



**City of Hamilton**  
**EMERGENCY & COMMUNITY SERVICES COMMITTEE**  
**AGENDA**

**Meeting #:** 20-009  
**Date:** November 5, 2020  
**Time:** 1:30 p.m.  
**Location:** Council Chambers, Hamilton City Hall  
71 Main Street West

Tamara Bates, Legislative Coordinator (905) 546-2424 ext. 4102

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1. **CEREMONIAL ACTIVITIES**
2. **APPROVAL OF AGENDA**  
(Added Items, if applicable, will be noted with \*)
3. **DECLARATIONS OF INTEREST**
4. **APPROVAL OF MINUTES OF PREVIOUS MEETING**
  - 4.1. October 8, 2020
5. **COMMUNICATIONS**
6. **DELEGATION REQUESTS**
  - 6.1. Angela Pugliese, respecting the Crisis with Supportive Housing for those with Disabilities (for a future meeting)
  - 6.2. Francis Lao, McMaster Medical School Day of Action Committee, respecting homelessness in Hamilton (for a future meeting)
7. **CONSENT ITEMS**

7.1. All Seasons Soccer Facility Proposal (HSC20047) (City Wide) (Outstanding Business List Item)

7.2. Status and Strategy for Wild Waterworks (HSC20048) (City Wide)

**8. PUBLIC HEARINGS / DELEGATIONS**

**9. STAFF PRESENTATIONS**

**10. DISCUSSION ITEMS**

10.1. Hamilton Fire Department Service Delivery Plan (2019 - 2028) Progress Update (HSC19026(a)) (City Wide)

10.2. YWCA Seniors Program Annual Operating Grant (HSC20018) (Ward 2 and 4)

10.3. Hamilton East Kiwanis Non-Profit Homes Inc. Subsidy Transfer (HSC20032) (Ward 3)

10.4. System Replacement for Discretionary Benefits for Ontario Works, Ontario Disability Support Program and Special Supports Low Income Program (HSC20039) (City Wide)

**11. MOTIONS**

**12. NOTICES OF MOTION**

**13. GENERAL INFORMATION / OTHER BUSINESS**

13.1. Amendment to the Outstanding Business Items List

13.1.a. Item to be Removed

13.1.a.a. All Seasons Soccer Facility

Item on the OBL: 19-B

Addressed as Item 7.1 on today's agenda

**14. PRIVATE AND CONFIDENTIAL**

14.1. Closed Session Minutes - October 8, 2020

Pursuant to Section 8.1, Sub-sections (b), (e) and (f) of the City's Procedural By-law 18-270, as amended, and Section 239(2), Sub-sections (b), (e), and (f) of the Ontario Municipal Act, 2001, as amended, as the subject matter pertains to personal matters about an identifiable individual, including municipal or local board employees; litigation or potential litigation, including matters before administrative tribunals, affecting the City; and the receiving of advice that is subject to solicitor client privilege, including communications necessary for that purpose.

14.2. Dominic Agostino Riverdale Recreation Centre License Agreement (HSC20052) (Ward 5)

Pursuant to Section 8.1, Sub-sections (c) and (k) of the City's Procedural By-law 18-270, as amended, and Section 239(2), Sub-sections (c) and (k) of the Ontario Municipal Act, 2001, as amended, as the subject matter pertains to a proposed or pending acquisition or disposition of land for City purposes, and a position, plan, procedure, criteria or instruction to be applied to any negotiations carried on or to be carried on by or on behalf of the municipality or local board.

15. **ADJOURNMENT**



## **EMERGENCY & COMMUNITY SERVICES COMMITTEE MINUTES 20-008**

1:30 p.m.

Thursday, October 8, 2020

Council Chambers

Hamilton City Hall

71 Main Street West

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**Present:** Councillors N. Nann (Vice-Chair), B. Clark T. Jackson, and S. Merulla

**Regrets:** Councillors E. Pauls and T. Whitehead – Personal

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### **THE FOLLOWING ITEMS WERE REFERRED TO COUNCIL FOR CONSIDERATION:**

**1. 2020 Arena Opening Plan (HSC20031(a)) (City Wide) (Item 10.1)**

**(Clark/Jackson)**

That Report HSC20031(a), respecting 2020 Arena Opening Plan, be received.

**Result: Motion CARRIED by a vote of 4 to 0, as follows:**

YES – Vice-Chair - Ward 3 Councillor Nrinder Nann

YES - Ward 4 Councillor Sam Merulla

YES - Ward 6 Councillor Tom Jackson

NOT PRESENT - Ward 7 Councillor Esther Pauls

NOT PRESENT - Ward 14 Councillor Terry Whitehead

YES - Ward 9 Councillor Brad Clark

**2. Residential Care Facility Liaison Update (HSC20040) (City Wide) (Item 10.2)**

**(Merulla/Clark)**

That Report HSC20040, respecting Residential Care Facilities Update, be received.

**Result: Motion CARRIED by a vote of 4 to 0, as follows:**

YES – Vice-Chair - Ward 3 Councillor Nrinder Nann

YES - Ward 4 Councillor Sam Merulla

YES - Ward 6 Councillor Tom Jackson

NOT PRESENT - Ward 7 Councillor Esther Pauls  
NOT PRESENT - Ward 14 Councillor Terry Whitehead  
YES - Ward 9 Councillor Brad Clark

**3. Long Term Care Inspection Report - Wentworth Lodge (HSC20043) (Ward 13) (Item 10.3)**

**(Jackson/Merulla)**

That Report HSC20043, respecting Long Term Care Inspection Report - Wentworth Lodge, be received.

**Result: Motion CARRIED by a vote of 4 to 0, as follows:**

YES – Vice-Chair - Ward 3 Councillor Nrinder Nann  
YES - Ward 4 Councillor Sam Merulla  
YES - Ward 6 Councillor Tom Jackson  
NOT PRESENT - Ward 7 Councillor Esther Pauls  
NOT PRESENT - Ward 14 Councillor Terry Whitehead  
YES - Ward 9 Councillor Brad Clark

**4. Long Term Care Home Incident Investigation Report (LS20028/HSC20049) (City Wide) (Added Item 14.1)**

**(Jackson/Clark)**

That Report LS20028/HSC20049, respecting Long Term Care Investigation Report, be received and remain confidential.

**Result: Motion CARRIED by a vote of 4 to 0, as follows:**

YES – Vice-Chair - Ward 3 Councillor Nrinder Nann  
YES - Ward 4 Councillor Sam Merulla  
YES - Ward 6 Councillor Tom Jackson  
NOT PRESENT - Ward 7 Councillor Esther Pauls  
NOT PRESENT - Ward 14 Councillor Terry Whitehead  
YES - Ward 9 Councillor Brad Clark

**FOR INFORMATION:**

**(a) APPROVAL OF AGENDA (Item 2)**

The Committee Clerk advised of the following changes to the agenda:

**14. PRIVATE AND CONFIDENTIAL (Item 14.1)**

14.1 Long Term Care Home Incident Investigation Report  
(LS20028/HSC20049) (City Wide)

**(Clark/Merulla)**

That the agenda for the October 8, 2020 Emergency and Community Services Committee meeting be approved, as amended.

**Result: Motion CARRIED by a vote of 4 to 0, as follows:**

YES – Vice-Chair - Ward 3 Councillor Nrinder Nann  
 YES - Ward 4 Councillor Sam Merulla  
 YES - Ward 6 Councillor Tom Jackson  
 NOT PRESENT - Ward 7 Councillor Esther Pauls  
 NOT PRESENT - Ward 14 Councillor Terry Whitehead  
 YES - Ward 9 Councillor Brad Clark

**(b) DECLARATIONS OF INTEREST (Item 3)**

Councillor Merulla declared an interest to Item 5.1, correspondence from Katie Sullivan, respecting Support ACORN's Defending Our Homes campaign, which relates to rental properties, as he is a landlord.

Councillor Merulla declared an interest to Item 8.1, the Delegation from Bryan Hayes, respecting reno victions and tenant harassment in Hamilton, which relates to rental properties, as he is a landlord.

**(c) APPROVAL OF MINUTES OF PREVIOUS MEETING (Item 4)**

**(i) September 24, 2020 (Item 4.1)**

**(Jackson/Merulla)**

That the Minutes of the September 24, 2020 meeting of the Emergency and Community Services Committee be approved, as presented.

**Result: Motion CARRIED by a vote of 4 to 0, as follows:**

YES – Vice-Chair - Ward 3 Councillor Nrinder Nann  
 YES - Ward 4 Councillor Sam Merulla  
 YES - Ward 6 Councillor Tom Jackson  
 NOT PRESENT - Ward 7 Councillor Esther Pauls  
 NOT PRESENT - Ward 14 Councillor Terry Whitehead  
 YES - Ward 9 Councillor Brad Clark

**(d) COMMUNICATIONS (Item 5)**

**(Clark/Jackson)**

That the correspondence from Katie Sullivan, respecting Support ACORN's Defending Our Homes campaign (Item 5.1), be received.

**Result: Motion CARRIED by a vote of 4 to 0, as follows:**

YES – Vice-Chair - Ward 3 Councillor Nrinder Nann  
 CONFLICT - Ward 4 Councillor Sam Merulla  
 YES - Ward 6 Councillor Tom Jackson  
 NOT PRESENT - Ward 7 Councillor Esther Pauls  
 NOT PRESENT - Ward 14 Councillor Terry Whitehead  
 YES - Ward 9 Councillor Brad Clark

**(e) PUBLIC HEARINGS/DELEGATIONS (Item 8)**

Bryan Hayes addressed the Committee respecting reno victions and tenant harassment in Hamilton.

**(Jackson/Clark)**

That the Delegation from Bryan Hayes, respecting reno victions and tenant harassment in Hamilton (Item 8.1), be received.

**Result: Motion CARRIED by a vote of 4 to 0, as follows:**

YES – Vice-Chair - Ward 3 Councillor Nrinder Nann  
 CONFLICT - Ward 4 Councillor Sam Merulla  
 YES - Ward 6 Councillor Tom Jackson  
 NOT PRESENT - Ward 7 Councillor Esther Pauls  
 NOT PRESENT - Ward 14 Councillor Terry Whitehead  
 YES - Ward 9 Councillor Brad Clark

**(f) PRIVATE AND CONFIDENTIAL (Item 14)**

**(Clark/Jackson)**

That Emergency and Community Services Committee move into Closed Session respecting Item 14.1, pursuant to Section 8.1, Sub-sections (b), (e) and (f) of the City's Procedural By-law 18-270, as amended, and Section 239(2), Sub-sections (b), (e), and (f) of the Ontario Municipal Act, 2001, as amended, as the subject matter pertains to personal matters about an identifiable individual, including municipal or local board employees; litigation or potential litigation, including matters before administrative tribunals, affecting the City; and the receiving of advice that is subject to solicitor client privilege, including communications necessary for that purpose.

**Result: Motion CARRIED by a vote of 4 to 0, as follows:**

YES – Vice-Chair - Ward 3 Councillor Nrinder Nann  
 YES - Ward 4 Councillor Sam Merulla  
 YES - Ward 6 Councillor Tom Jackson

**Emergency & Community Services Committee  
Minutes 20-008**

**October 8, 2020  
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NOT PRESENT - Ward 7 Councillor Esther Pauls  
NOT PRESENT - Ward 14 Councillor Terry Whitehead  
YES - Ward 9 Councillor Brad Clark

**(i) Long Term Care Home Incident Investigation Report  
(LS20028/HSC20049) (City Wide)**

For disposition of this matter, refer to Item 4.

**(g) ADJOURNMENT (Item 15)**

**(Merulla/Jackson)**

That there being no further business, the Emergency and Community Services Committee be adjourned at 2:24 p.m.

**Result: Motion CARRIED by a vote of 4 to 0, as follows:**

YES – Vice-Chair - Ward 3 Councillor Nrinder Nann  
YES - Ward 4 Councillor Sam Merulla  
YES - Ward 6 Councillor Tom Jackson  
NOT PRESENT - Ward 7 Councillor Esther Pauls  
NOT PRESENT - Ward 14 Councillor Terry Whitehead  
YES - Ward 9 Councillor Brad Clark

Respectfully submitted,

Councillor N. Nann  
Vice-Chair, Emergency and Community  
Services Committee

Tamara Bates  
Legislative Coordinator  
Office of the City Clerk



**6.1**

**Request to Speak to Committee of Council**

Submitted on Friday, October 16, 2020 - 10:45 am

==Committee Requested==

**Committee:** Emergency & Community Services Committee

==Requestor Information==

**Name of Individual:** Angela Pugliese

**Name of Organization:**

**Contact Number:**

**Email Address:**

**Mailing Address:**

**Reason(s) for delegation request:** I wish to speak to the Emergency Committee in regards to the Crisis with Supportive Housing for those with Disabilities

**Will you be requesting funds from the City?** No

**Will you be submitting a formal presentation?** Yes

**6.2****Request to Speak to Committee of Council**

Submitted on Sunday, October 18, 2020 - 8:21 pm

==Committee Requested==

**Committee:** Emergency & Community Services Committee

==Requestor Information==

**Name of Individual:** Francis Lao

**Name of Organization:** McMaster Medical School Day of Action Committee

**Contact Number:**

**Email Address:**

**Mailing Address:**

1280 Main St W  
Hamilton, ON L8S 4L8

**Reason(s) for delegation request:**

Hello everyone,

My name is Francis Lao and I am a second-year medical student at McMaster University and a representative of the McMaster University Medical School Day of Action Committee. We are a group of McMaster University medical students who have come together to lobby on behalf of the Hamilton community.

