30000
100	Waterworld Centennial Pools - Common/Externals	Electrical Services	Lamps	1	system	15000	15000
100	Waterworld Centennial Pools - Common/Externals	Electrical Services	Ring Main Unit	1	ea	30000	30000
100	Waterworld Centennial Pools - Common/Externals	External Wall	PVC Weatherboard	216	m2	120	25920
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Pump	1	ea	800	800
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Pump	1	ea	800	800
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Pump	1	ea	1200	1200
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Pump	1	ea	1600	1600
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Pump	1	ea	1500	1500
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Pump	1	ea	2000	2000
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Pump	1	ea	2000	2000
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Pump	1	ea	800	800
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Boiler	1	ea	80000	80000
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Boiler	1	ea	80000	80000
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Boiler	1	ea	100000	100000
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Boiler	1	ea	100000	100000
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Control Panel	1	ea	2500	2500
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Fire Damper	1	ea	600	600
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Fire Damper	1	ea	600	600
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Supply / Extract Fan	1	ea	1000	1000
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Supply / Extract Fan	1	ea	1000	1000
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Valve & Actuator	1	ea	4100	4100
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Valve & Actuator	1	ea	4100	4100
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Valve & Actuator	1	ea	4100	4100
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Coil Hot/Cold	1	ea	35000	35000
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Valve & Actuator	1	ea	4100	4100
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Coil Hot/Cold	1	ea	35000	35000
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Coil Hot/Cold	1	ea	2500	2500
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Filter Bank	1	ea	5000	5000
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Filter Bank	1	ea	350	350
100	Waterworld Centennial Pools - Common/Externals	Lifts & Escalators	Disability Lift	1	ea	15000	15000
100	Waterworld Centennial Pools - Common/Externals	Roof	Fibrolite Soffits	130	m2	45	5850
100	Waterworld Centennial Pools - Common/Externals	Roof	Metal Spouting	130	m	60	7800
100	Waterworld Centennial Pools - Toilet Block	Ceiling	Fibrolite	77	m2	45	3465
100	Waterworld Centennial Pools - Toilet Block	External Windows & Doors	Dr Timber Entrance	4	ea	1000	4000
100	Waterworld Centennial Pools - Toilet Block	External Windows & Doors	Ww Timber Framed	1	m2	1250	1250
100	Waterworld Centennial Pools - Toilet Block	Internal Decorative Finishes	Paint Ceiling Finish	7	m2	15	105
100	Waterworld Centennial Pools - Toilet Block	Internal Decorative Finishes	Paint Wall Finish	178	m2	17	3026
100	Waterworld Centennial Pools - Toilet Block	Roof	Colour Steel	77	m2	100	7700
100	Waterworld Centennial Pools - Toilet Block	Roof	Metal Spouting	11	m	60	660
100	Waterworld Centennial Pools - Toilet Block	Roof	Coloursteel Fascia	11	m	60	660
100	Waterworld Centennial Pools - Plant Rooms	Internal Decorative Finishes	Paint Wall Finish	539	m2	17	9163
Total							**633149**

Condition C4	Property Name (info)	Type		Quantity	Unit	Unit Rate	
100	Waterworld Centennial Pools - Common/Externals	Fire Protection & Detection	Alarm System	1	ea	20000	20000
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Fire Damper	1	ea	600	600
100	Waterworld Centennial Pools - Common/Externals	HVAC & Boiler	Fire Damper	1	ea	600	600
100	Waterworld Centennial Pools - Toilet Block	Electrical Services	Distribution Board	1	ea	1500	1500
100	Waterworld Centennial Pools - Toilet Block	Floor Finishes	Concrete	225	m2	100	22500
100	Waterworld Centennial Pools - Toilet Block	Internal Walls/Partitions	Hale Partition	24	m2	275	6600
100	Waterworld Centennial Pools - Plant Rooms	Ceiling	Metal	56	m2	90	5040
100	Waterworld Centenniel Pools - Main Pool Hall	Ceiling	Suspend (incl Frame)	3349	m2	75	251175
Total							**308015**

Condition C5	Property Name (info)	Type	Name (uk)	Quantity	Unit	Unit Rate	
100	Waterworld Centennial Pools - Common/Externals	External Wall	Weatherboard	200	m2	150	30000
100	Waterworld Centennial Pools - Common/Externals	External Windows & Doors	Dr Timber Entrance	1	ea	1000	1000
Total							**31000**