This is the third year that medical students from McMaster have created a committee to discuss pertinent issues in the healthcare system that are impacting the Hamilton community from a medical learner lens. We hope to advocate for improved care, services, and policy through a holistic approach and understanding of the current needs of our community.

## 6.2

This year, our students are looking forward to advocating on the topic of homelessness during the week of Oct 26st-30th, 2020. We believe that a lot of the issues that individuals experiencing homelessness face have been recently exacerbated by the current pandemic. As future healthcare professionals, we are aware of both short and long term impacts of homelessness on an individuals' health and well-being. We want to ensure that our community supports people experiencing homelessness to the best of our ability.

We would greatly appreciate the opportunity to speak at the Emergency and Community Services committee to present our asks below:

1. Collaborate with public health, healthcare organizations, and shelters to integrate and expand access to harm reduction resources and supervised consumption across the shelter system.
2. Cease the criminalization of activities associated with homelessness.
  - a. Activities include many of those defined under the Public Nuisance bylaw (i.e loitering, public urination, public defecation, public intoxication) as well as sleeping rough and forming and living in encampments.
  - b. Appropriate responses to these activities should involve individuals trained to interact with and support underserved populations, such as community housing workers, health workers, and mental health workers in acute crises.
3. Acknowledge that public washrooms and hygiene facilities are essential services.

## 6.2

- a. Increase availability of and access to public hygiene facilities.

Thank you so much for your time and I'm looking forward to presenting at your next meeting!

Francis

**Will you be requesting funds from the City? No**

**Will you be submitting a formal presentation? Yes**



## INFORMATION REPORT

<b>TO:</b>	Chair and Members Emergency and Community Services Committee
<b>COMMITTEE DATE:</b>	November 5, 2020
<b>SUBJECT/REPORT NO:</b>	All Seasons Soccer Facility Proposal (HSC20047) (City Wide) <b>(Outstanding Business List Item)</b>
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Romas Keliacius (905) 546-2424 Ext. 4722 Dawn Walton (905) 546-2424 Ext. 4755
<b>SUBMITTED BY:</b>	Chris Herstek Director, Recreation Healthy and Safe Communities Department
<b>SIGNATURE:</b>	

### COUNCIL DIRECTION

At its meeting of January 17, 2019, the Emergency and Community Services Committee directed:

- (a) That staff be directed to consult with all soccer leagues within the City of Hamilton to establish the impact of the closure of Players Paradise Sports Complex on their respective operations and assess the need for a new soccer dome/multi-use facility dome;
- (b) That staff be directed to review the business plan of the Mount Hamilton Youth Soccer Club with respect to a soccer dome/multi-use facility dome as well as seek feedback from all soccer leagues within the City of Hamilton on the proposal; and,
- (c) That staff be directed to conduct a feasibility study into the development of an all seasons soccer dome/multi-use facility dome, taking into consideration both the business plan proposed by the Mount Hamilton Youth Soccer Club along with input from other soccer leagues within the

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**SUBJECT: All Seasons Soccer Facility Proposal (HSC20047) (City Wide) - Page 2 of 5**

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City of Hamilton, and report back to the Healthy and Safe Communities Committee.

**INFORMATION**

The Mount Hamilton Youth Soccer Club (MHYSC) represents over 2,500 members and their families throughout the City of Hamilton concentrated within Ward 6 and Ward 7. MHYSC is proposing a Private-Public Partnership with the City of Hamilton to re-develop, construct and operate an indoor sports facility, turf field and grass fields to be located at the Billy Sherring Park in Hamilton.

The MHYSC is proposing a 18,500 sq. ft. indoor soccer facility that will have a 9v9 soccer field, a futsal court, bocce courts and outdoor artificial turf. The proposal identified several benefits that such a facility would bring to the City of Hamilton. These include:

- Adding to the supply of indoor turf. The closing of Players Paradise in 2018 limited access and increased cost.
- Opportunity to offer soccer programs in winter months.
- Would attract tournaments such as Golden Horseshoe Athletic Conference (GHAC), Ontario Federation of School Athletic Associations (OFSAA), and other like sized events.

However, this proposal was submitted under different economic circumstances. On September 28, 2020, Recreation staff received email correspondence from MHYSC representatives requesting that the proposed project, as submitted for feasibility review, be delayed. Given the impacts of COVID-19 on the sport community, the MHYSC executives have planned to revisit their capacity to proceed with this project.

City staff had already completed analysis on the proposal and that has been included below. This information will help both MHYSC and the City of Hamilton if the proposal is resubmitted at any point in the future.

**Proposal Overview**

According to the proposal, the 18,500 sq. ft. facility is estimated to cost \$8.85 M to construct. Table 1 breaks down the facility and hypothetical funding allocation.

Table 1 – Proposal Funding Allocation

<b>Funding Source</b>	<b>\$</b>
MHYSC	\$500,000
Gifts	\$1,000,000
Grants, Sponsorship and Fundraising	\$850,000
Financing	\$6,500,000
<b>Total</b>	<b>\$8,850,000</b>

**SUBJECT: All Seasons Soccer Facility Proposal (HSC20047) (City Wide) - Page 3 of 5**

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The proposal is asking the City of Hamilton to guarantee or co-sign a mortgage with the selected financial institution in the amount of \$6.5 M and provide a long-term lease for Billy Sherring Park.

Staff estimated that the value “as is” of the proposed parkland would be \$400 K with annual rent of \$20-25 K. The estimated market value (highest and best use) would be \$17.5 M (this is essentially the cost of replacing lost parkland) with annual rent of \$1.1 M.

Co-signing a loan is an obligation the City is responsible for, and if the company defaulted the City would have to have the means to cover the obligation, so it's part of the overall debt level for credit rating purposes.

#### Staff Review

Upon receiving the original proposal from MHYSC, City of Hamilton staff reviewed the proposal and provided comments for consideration.

#### Pros

- The Indoor Study (2008) recommended that the City should assist community organizations in building the necessary capacity to fulfil the City's mandate in an efficient, effective, fiscally responsible and responsive manner. This would be facilitated through a variety of means, including community development initiatives and partnerships with public, not-for-profit, schools, and/or private sector interests;
- The proposed facility would fill a sport tourism gap in the City;
- Potential synergies with other City initiatives and planned capital investments; and,
- Removing the maintenance from the park would save \$5,000 annually.

#### Cons

- Players Paradise has since reopened adding the supply of indoor turf back into the market reducing the pressure for an additional facility;
- The City is undersupplied by two A-rated municipal community centres, but since this proposal does not have a pool or multi-purpose spaces it would not meet the identified need or geographic location;
- Portfolio Management Committee was not supportive of the proposed repurposing of the park. Most of the resistance was related to the impact of the proposed use on the broader functioning of the park for community purposes versus what is largely perceived as a private use and control. Because of its impact on the provision of parkland and a potential change in service levels

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**SUBJECT: All Seasons Soccer Facility Proposal (HSC20047) (City Wide) - Page 4 of 5**

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within that community, the outcome of such a change in use may be the requirement to acquire additional parkland;

- Capital budget for this project seems significantly low. Budget is missing contingency, inflation, tax, utility upgrade, permits, and minimal budget for soft costs. Realistic budget based on \$250 per sq. ft. would put a more accurate estimate at \$23 M. This is in line with case studies from other municipalities.
- Concerns with the ongoing public access to the existing spray pad, building, and playground and pressure on parking;
- This would be a for-profit corporation, which under O. Reg. 599/06 Municipal Services Corporations, and as such a partnership would not be permitted. Even if the City could incorporate with the soccer club, giving this new corporation a contract for operating the facility could be considered a form of bonusing that may not be exempt under the regulations;
- The capacity of MHYSC as a facility operator has not been vetted; and,
- If it is determined that there is a legitimate need for such a facility offered by way of an unsolicited proposal, then an acquisition process shall be conducted in accordance with the Procurement Policy.

### Survey Results

City Staff conducted two online surveys from Feb 14, 2020 to March 7, 2020 to explore the impact of the Players Paradise closure on the supply of indoor facilities and overall need and usage of such facilities.

#### Hamilton & District Soccer Association Members Survey (498 responses)

- Received responses from all 20 associations. 80% of the respondents are athletes/guardians and 79% identify with youths.
- Only 12% of respondents do not use an indoor soccer facility (artificial or gym), with the majority (81%) using an artificial turf facility.
- 52% of respondents have been achieving adequate space at indoor facilities.
- 47% identified needing more time because there is a shortage of indoor time available with the greatest shortage (77%) being weeknights (5 p.m. – 11 p.m.).
- The greatest need for an indoor facility is for team training opportunities, followed by skill development. On a smaller scale it would be useful for competitions.
- 83% of respondents feel that additional year-round indoor soccer facilities are needed to accommodate training and development opportunities. 41% think this need is critical.

#### Association Staff Survey (24 responses)

- Received responses from 10 of the 20 associations (50%). 67% of the respondents accommodate both adult and youths.
- There is an equal split between gyms and artificial turf. Each category had 12 responses.

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**SUBJECT: All Seasons Soccer Facility Proposal (HSC20047) (City Wide) - Page 5 of 5**

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- 54% of respondents have been achieving adequate space at indoor facilities.
- 56% identified needing more time because their organization is growing.
- 69% of respondents think that there is a shortage of space on weeknights (5 p.m. – 11 p.m.)
- The greatest need for an indoor facility is for team training opportunities, followed by skill development. On a smaller scale it would be useful for competitions.
- 88% of respondents feel that additional year-round indoor soccer facilities are needed to accommodate training and development opportunities. 44% think this need is critical.

**Next Steps**

Although the proposal has been delayed, a complete needs analysis for indoor soccer facilities will be included in the Recreation Master Plan Study to be completed in 2021. This analysis will identify if such a facility is needed and where it would be best located in case this proposal, or others like it are brought forward in the future.

**APPENDICES AND SCHEDULES ATTACHED**

None



## INFORMATION REPORT

<b>TO:</b>	Chair and Members Emergency and Community Services Committee
<b>COMMITTEE DATE:</b>	November 5, 2020
<b>SUBJECT/REPORT NO:</b>	Status and Strategy for Wild Waterworks (HSC20048) (City Wide)
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Romas Keliacius (905) 546-2424 Ext. 4722
<b>SUBMITTED BY:</b>	Chris Herstek Director, Recreation Healthy and Safe Communities Department
<b>SIGNATURE:</b>	

### COUNCIL DIRECTION

At its meeting of August 11, 2016, the Public Works Committee directed: “That the General Manager of Public Works be directed to develop a capital program to identify life-cycle replacement requirements and an accessibility strategy for current park assets at Confederation Beach Park and Wild Waterworks, and that a funding strategy for the program be identified by Corporate Finance.”

### INFORMATION

Wild Waterworks at Confederation Beach Park is a family, outdoor seasonal water park located on Lake Ontario between the Queen Elizabeth Way and Lake Ontario in the City of Hamilton. The 4.9-hectare (12.1 acre) water park is owned by the City of Hamilton and managed by the Hamilton Conservation Authority. The water park opened in 1983 as a recreation and entertainment resource for the public. At the time of its opening 35 years ago, water parks were still relatively new and consequently, many of the features that we know and enjoy today, either did not exist, or were just developing. At the time, Wild Waterworks was a new and innovative facility, well ahead of its time and offered a great family experience. Over the years Wild Waterworks has become a much-loved, family Regional water park. Attendance over the past 35 years has averaged

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**SUBJECT: Status and Strategy for Wild Waterworks (HSC20048) (City Wide) -  
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approximately 110,000 visitors annually. Based on past and current revenue, operations costs, the park breaks even operationally at approximately 100,000 guests per year.

An important issue is the age of the facility and specifically, the mechanical components and individual water attractions. Each of these components have a limited life expectancy, many have already exceeded that service life. These components require an increasing amount of capital annually to maintain the facility in operating condition until it no longer proves to be economical to operate. A better understanding of lifecycle and replacement costs were required to make better informed decisions and plan for capital expenditures.

### Study Background

In 2016, Landscape Architectural Services staff presented the Confederation Beach Park Master Plan and implementation strategy, through Report PW11005(d), both of which were accepted by Council. The Master Plan included Wild Waterworks but did not speak to the future of the facility. As part of the implementation strategy for the Master Plan, a separate Wild Waterworks Master Plan Study was approved.

In August 2018, Forrec Ltd. was hired by the City to complete a master plan study, originally project managed by Policy and Programs staff (a group within the Roads Division). In December 2018, a draft masterplan was presented to internal staff stakeholders and Hamilton Conservation Authority staff. Comments were received for edits to the document, to prepare for finalizing and presenting to Council for approval and direction. Early in 2019, Policy and Programs staff were reorganized and dissolved, and their revised mandate no longer allowed them to continue leading this project. The project was put on hold until a new lead could be determined.

In June 2019, the project transferred from the Public Works Department to the Recreation Division in the Healthy and Safe Communities Department. The transfer was deemed appropriate due to Recreation's experience in managing recreational facilities with paid entry, as well as working with user groups to run facilities (such as tennis clubs, lawn bowling clubs, etc.). The final report was completed in May 2020 and is attached as 'Appendix A' to Report HSC20048.

### Overview of Master Plan

This Master Plan Study investigated the feasibility and economic viability of Wild Waterworks based on varied levels of investment; including no investment and replacing rides/attractions as the current attractions approach their end of life. A detailed Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis of existing facilities was carried out for the overall park which guided a range of potential solutions to resolve known or newly identified issues. Four options were objectively considered

**SUBJECT: Status and Strategy for Wild Waterworks (HSC20048) (City Wide) -  
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for the water park to provide a comprehensive range of solutions for consideration. This review of options assessed the existing Wild Waterworks park and provided recommendations for improvements and redevelopment. The viability of the waterpark was considered together with opportunities for improvement and methods of increasing annual attendance at the water park.

Most of the existing facilities and infrastructure are dated and at a point in their life cycle where they require major refurbishment or replacement. Others are in reasonable repair and require only minor modifications. Many of the weaknesses identified throughout the water park are largely the result of the age of the facility infrastructure and the pressures current attendance place on aging, end of life facilities. All building facilities, while generally structurally sound, are significantly undersized to meet the current attendance levels and are poorly distributed throughout the site. This creates circulation congestion issues throughout, particularly at the entrance area, negative guest experience and the loss of potential revenue. Outdated Point of Sale (POS) systems compound these challenges by reducing the efficiency with which staff can serve guests' needs. The attractions and infrastructure are reaching, at the end of, or far past a reasonable lifespan and are having difficulty functioning under the stress of peak attendance days.

Most of the threats identified in the analysis relate directly to the insufficient size of existing building or site facilities, rides/attractions and the physical degradation of attractions and their corresponding mechanical systems. These systems, rides/attractions and facilities will continue downward on the degradation cycle as most have far exceeded a reasonable operating life cycle. Overall, there are many challenges the park faces including a number of infrastructure issues which must be addressed as soon as possible.

The four options considered in the Master Plan are as follows:

- Option 1 – Do Nothing (\$5 M CDN.)  
Annual attendance falls to 90,000 in 5 years.  
Do nothing, consider the probable remaining life cycle of all facilities. Based on the market and feasibility analysis and estimated attendance, the overall size of Wild Waterworks would remain unchanged. Attendance would gradually decrease in the next 2-5 years falling well below 100,000. As infrastructure, rides and attractions continue to age and are taken out of service, it is expected that the park will become increasingly expensive to operate and would eventually be closed.
- Option 2 - Replace Like for Like (\$24.92 M CDN.)  
Annual attendance increases to 120,000 in 5 years.  
Replacement of existing rides, attractions and facilities with same/similar. Based on the market and feasibility analysis and estimated attendance, the overall size

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OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

**SUBJECT: Status and Strategy for Wild Waterworks (HSC20048) (City Wide) -  
Page 4 of 4**

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of Wild Waterworks would remain unchanged. Attendance will slowly increase over the average current attendance, increasing gradually over the next 2-5 years. The size of the water park will remain unchanged for this option as the current park area can generally accommodate the attendance with new building facilities and new rides.

- Option 3 – Modest Enhancements (\$40.14 M CDN.)  
Annual attendance increases to 145,000 in 7 years.  
Replacement of some rides, attractions, dryland climber, sheltered recreation area for adverse rain conditions, improved ticketing systems and Radio-frequency identification (RFID) wristbands. The water park size would need to be enlarged to accommodate increased annual (daily) attendance, as well as provide new rides and attractions for guests. Attendance will increase initially and stabilize after year 3 as a stabilized attendance level is achieved. This will require additional park area and an increased service level of rides and attractions and expanded parking facilities.
- Option 4 – New Design, New Program (\$61.12 M CDN.)  
Annual attendance increases to 185,000 in 7 years.  
New design, rides and attractions and facilities to meet future guest needs and attendance. The water park size would need to be enlarged to accommodate increased annual (daily) attendance, as well as provide new rides and attractions for guests. Attendance will increase steadily over the next 5-8 years until a new stabilized attendance level is achieved. This will require additional park area and an increased service level of rides and attractions and expanded parking facilities.

The Master Plan Study recommends Option 3 – Modest Enhancements as it is considered the most financially viable.

#### Next Steps

Staff will report back to Committee with recommendations on the Master Plans preferred option. This analysis will be done working with Financial Planning, Administration and Policy Division (Corporate Services) and Strategic Planning and Capital Compliance Division (Public Works) to determine the financial and timing implications of the preferred option. This recommendation will be put forward to be included for consideration as part of the 2022 Capital Budget Process.

#### **APPENDICES AND SCHEDULES ATTACHED**

Appendix “A” to Report HSC20048:            Master Plan Study – May 2020 – Wild  
Waterworks at Confederation Beach Par



**MASTER PLAN STUDY - MAY 2020**

# **WILD WATERWORKS AT CONFEDERATION BEACH PARK HAMILTON, ONTARIO**

**CITY OF HAMILTON PUBLIC WORKS DEPARTMENT,  
HEALTHY & SAFE COMMUNITIES**

BY: FORREC LTD. | CBRE | CLOWARD H2O



Hamilton

**FORREC**



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**Master Plan Study Wild Waterworks at Confederation Beach Park PROJECT #18-185**

May 4th, 2020

Dear Romas,

FORREC is pleased to submit our FINAL report for the Master Plan Study of Wild Waterworks at Confederation Beach Park.

Our report follows the agreed Scope of Work and provides you with an objective evaluation and analysis of existing conditions, options for programming and redevelopment at four levels.

In addition to the work completed by the FORREC team, Cloward H2O Aquatic Engineers have reviewed existing aquatic facilities and have provided detailed recommendations. Their findings are in the report appendices.

CBRE have provided a Market and Financial Analysis Valuation and Advisory Services for the water park which we have utilized to help inform reinvestment levels for your consideration. Their findings are in the report appendices.

Our report provides you with an evaluation and analysis of the existing parkland, vehicular movements (bus/car parking), required for Wild Waterworks. We have also provided requirements for food and beverage as well as entertainment facilities to improve the water park and dry land recreation extending the seasonal use of the park.

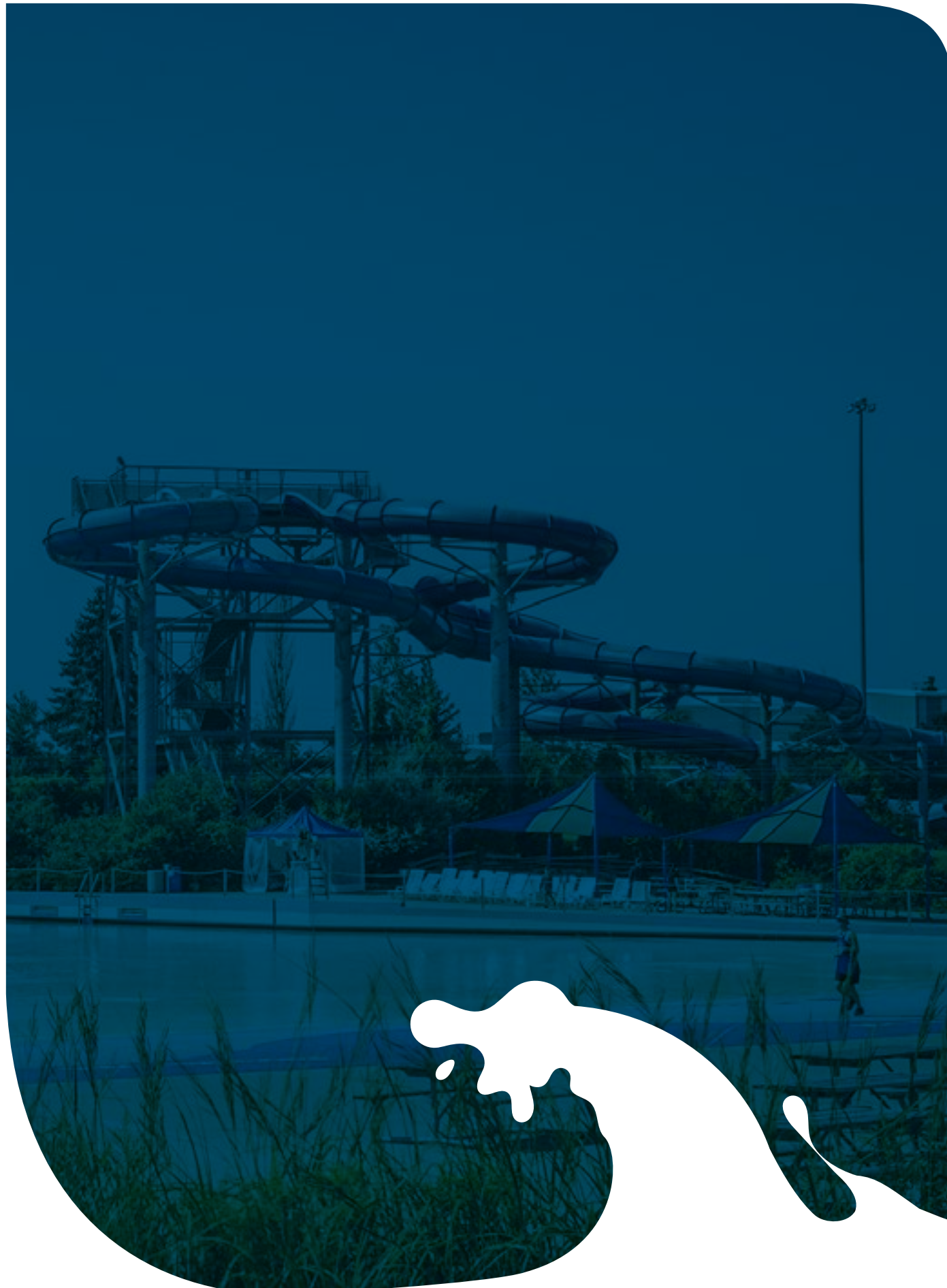
Please feel free to contact me directly to respond to any questions you may have on our report.

Yours truly,

Glenn A. O'Connor, OALA, FCSLA, ASLA  
Senior Director Water Parks, FORREC Ltd.

cc.

Scott Torrance, Practice Leader, Landscape Architecture Studio  
Matthew Dawson, Senior Director  
Steven C Rhys, Executive Vice President





# 1 EXECUTIVE SUMMARY

## 1 EXECUTIVE SUMMARY

### 1.1 OVERVIEW

Wild Waterworks at Confederation Beach Park, is a family, outdoor seasonal water park located on Lake Ontario between the Queen Elizabeth Way and Lake Ontario in the City of Hamilton.

The 4.9hectare (12.1 acre) water park is owned by the City of Hamilton and managed by the Hamilton Conservation Authority. The water park is a recreation and entertainment resource for the public that opened in 1983.

At the time of it's opening 35 years ago, water parks were still relatively new in the market, consequently many of the features that we know and enjoy today, either did not exist, or were just developing. At the time, Wild Waterworks was a new and innovative facility, well ahead of its time and offered a great family experience. Over the years Wild Waterworks has become a much -loved, family Regional water park. Guest expectations have evolved significantly since the park opened in 1983. Unfortunately, given the age and condition of the rides/attractions and guest areas, the current guest experience is well below the expectations of today's guest and the market in general.

*The issue can be summarized as "The guest gets what they pay for and paid for what they got".*

In other words, the cost to attend is relatively low and so is the entertainment experience. An important issue is the age of the facility and specifically, the mechanical components and individual water attractions. Each of these components have a limited life expectancy, many have already exceeded that service life. These components require an increasing amount of capital annually to maintain the facility in operating condition until it no longer proves to be economical to operate. A better understanding of lifecycle and replacement costs are required to make better informed decisions and plan for capital expenditures. This study addresses this issue and provides four (4) options for courses of action. The proposed enhancements to the water park are intended to address this situation and enhance guest experience and increase overall annual attendance.

### 1.2 MASTER PLAN STUDY

This Master Plan Study investigated the feasibility and economic viability of Wild Waterworks based on varied levels of investment; including no investment and replacing rides/attractions as the current attractions approach their end of life.

A detailed SWOT analysis of existing facilities was carried out for the overall park which guided a range of potential solutions to resolve known or newly identified issues.

Four (4) options were objectively considered for the water park to provide a comprehensive range of solutions for consideration by Committee and ultimately, Council of the City of Hamilton. This review of options assessed the existing Wild Waterworks Park and provided recommendations for improvements and redevelopment. The viability of the waterpark was considered together with opportunities for improvement and methods of increasing annual attendance at the waterpark.

The options considered can be summarized as follows:

- 1 **Do Nothing:**  
Do nothing, consider the probable remaining life cycle of all facilities.
- 2 **Replace Like for Like:**  
Replacement of existing rides, attractions, and facilities with same/similar.
- 3 **Modest Enhancements:**  
Replacement of rides and attractions with the addition of new dry/wet attractions, and improved operational systems
- 4 **New Design:**  
New design, rides and attractions, and facilities to meet future guest needs.

To assist in objectively evaluating these four options, an updated Market and Financial Analysis was completed, as well as a review of existing Aquatic systems considering current condition and remaining service life. This information provided much needed background information for decision making and analysis purposes. Based on this information, redevelopment options were considered including a range of warranted investment levels which were tested by the feasibility consultant. To meet a range of potential attendance levels, the Concept plan options, and programming were refined to suit the warranted investment levels as supported by projected attendance. Capital investment options for revitalization were considered based on the **Market and Financial Analysis of Wild Waterworks, included in Appendix 1** of this report.

The four options are presented in this study as well as a preferred, recommended option for City consideration. Prior to advancing any of the Council selected options, there may be additional studies required to further assess impacts. This includes but is not limited to an updated traffic analysis.

### 1.3 OVERVIEW OF FINDINGS

Most of the existing facilities and infrastructure are dated and at a point in their life cycle where they require major refurbishment or replacement. Others are in reasonable repair and require only minor modifications.

Many of the weaknesses identified throughout the water park are largely the result of the age of the facility infrastructure and the pressures current attendance place on aging, end of life facilities. All building facilities, while generally structurally sound, are significantly undersized to meet the current attendance levels and are poorly distributed throughout the site. This creates circulation congestion issues throughout, particularly at the entrance area, negative guest experience and the loss of potential revenue.

Outdated POS (Point of Sale) systems compound these challenges by reducing the efficiency with which staff can serve guests' needs. The attractions and infrastructure are reaching, at the end of, or far past a reasonable lifespan and are having difficulty functioning under the stress of peak attendance days.

Most of the threats identified in the analysis relate directly to the insufficient size of existing building or site facilities, rides/attractions and the physical degradation of attractions and their corresponding mechanical systems. These systems, rides/attractions and facilities will continue downward on the degradation cycle as most have far exceeded a reasonable operating life cycle.

Overall, there are many challenges the park faces including a number of infrastructure issues which must be addressed as soon as possible.

### 1.4 THE WAY FORWARD

The Water Park design and facilities options were planned in a comprehensive way from the standpoint of a guest, while considering opportunities for future expansion. The features are a major component of this destination to create a unique place aimed at an enhanced and memorable guest experience. As with any park reinvestment, the investment is tied to attendance and phasing to achieve the desired results that can be sustained over both the short and long term. Planning and design work address the issues and opportunities identified in the Analysis task. We proposed a range of solutions to enhance guest experience, improve the mix of rides and attractions to provide new, more interesting challenges to meet a changing demographic and increase potential and sustained park attendance.

Wild Waterworks opened in 1983 and achieved its highest annual attendance, with just over 153,000 guests in its first year. Attendance over the past 35 years has averaged and stabilized at approximately 110,000 with peak attendance of 140,000 in 2005 and 2016. In 2018, attendance was approximately 128,000, which was much better than the stabilized average. Based on past and current revenue, operations costs, the park breaks even operationally at approximately 100,000 guests per year.

The analysis reviewed each of the options for the water park, provided estimated attendance levels for each of the four options, programming, area requirements, phasing and resultant budgets.

## 1.5 OPTIONS CONSIDERED

### 1 Do Nothing

Do Nothing: Do nothing, consider the probable remaining life cycle of all facilities. Based on the market and feasibility analysis and estimated attendance, the overall size of Wild Waterworks would remain unchanged. Attendance for **Option 1: "Do Nothing"**, would gradually decrease in the next 2-5 years falling well below 100,000. As infrastructure, rides and attractions continue to age and are taken out of service, it is expected that the park will become increasingly expensive to operate and would eventually be closed.

**This Option was not considered financially viable and is not recommended.**

### 2 Replace Like for Like

Replacement of existing Rides, Attractions and Facilities with same/similar.

Based on the market and feasibility analysis and estimated attendance, the overall size of Wild Waterworks would remain unchanged. Attendance for **Option 2: "Like for Like"** will slowly increase over the average current attendance, increasing gradually over the next 2-5 years. The size of the water park will remain unchanged for this option as the current park area can generally accommodate the attendance with new building facilities and new rides.

**This Option was not considered financially viable and is not recommended.**

### 3 Modest Enhancements

Replacement of some rides, attractions, dryland climber, sheltered recreation area for adverse rain conditions, improved ticketing systems and RFID wristbands. The water park size for **Options 3: "Modest Enhancements"** would need to be increased to accommodate increased annual (daily) attendance, as well as provide new rides and attractions for guests. Attendance will increase initially and stabilize after year 3 as a stabilized attendance level is achieved. This will require additional park area and an increased service level of rides and attractions and expanded parking facilities.

**This Option is considered the most financially viable and is recommended.**

### 4 New Design

New design, Rides and Attractions and Facilities to meet future guest needs and attendance.

The water park size for **Options 4: "New Design, New Program"** would need to be increased to accommodate increased annual (daily) attendance, as well as provide new rides and attractions for guests. Attendance will increase steadily over the next 5-8 years until a new stabilized attendance level is achieved. This will require additional park area and an increased service level of rides and attractions and expanded parking facilities.

**This Option was not considered financially viable and is not recommended.**

Improvements to Wild Waterworks Water Park are intended to align with the 2016, City of Hamilton Strategic Plan to support the Vision, Mission, Culture and Priorities of the City of Hamilton.

The recommendations and background contained in the report will ultimately assist City staff to prepare a report to Public Works Committee and Healthy and Safe Communities and ultimately, City of Hamilton Council.



# 2 PURPOSE OF STUDY



**FORREC Ltd.** was retained by the City of Hamilton in October 2018 to prepare a Master Plan Study, Wild Waterworks at Confederation Beach Park Hamilton.

**Wild Waterworks** is an existing outdoor seasonal family water park, located at 680 Van Wagners Beach Road, between the Queen Elizabeth Way and Lake Ontario in the City of Hamilton. The 4.9hectare (12.1 acre) water park is a significant anchor within Confederation Beach Park – a 93hectare (228 acre) public park stretches 4 km along Lake Ontario. It is owned by the City of Hamilton and managed by the Hamilton Conservation Authority. The water park is a regional recreation and entertainment resource for the public that opened in 1983. The Master Plan Study Area is approximately 10 hectares (24.7 acres), which includes the guest drop off and adjacent parking lot to the west of the 4.9ha water park.

### The purpose of this Master Plan Study is to:

- **Review** and assess the existing Wild Waterworks Park at Confederation Park in Hamilton and provide recommendations and options for improvements and redevelopment.
- **Create** a place to draw visitors to this destination time and time again, enhance the overall guest experience and to meet current guest demands/expectations.
- **Provide** water park rides and attractions targeted for a primary family demographic, designed to an International standard. This includes family from young children to teens, young adults and older adults while considering wet and dry activities.
- **Investigate** options for extended seasonal utilization.
- **Prepare** and update a Market and Financial Analysis of Options.
- **Review** existing Aquatic systems and consider current condition and remaining service life.
- **Undertake** improvements that support City and Conservation Authority core values.

## 2.1 CITY OF HAMILTON MISSION STATEMENT

In 2016, the City of Hamilton adopted a new Strategic Plan. The Master Plan Study: Wild Waterworks at Confederation Beach Park helps, in part, to implement this Strategic Plan.



(City of Hamilton, Strategic Plan, 2016)

## 2.2 BACKGROUND

Wild Waterworks is an outdoor seasonal water park that opened in 1983.

At the time of it’s opening, water parks were still relatively new in the market, consequently many of the features that we know today, either did not exist, or were just developing. (Wet n’ Wild in Orlando, is generally considered the first large-scale water park in North America which opened in June 1977). Since that time, rides/attractions have evolved significantly, so have the guest expectations.

Further, since 1983, several additions and improvements have been made to the rides and attractions at Wild Waterworks including the Lazy River, which opened in 1994 and the East slide complex (Proslide) which was replaced and reopened in 2008.

The Outdoor water park has an existing area of approximately 49,000 m<sup>2</sup> (4.9ha), plus adjacent parking and drop off facilities to the west. The total approximate area for review in this study is approximately 100,000m<sup>2</sup> (10 ha).

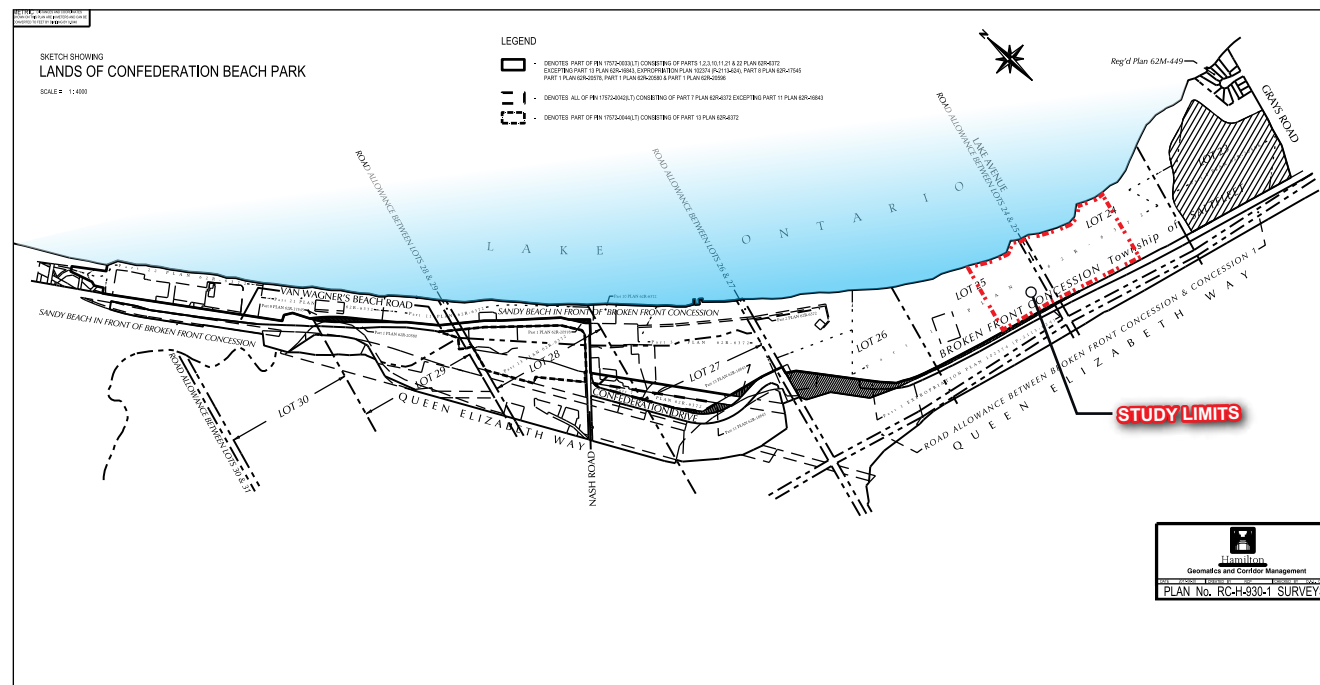
See Figure 1: Aerial photograph - Existing conditions. (Google Earth).

- The current annual attendance for the water park ranges from a low of approximately 87,000 to a high of 145,000 annual visitors. The City of Hamilton intends to revitalize Wild Waterworks water park facilities to enhance the guest experience and increase attendance over a sustained period of time.
- Target future annual attendance was based on the 2018 CBRE Market and Financial Analysis of Options and were mutually agreed to during the study. Increases above current attendance were expected, provided the offering of rides and attractions were updated to meet current expectations. As a starting number, based on the Sierra Planning and Management Consultants Economic Feasibility Study (2016), an Increase of 130% attendance was considered as a minimum guide. Note, the current Sierra study did not identify an upper threshold figure. The updated CBRE report will set target annual attendance.
- Supplemental economic feasibility work was completed by CBRE who are familiar with the local Ontario market and entertainment attractions. The findings of their review are contained in Appendix A-1, Market and Financial Analysis of Wild Waterworks Options.
- The water park currently operates during a peak three to four (3-4) month season. 90-100 days approximately. A four (4) season facility is only possible with the addition of an indoor water park component. The CBRE feasibility consultant considered if an investment of this scale is warranted and summarized their findings in the final report.
- As part of the study, a range of additional dry land activities were explored to extend the seasonal aspects of the park in both the spring and fall and to increase the offerings during cooler or rainy summer weather.
- Most of the existing facilities are somewhat dated and at a point in their life cycle where they require major refurbishment or replacement. Others are in reasonable repair and require minor modifications only.

FIGURE 1: Aerial photograph - Existing conditions. (Google Earth)



FIGURE 2: Sketch-Lands of Confederation Beach Park (Surveys)



## 2.3 PROJECT GOALS AND OBJECTIVES

The City of Hamilton provided an outline of their Project Goals and Objectives in their RFP, dated July 20, 2018, these are paraphrased as follows.

### GOALS

- To investigate the feasibility of Wild Waterworks based on different levels of investment; including no investment and exchanging like for like attractions as the current attractions approach their end of life.
- To identify opportunities to maximize the economic viability and profitability of the waterpark.
- To provide recommendations for new attractions to replace the existing rides/attractions.
- To provide recommendations for expansion or re-visioning of the waterpark with additional attractions.
- To review general, current operations of the waterpark and provide suggestions for improvements and efficiencies.
- To provide redevelopment options that consider a range of warranted investments.
- To provide an implementation strategy for each option.
- To provide feedback on current remaining life cycle of the park without new investments.
- Consider the entire study area to identify parking, transportation and operational opportunities outside of current waterpark footprint. (study area).
- To provide options for phasing redevelopment.

### OBJECTIVES

1. Determine the viability of waterpark, areas of strength as well as opportunities for improvement.
2. To identify methods of increasing annual attendance at the waterpark.
3. Identify opportunities for increased year-round guest use for all ages.
4. Provide recommendations for identified changes.
5. Consider outcomes of "Do Nothing" to improve the facilities/attractions.
6. Provide recommendations for parking spaces as required for expansion of recreational offerings.



## 2.4 STUDY TEAM AND ACKNOWLEDGMENTS



To achieve these Goals and Objectives, FORREC prepared a program to address and consider the Master Planning and design of a facility to meet guest needs, projected increased annual attendance, operational changes/ recommendations to adjust the current way of doing business.

Capital investment options for revitalization and opportunities to extend the operational season were considered based on the Market and Financial Analysis of Wild Waterworks Options prepared by CBRE.

Phased implementation options for an economically viable operation were provided, all with adequate passenger parking lots, bus, vehicular and pedestrian circulation.

The Water Park design and facilities were planned in a comprehensive way from the standpoint of a guest while considering opportunities for some limited future expansion. The features are a major component of this destination to create a unique place aimed at an enhanced and memorable guest experience. As with any reinvestment, the investment is tied to attendance and phasing to achieve the desired results that can sustained over both the short and long term.

The recommendations contained in the report will ultimately form part of a staff report to Public Works and Healthy and Safe Communities and ultimately, City of Hamilton Council for consideration.

**FORREC Ltd.** led the Consulting team in the preparation of the Master Plan Study, review and analysis of existing site, redevelopment options, programming and budgets. They were also responsible for the preparation of the report.

**Glenn A. O'Connor**,  
Principal Author and Project Manager

**Ingrid Vaivads**, Programming + Design

**Nadia Pausch**, Diagrams, Figures and Assist with text.

**Tony Zhou**, Report Graphics

**Scott Torrance**, Review and Advisor

**Photograph credits:** *Marketing photographs were provided by Hamilton Conservation Authority. These were released for use in public documents and have been used throughout this report. Photographs of facilities or existing infrastructure were taken by FORREC of Cloward H2O.*

**CBRE** was responsible for Market and Financial Analysis of Wild Waterworks Options, included here as **Appendix A-1**.

**Fran Hohol**, Principal Author

**Rebecca Godfrey**, Writer + Research

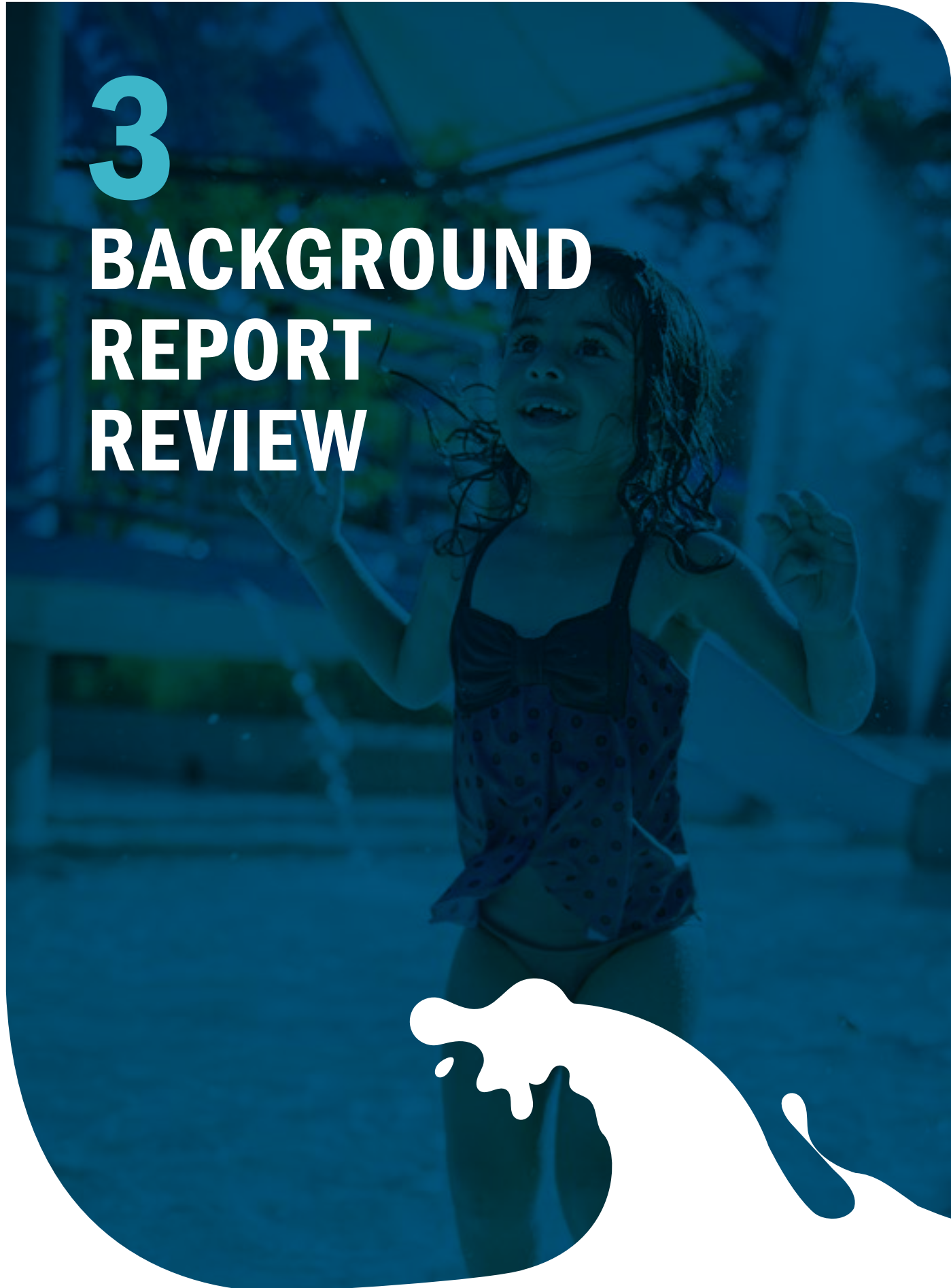
**Hildegard Snelgrove**, Research Assistant

**Cloward H2O** was responsible for Aquatic Engineering Facility Review Report + Recommendations, included here as **Appendix A-2**.

**Allen Clawson**, Principal Author

The study team would like to acknowledge City of Hamilton and Hamilton Conservation Authority staff members who guided, challenged us and helped to shape this Master Plan to plan to create a great water park for the people of Hamilton and surrounding communities.





# 3

## BACKGROUND REPORT REVIEW

### 3 BACKGROUND REPORT REVIEW

The Master Plan Study and Capital Improvement Plan is to be done within the context of the overall Confederation Beach Park Master Plan and its supporting studies. This Wild Waterworks Study is a supporting study identified in the PW Report (PW11005 (d) dated August 11, 2016) and as such, must work within that context.

#### 3.1 CONFEDERATION PARK MASTER PLAN REVIEW & UPDATE (2010)

Confederation Park Master Plan Review & Update 2010, prepared by G. O'Connor Consultants Inc. was a comprehensive, park wide report with extensive public consultation. This report considered new development opportunities and activities taking into consideration: the valuable lakefront setting; unifying the overall park elements; integration of the Waterfront Trail and pedestrian links to the Red Hill Valley and City; while completing improvements that support the City and Conservation Authority core values.

The report considered numerous upper tier planning policies, regulations and documents to ensure any park improvements are supported by Provincial, Region and City planning requirements. A Central Recreation/Commercial Village was proposed subject to a feasibility and business case validation. The plan retained and restored

valuable littoral wetlands, savanna and dune habitats within the park zone. Recommended removing underutilized and inappropriately located recreational uses and re-deploying these lands to better meet community needs. The plan also applied new design principles to connect the waterfront trail and focus new development with a commercial central village area and provided improved connections to trails and public transit with surrounding neighbourhoods. Wild Waterworks was viewed as a valuable resource that required further and more detailed study with potential to be expanded and enhanced.

Overall, Confederation Park Master Plan Update through its implementation will demonstrate and showcase this City-Wide Park as example of blending built and natural environments to enhance the quality of life for the public.

## 3.2 SIERRA PLANNING AND MANAGEMENT CONSULTANTS ECONOMIC FEASIBILITY STUDY (2016)

The **Economic Feasibility Study: Confederation Park Master Plan** was prepared by Sierra Planning and Management in 2013 and updated in 2016. The basis of the analysis was a review of the 2010 Confederation Park Master Plan Review and Update to consider the potential Commercial Development Opportunities and to assess the financial feasibility of the development proposed in the Master Plan Review and Update.

The study found that while Confederation Beach Park has a significant draw from both its primary and secondary markets, it is “an under-developed asset both in terms of economic potential and level of utilization”. Given that both the primary (Hamilton, Burlington) and secondary (Brampton, Mississauga, Oakville, Milton, St. Catharines-Niagara, Kitchener-Waterloo, Guelph) markets are expected to experience significant population growth in the coming years, Confederation Beach Park is well-positioned to benefit from the corresponding potential attendance increase. In order to strategically position the Park, capital investment is required in addition to programming which distinguishes the Park from nearby draws such as the Burlington waterfront. The regional tourism market has the potential to drive activity and revenue in the Park, which meets the goals and objectives of the City of Hamilton and the Hamilton Conservation Authority, however development is required to maintain and broaden regional appeal. Aging assets in a “state of under-investment have the potential to negate any gains to visitation and spending from new development” and should be considered a priority.

The study identified Wild Waterworks as Confederation Beach “Park’s largest attraction and important revenue generating facility” and noted “the future success of [Wild Waterworks] will be integral to the Park’s continued operations”. Over 20% of visitation in the Park is

specifically to Wild Waterworks, however its aging facility requires capital investment. The study highlighted various revenue generating strategies for the water park, including better marketing of premium add-ons such as cabana rentals, the addition of attractions which extend the operating season, increasing spending by trail users, and planning activities which cater to a broader demographic.

Both short-, medium-, and long-term focus items were identified within the report and given approximate investment values. Of note for the waterpark are the following:

### SHORT-TERM FOCUS

- The development of a comprehensive master plan for Wild Waterworks (\$150,000)
- Replacement of Little Squirt Works (\$1,500,000)

### LONG-TERM FOCUS

- Aesthetic upgrades to the entry façade (\$400,000)

However, there were areas of the report that were unclear regarding the warranted investment levels, annual attendance data and spend per person. As a result of discussions with City of Hamilton staff, it was agreed the feasibility components which were not developed would be captured by a more refined report to be prepared by CBRE as part of this master plan study.

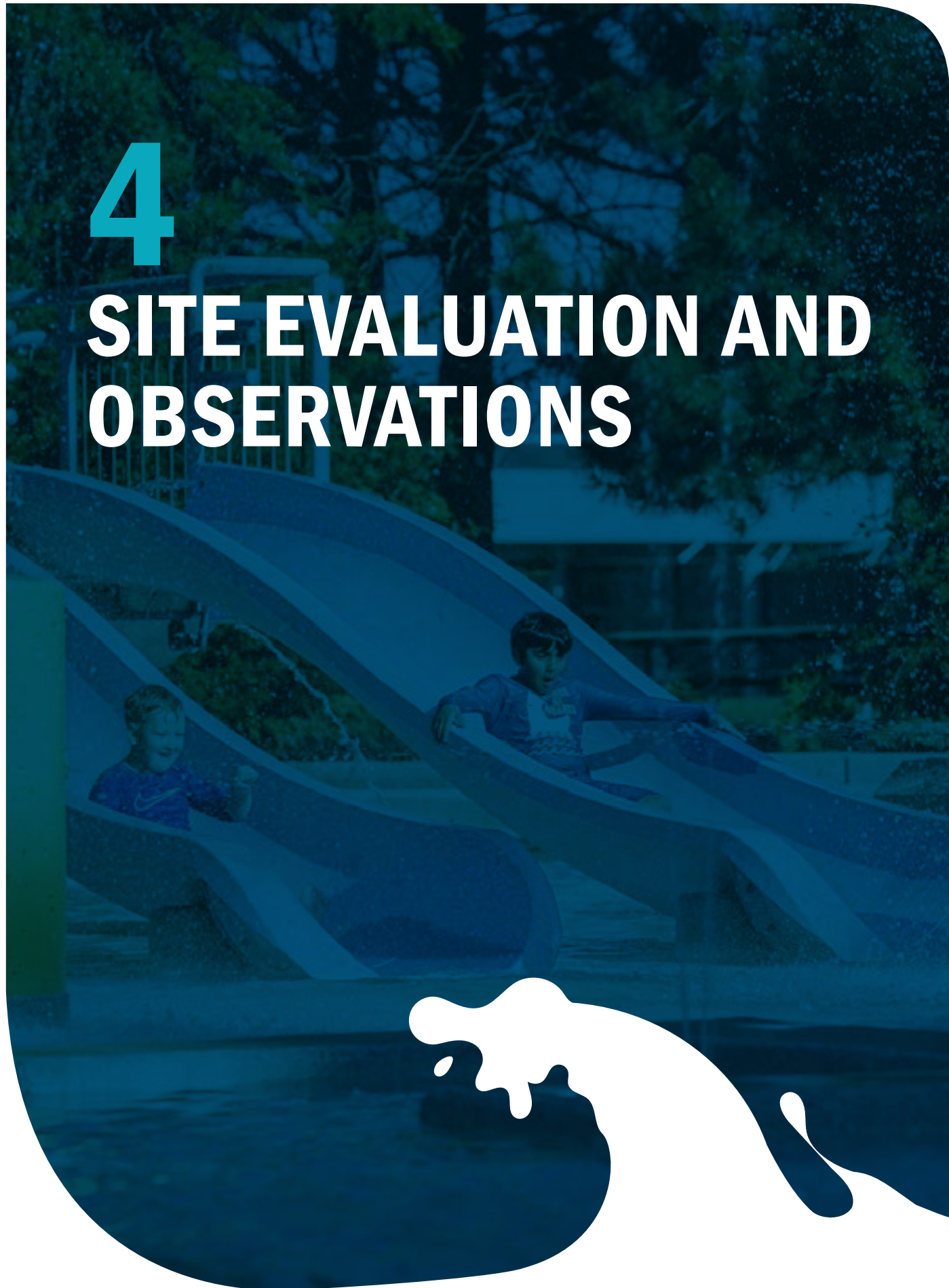
## 3.3 CITY OF HAMILTON PUBLIC WORKS & HEALTHY AND SAFE COMMUNITIES, CONFEDERATION BEACH PARK MASTER PLAN – FEASIBILITY STUDY - PW11005D (2016)

Report PW11005d was prepared by staff of the City of Hamilton’s Public Works and Healthy and Safe Communities and submitted to the chair and members of the Public Works Committee for consideration on August 11, 2016.

The report made a series of recommendations that provided short term budgets for additional studies and mid-long-term budgets for Capital reinvestment to be incorporated into the City of Hamilton Capital Budget Process. Further, the report recommended that a program be developed to implement the capital program and life cycle replacements and develop a funding strategy for Confederation Beach Park and Wild Waterworks. These recommendations were based upon both the 2010 Confederation Park Master Plan Review and Update prepared by G. O’Connor Consultants Inc. as well as the 2016 Economic Feasibility Study: Confederation Park Master Plan prepared by Sierra Planning and Management. The report confirms that Confederation Beach Park “warrants a renewed capital investment over the next 10-15 years to properly manage the park and provide adequate waterfront amenities to support the large volume of seasonal visitors”. The report also noted several other related staff information reports that were previously submitted over several years, from 2011-2016 that identified a variety of issues at Confederation Beach Park which support reinvestment in both the overall Park and Wild Waterworks.

The report provided criteria for attractions and spaces warranting investment, noting that investment should generate economic return, improve access to nature, promote sustainability, encourage health and wellness, create recreation opportunities, and capitalize on tourism potential within the broader region.

The report recommendation was for an implementation strategy for the redevelopment of Confederation Beach Park be received and either all or a portion of the Master Plan be incorporated into the City of Hamilton’s 10-year Capital forecast. It further endorses that Public Works and Healthy and Safe Communities should work with the Hamilton Conservation Authority in the execution of these recommendations.



## 4.1 STAKEHOLDERS WORKSHOP AND SITE VISITS

### AUGUST 9, 2018 · SITE VISIT & START-UP MEETING

FORREC senior staff attended a start-up workshop meeting with City of Hamilton staff to discuss the overall study, review scope of work and deliverables and review staff objectives for the study. This workshop was very productive and resulted in the identification of several existing information gaps in available background data or studies. As a result, the scope and deliverables for the Master Plan Study were revised which have been included in this report.

FORREC and their team also reviewed the available City of Hamilton supplied background documentation including Building Condition assessments and the available feasibility, market report by Sierra Management Consultants. Based on this review, it was agreed to retain CBRE to complete a market and financial analysis for Wild Waterworks which was focused and addressed the range of options required by City of Hamilton staff. The CBRE report is included in this report as **Appendix 1**.

### AUGUST 29<sup>TH</sup>, 2018 · SITE VISIT

FORREC senior staff visited the site together with the Aquatic Engineer Cloward H2O and City of Hamilton team members including operations and management staff from Wild Waterworks. The purpose of this meeting and site visit was to collect background information related to existing conditions, evaluate existing equipment, facilities, operations, rides and attractions.

We had a detailed site visit to gain a qualitative review and debrief, to investigate the current features, park attributes, and challenges.

During the site visit, FORREC and Cloward staff:

- Reviewed the park and pool layout, in-pool hydraulic conditions, general structures, waterproofing or coating issues and other items as practical to gain a comprehensive understanding of existing conditions
- We discussed operational history and past repair work with operations staff.
- Photographed and identified components, recording make/model/serial number of key pieces of equipment.
- Evaluated the condition and operational history of key equipment, controls, and piping.

### OCTOBER 25<sup>TH</sup>, 2018 · SITE VISIT

FORREC staff visited the site again on October 25th, 2018 and were led on a comprehensive site walk by Wild Waterworks operations staff. The purpose of this site visit was to allow additional team members to collect any remaining background information related to existing conditions, facilities, operations, rides, and attractions.

During the site visit, FORREC staff:

- Discussed operational history, trends, and challenges with staff.
- Photographed and documented specific site elements for reference and use in the SWOT analysis.
- Confirmed facility counts (i.e. washroom/shower/locker counts).
- Evaluated the site from the perspective of circulation, arrangement of facilities and attractions, guest comfort, aesthetic quality, and park adjacencies.

Our team compiled the information gathered to build and generate ideas and identify current issues. We reviewed the site from a guest experience standpoint and each ride/attraction to assess the current operational entertainment capacity, potential capacity, attendance and flow through of all rides, circulation, food and beverage areas, washrooms, guest services, and arrival sequence. Parking, vehicular circulation, and the proximity to available expansion property (5 ha) to the West was also considered. The review of future expansion at this phase is only preliminary to review site attributes and features, adjacency for expansion purposes.

The meetings were valuable and allowed a collaborative effort with input from all who attended. Stakeholder participation was important to allow a comprehensive range of ideas and observations to be shared between the parties. Site visits led by operational staff were critical stepping stones to gaining a comprehensive understanding of the current site, allowing us to assist in the subsequent planning analysis, programming, and design phases.

## 4.2.1 SITE EVALUATION - SWOT ANALYSIS

### Arrival and Facilities

ARRIVAL - PARKING, ENTRY, ACCESS	
<b>STRENGTHS</b> <ul style="list-style-type: none"> <li>Mature trees in drop off circle and perimeter</li> <li>Bus and car drop off/turn around area</li> </ul>	<b>OPPORTUNITIES</b> <ul style="list-style-type: none"> <li>Additional land available to enlarge entry zone</li> <li>Upgrade POS system and turn styles</li> </ul>
<b>WEAKNESSES</b> <ul style="list-style-type: none"> <li>Inadequate bus and car parking area</li> <li>Visually unappealing entrance</li> <li>Entry/park disconnected from waterfront trail</li> <li>Facilities densely clustered near park entrance</li> <li>Concrete posts add to disorientation of plaza</li> </ul>	<b>THREATS</b> <ul style="list-style-type: none"> <li>Poor entry/wayfinding plaza causes backlog</li> <li>Queues lines cross, creating circulation issues</li> <li>Entry is dark and small, ticket windows backlogged</li> <li>No dedicated entry/exit lanes, no fast pass lane for ticket/seasons pass holders</li> </ul>

FOOD FACILITIES - FOOD & BEVERAGE - OLLIE'S LANDING	
<b>STRENGTHS</b> <ul style="list-style-type: none"> <li>Highest revenue restaurant in the park</li> <li>Well loved by guests</li> </ul>	<b>OPPORTUNITIES</b> <ul style="list-style-type: none"> <li>Sufficient park area to relocate/enlarge</li> </ul>
<b>WEAKNESSES</b> <ul style="list-style-type: none"> <li>Poor location, crowded</li> <li>Insufficient seating</li> <li>BOH is undersized, poor garbage access</li> </ul>	<b>THREATS</b> <ul style="list-style-type: none"> <li>Misleading signage on administration building, guests inadvertently enter staff offices</li> </ul>

FOOD FACILITIES - FOOD & BEVERAGE - WAVES	
<b>STRENGTHS</b> <ul style="list-style-type: none"> <li>Current space is modest, handles small groups</li> </ul>	<b>OPPORTUNITIES</b> <ul style="list-style-type: none"> <li>Sufficient park area to relocate/enlarge</li> </ul>
<b>WEAKNESSES</b> <ul style="list-style-type: none"> <li>Poorly located, queue causes congestion</li> <li>Understaffed - increases congestion, lowers revenue</li> </ul>	<b>THREATS</b> <ul style="list-style-type: none"> <li>N/A</li> </ul>

FOOD FACILITIES - FOOD & BEVERAGE - BREAKERS	
<b>STRENGTHS</b> <ul style="list-style-type: none"> <li>Recent upgrades to facility</li> </ul>	<b>OPPORTUNITIES</b> <ul style="list-style-type: none"> <li>Sufficient park area to relocate/enlarge</li> </ul>
<b>WEAKNESSES</b> <ul style="list-style-type: none"> <li>Queue interferes with beach seating</li> <li>Main cold storage accessed outside building</li> </ul>	<b>THREATS</b> <ul style="list-style-type: none"> <li>N/A</li> </ul>

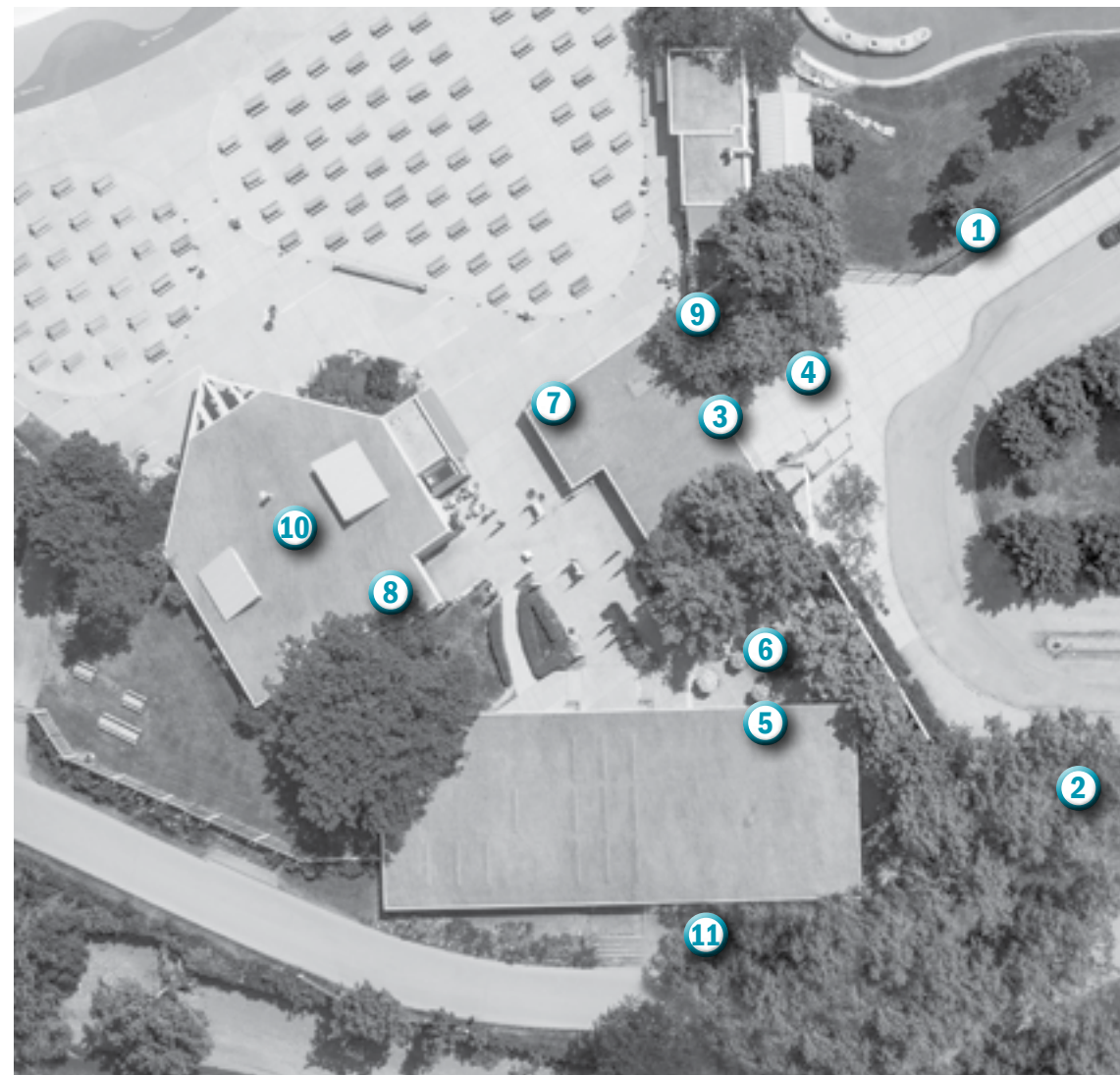
FACILITIES - GUEST SERVICES & RETAIL	
<b>STRENGTHS</b> <ul style="list-style-type: none"> <li>Location is clearly visible and accessible</li> <li>Size is reasonable</li> </ul>	<b>OPPORTUNITIES</b> <ul style="list-style-type: none"> <li>Guest demand supports dedicated retail space</li> </ul>
<b>WEAKNESSES</b> <ul style="list-style-type: none"> <li>Functions as both guest services and retail (separate)</li> </ul>	<b>THREATS</b> <ul style="list-style-type: none"> <li>N/A</li> </ul>

FACILITIES - CHANGEROOMS & WASHROOMS	
<b>STRENGTHS</b> <ul style="list-style-type: none"> <li>Flow-through layout circulates guests into park</li> </ul>	<b>OPPORTUNITIES</b> <ul style="list-style-type: none"> <li>Sufficient park area to relocate/enlarge</li> </ul>
<b>WEAKNESSES</b> <ul style="list-style-type: none"> <li>Only guest washroom facility in the park</li> <li>Insufficient number of showers, lack privacy</li> <li>Insufficient locker space</li> <li>Lockers inside changeroom are an inefficient and expensive use of space</li> <li>Queue blocks circulation, washrooms and changerooms poorly organized</li> </ul>	<b>THREATS</b> <ul style="list-style-type: none"> <li>No family changerooms or washrooms</li> <li>Number of washrooms is significantly under code</li> </ul>

FIGURE 3: SWOT ANALYSIS - Arrival and Facilities

FACILITIES - TUBE STORAGE	
<b>STRENGTHS</b> <ul style="list-style-type: none"> <li>• Tube rentals generate significant revenue</li> </ul>	<b>OPPORTUNITIES</b> <ul style="list-style-type: none"> <li>• Sufficient park area to relocate/enlarge</li> </ul>
<b>WEAKNESSES</b> <ul style="list-style-type: none"> <li>• Insufficient number of tubes, inadequate space</li> <li>• Location is removed from water attractions</li> <li>• Current location creates circulation congestion</li> </ul>	<b>THREATS</b> <ul style="list-style-type: none"> <li>• N/A</li> </ul>

FACILITIES - BACK OF HOUSE (BOH)	
<b>STRENGTHS</b> <ul style="list-style-type: none"> <li>• N/A</li> </ul>	<b>OPPORTUNITIES</b> <ul style="list-style-type: none"> <li>• Sufficient park area to relocate/enlarge</li> </ul>
<b>WEAKNESSES</b> <ul style="list-style-type: none"> <li>• Severe lack of storage space</li> <li>• Garbage area is not buffered from waterfront trail</li> <li>• Staff washroom count is below code, undersized change and locker facilities</li> </ul>	<b>THREATS</b> <ul style="list-style-type: none"> <li>• N/A</li> </ul>



1 Unsightly chain-link fence with barbed wire at park entrance.



2 Lack of access between water park and waterfront trail; insufficient bicycle parking for trail users.



3 Dated signage, poorly defined entrance. Dark, cramped entry with only two ticket booths.



4 Frequent backlog of guests waiting to enter the park, no shade or defined queuing.



5 Ollie's Landing is in an awkward, removed location and lacks prominent signage.



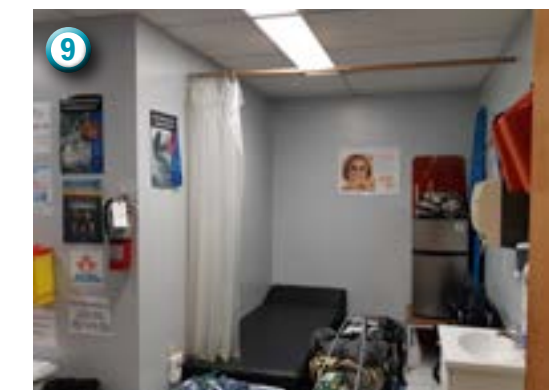
6 Ollie's Landing has insufficient seating for guest demand.



7 Signage for Ollie's Landing located on the admin building is confusing to guests.



8 Insufficient locker count to meet guest demand.



9 First Aid is undersized and poorly located for EMS personnel.



10 Changerooms are used for off-season storage.



11 Garbage pick-up area is unsightly and has no buffer from the waterfront trail users.

## Rides and Attractions

RIDES & ATTRACTIONS - WAVE POOL	
<p><b>STRENGTHS</b></p> <ul style="list-style-type: none"> <li>Reasonable size wave pool, good capacity</li> <li>Excellent water clarity and wave quality</li> <li>Centrally located with large beach area</li> <li>Newer wave equipment, good working condition</li> </ul>	<p><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"> <li>Provide lounge chair seating</li> <li>Provide planting islands, shade</li> <li>Site additional cabanas around wave pool</li> <li>Enhance wave pool backdrop</li> </ul>
<p><b>WEAKNESSES</b></p> <ul style="list-style-type: none"> <li>Wave pool requires daily makeup in water</li> <li>Certain equipment end of life cycle</li> <li>Beach return grating below current standards</li> <li>No planting or shade on beach</li> <li>Tubes allowed in wave pool increases lifeguarding difficulty</li> </ul>	<p><b>THREATS</b></p> <ul style="list-style-type: none"> <li>Wave pool surfacing and tiles are degrading (safety concern)</li> <li>Paving around wave pool is rough, hot to touch</li> </ul>

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RIDES & ATTRACTIONS - LAZY RIVER	
<p><b>STRENGTHS</b></p> <ul style="list-style-type: none"> <li>Creative river structure, well-integrated with site</li> <li>Nice planting along river edges</li> <li>River queue functions well operationally</li> <li>Both zero entry ramp and stair access provided</li> </ul>	<p><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"> <li>Add water features to open space on river banks</li> <li>Theme queue railing, improve guest experience</li> </ul>
<p><b>WEAKNESSES</b></p> <ul style="list-style-type: none"> <li>Caulked joints are unsightly, moldy</li> <li>River is poorly waterproofed</li> <li>Insufficient propulsion traps debris</li> <li>Significant leaf litter, inadequate drain grates</li> <li>Narrow width reduces capacity, increases lifeguarding difficulty</li> </ul>	<p><b>THREATS</b></p> <ul style="list-style-type: none"> <li>Long lifeguard patrol areas with blind spots</li> <li>Exposed pipe on beach spray nozzles poses safety risk</li> <li>Degradation of the surfacing, rough to touch</li> </ul>

FIGURE 4: SWOT ANALYSIS - Rides and Attractions

**RIDES & ATTRACTIONS - LITTLE SQUIRT WORKS**

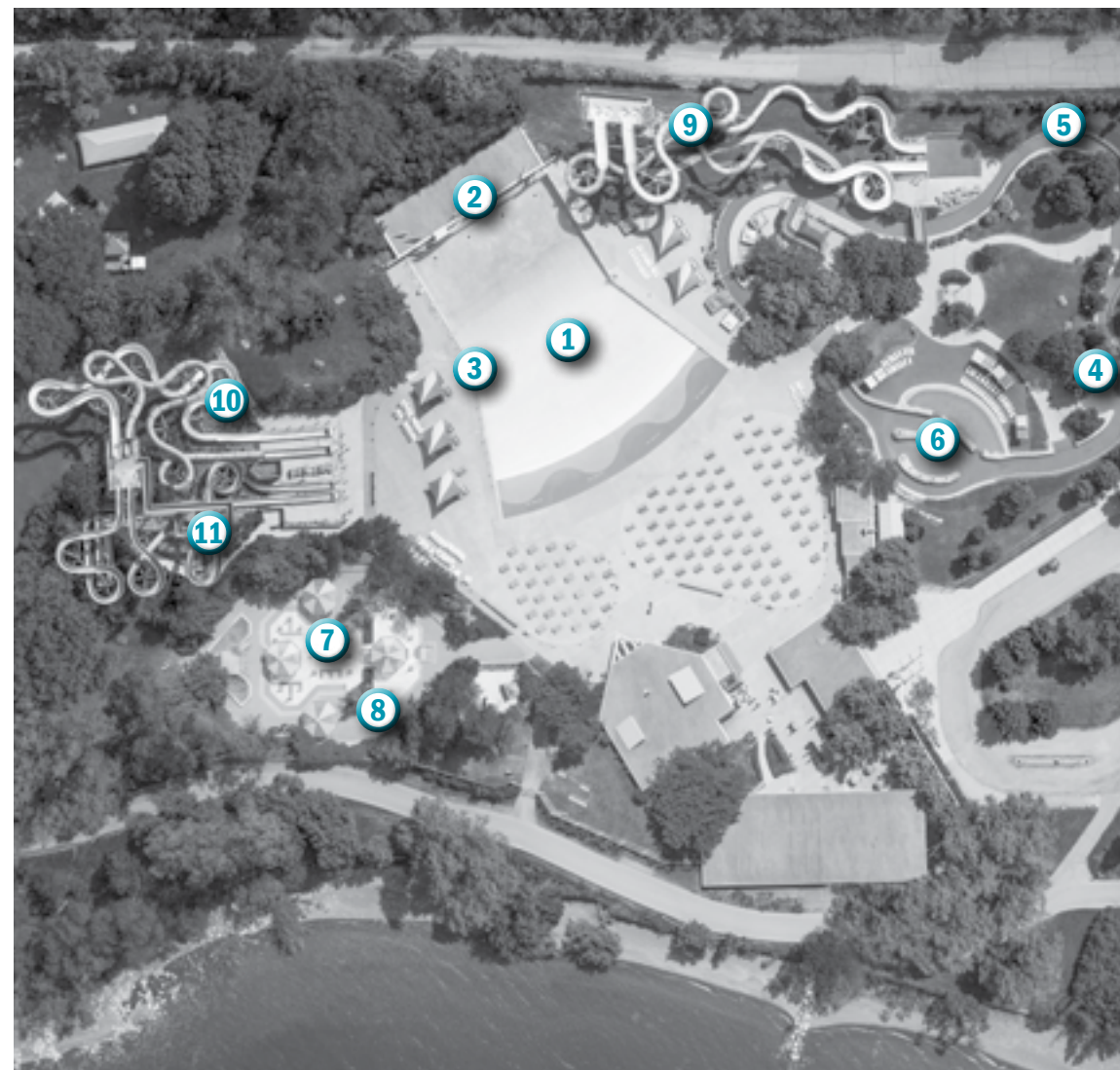
<p><b>STRENGTHS</b></p> <ul style="list-style-type: none"> <li>Shade sails in good condition</li> <li>Good privacy, separation from busier areas</li> </ul>	<p><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"> <li>Sufficient area to expand/re-design pool</li> <li>Potential cabana location at raised platform over electrical room</li> </ul>
<p><b>WEAKNESSES</b></p> <ul style="list-style-type: none"> <li>Entire system performing poorly, end of lifespan</li> <li>Degrading surfaces, sediment in the pool</li> <li>Uncomfortable and insufficient seat walls</li> <li>Inadequate deck drainage</li> <li>Poor play value</li> </ul>	<p><b>THREATS</b></p> <ul style="list-style-type: none"> <li>Paving poses drainage issues and trip hazards</li> <li>Combined water system creates sanitation hazard</li> <li>Height, material, design of pool poses safety risk</li> <li>Safety issue with pools and walls</li> </ul>

**RIDES & ATTRACTIONS - WHITEWATER TUBE SLIDES (“EAST” SLIDES)**

<p><b>STRENGTHS</b></p> <ul style="list-style-type: none"> <li>Slide pumps operating well</li> <li>Popular, excellent level of fun/excitement</li> <li>Excellent views over the park</li> <li>Queue line functions reasonably well</li> </ul>	<p><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"> <li>Add theming and signage to slide tower</li> <li>Visibility and marketing from signage toward highway</li> </ul>
<p><b>WEAKNESSES</b></p> <ul style="list-style-type: none"> <li>All slide surfaces visibly aging</li> <li>Slide joints leaking</li> <li>High winds and noise on top of slide tower</li> <li>Lack of shade on top of tower and stairs</li> <li>Inadequate safety rails along queue walkway</li> <li>Limited ride value and experience</li> </ul>	<p><b>THREATS</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul>

**RIDES & ATTRACTIONS - PROSLIDE BODY & TUBE SLIDES (“WEST” SLIDES)**

<p><b>STRENGTHS</b></p> <ul style="list-style-type: none"> <li>Slides in good working order</li> <li>Ramp access to tower platform</li> <li>Excellent views over the park</li> <li>Less noisy and windy than west slide complex</li> </ul>	<p><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"> <li>Reintroduce bridge and viewing platform over lower portion of slides</li> </ul>
<p><b>WEAKNESSES</b></p> <ul style="list-style-type: none"> <li>Certain equipment causing failures</li> <li>Unightly closed railing along queue ramp, lack of ventilation creates odours</li> <li>Deck drains not functioning optimally</li> <li>Lack of shade on top of tower and queue</li> <li>Certain ride paths are not exciting</li> <li>Limited ride value and experience</li> </ul>	<p><b>THREATS</b></p> <ul style="list-style-type: none"> <li>Loose granular underneath slide tower is safety hazard for inspections, maintenance staff</li> <li>Combined water system creates sanitation hazard</li> </ul>



1 Allowing tubes in the pool reduces visibility and causes lifeguarding challenges.



2 Wave pool backdrop signage is dated and unthemed; there is the opportunity to enhance and increase entertainment value.



3 Wave pool surfacing and tile is degrading, potentially leading to sharp debris in the wave pool, posing a safety risk.



4 Minimal propulsion in the river creates eddies which trap people and debris.



5 Narrow river allows tubes to bunch up, decreasing safety.



6 Exposed spray nozzle pipe poses a safety risk. Caulked joints are unsightly and collecting mold.



7 The slides and pool surfacing in Squirt Works is visibly degrading.



8 The seat walls around Squirt Works are uncomfortable and do not provide sufficient seating counts.



9 The west slides have an exciting ride path but are visibly aging.



10 Loose rocks under the east slides work pose a safety hazard.



11 The enclosed east slide queue is unsightly and collects odours.

## Amenities, Layout and Operations

AMENITIES - SEATING	
<b>STRENGTHS</b> <ul style="list-style-type: none"> <li>Picnic tables at wave pool provide significant seating</li> </ul>	<b>OPPORTUNITIES</b> <ul style="list-style-type: none"> <li>Introduce varied seating at wave pool beach</li> </ul>
<b>WEAKNESSES</b> <ul style="list-style-type: none"> <li>No lounge chair seating on wave pool beach</li> <li>Picnic tables are unsightly, old, splintering</li> <li>Picnic tables congest circulation through beach area</li> <li>Number of lounge chairs is insufficient</li> <li>Lack of privacy and shade on wave pool beach</li> <li>Picnic tables are not flexible seating option</li> </ul>	<b>THREATS</b> <ul style="list-style-type: none"> <li>N/A</li> </ul>

AMENITIES - GENERAL SHADE	
<b>STRENGTHS</b> <ul style="list-style-type: none"> <li>Mature trees offer good shade</li> </ul>	<b>OPPORTUNITIES</b> <ul style="list-style-type: none"> <li>Introduce shade structures and planting beds</li> </ul>
<b>WEAKNESSES</b> <ul style="list-style-type: none"> <li>No shade on the wave pool beach</li> </ul>	<b>THREATS</b> <ul style="list-style-type: none"> <li>N/A</li> </ul>

AMENITIES - CABANAS	
<b>STRENGTHS</b> <ul style="list-style-type: none"> <li>In high demand, rented out at excellent rate</li> </ul>	<b>OPPORTUNITIES</b> <ul style="list-style-type: none"> <li>Numerous potential cabana locations</li> </ul>
<b>WEAKNESSES</b> <ul style="list-style-type: none"> <li>Flimsy, cheap temporary structures</li> <li>Insufficient number of cabanas</li> </ul>	<b>THREATS</b> <ul style="list-style-type: none"> <li>N/A</li> </ul>

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FIGURE 5: SWOT ANALYSIS - Amenities, Layout and Operations

AMENITIES - EVENT SPACE	
<b>STRENGTHS</b> <ul style="list-style-type: none"> <li>Large area at pavilions for events</li> </ul>	<b>OPPORTUNITIES</b> <ul style="list-style-type: none"> <li>Sufficient space to improve facilities and access</li> </ul>
<b>WEAKNESSES</b> <ul style="list-style-type: none"> <li>Location of party rooms are awkward and uninviting, close to garbage area</li> </ul>	<b>THREATS</b> <ul style="list-style-type: none"> <li>N/A</li> </ul>

PARK LAYOUT	
<b>STRENGTHS</b> <ul style="list-style-type: none"> <li>Wave pool centrally located</li> <li>Mature trees</li> </ul>	<b>OPPORTUNITIES</b> <ul style="list-style-type: none"> <li>Sufficient area to improve circulation</li> <li>Sufficient area for expansion of attractions, facilities</li> </ul>
<b>WEAKNESSES</b> <ul style="list-style-type: none"> <li>Circulation isn't continuous throughout park</li> <li>Squirt Works is isolated</li> <li>No dry or covered play</li> <li>Poor circulation</li> </ul>	<b>THREATS</b> <ul style="list-style-type: none"> <li>No washrooms or refreshments at squirt works</li> </ul>

OPERATIONS	
<b>STRENGTHS</b> <ul style="list-style-type: none"> <li>Dedicated, skilled and committed staff</li> </ul>	<b>OPPORTUNITIES</b> <ul style="list-style-type: none"> <li>Improved efficiency through upgraded ticketing/POS/wristband system</li> </ul>
<b>WEAKNESSES</b> <ul style="list-style-type: none"> <li>Garbage pickup times interfere with guest enjoyment (strong odours)</li> </ul>	<b>THREATS</b> <ul style="list-style-type: none"> <li>Combined filtration systems cause operational challenges, impacts guest experience</li> <li>POS system is insufficient for use in water park</li> </ul>



1 Wave pool beach has no lounge chairs or shade.



2 Unused areas pose opportunities for infilling of rides or attractions.



3 Cabanas should be more sturdy, permanent structures.



4 Party rooms are isolated and unwelcoming.



5 There is extensive pavilion space available for large groups.



6 There is no buffer between BOH chemical treatment and guest areas, posing a safety risk.



7 There are many excellent cabana locations around the park.



8 Large, unused space exists around the edges of the site.

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## 4.2.2 FACILITY ANALYSIS



### Arrival & Ticketing

Both the arrival plaza and ticketing facilities are significantly undersized to meet the current attendance demands, resulting in significant wait times entering the water park resulting in reduced guest satisfaction. The existing arrival plaza currently provides less than half of the area required to service the guest arrivals during peak times. The ticketing and bag check facilities both need to double in size to satisfy attendance demands.



### Food & Beverage

There are currently three food and beverage facilities in the park: Ollie's Landing, Breakers, and Waves. The number of food service units are all undersized and poorly distributed throughout the park. The main sit-down facility (currently Ollie's Landing) is substantially undersized and so are the two quick service units. The clustered location at the entrance of the park further reduces the units' ability to function efficiently, causing congestion and poor service which reduces guest satisfaction and resultant spend.



### Changerooms & Washrooms

The changeroom facilities are dated and many of the layout choices are no longer appropriate for today's guest standards. For example, the showers are 'gang-style' without privacy which is not a style that is used in modern water parks. Additionally, the quantity of showers, changerooms, and lockers are all insufficient to meet current demands. The quantity of washrooms are also significantly under code, with the women's facility requiring almost double the number of fixtures to accommodate current attendance. Changeroom and washroom facilities are presently combined at the entrance without any satellite washroom distribution causing further congestion at the entrance.



### Retail

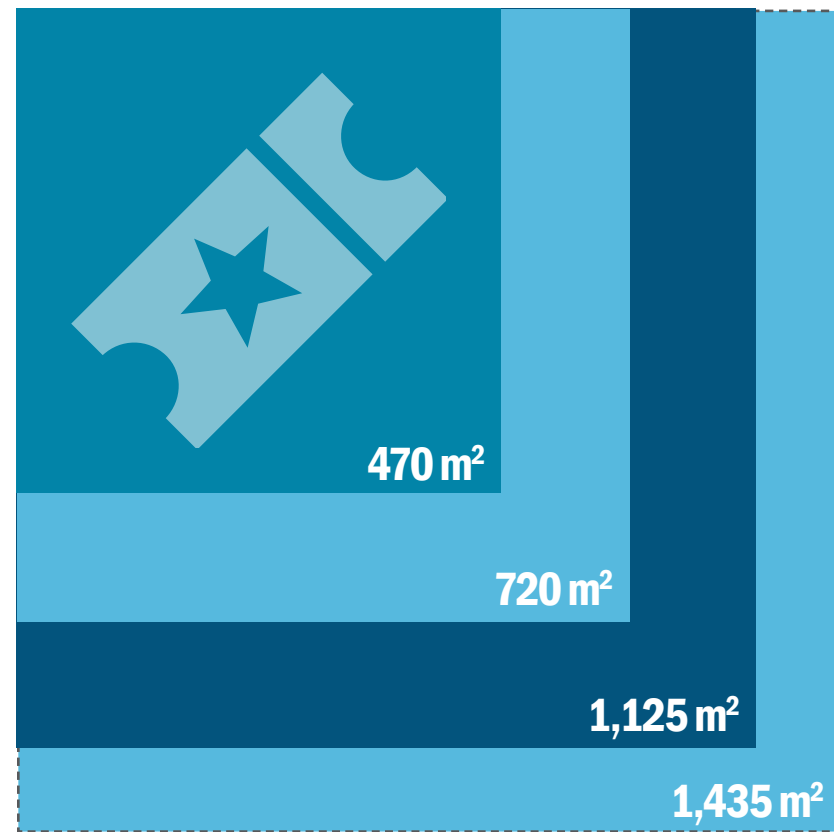
Retail in the park is currently housed within the guest services facility. Retail should be a dedicated unit and is presently significantly undersized for current attendance numbers. Undersized retail limits revenue generation in the water park, as evidenced by the low per guest spend.



### Administrative and FOH

The admin and FOH facilities are also undersized. This lack of space for staff reduces operational efficiency and makes it difficult to manage basic needs such as storage and space for staff.

**FIGURE 6: Arrival Plaza and Ticketing Area Comparisons - Existing 1983 / Current Required / Update**

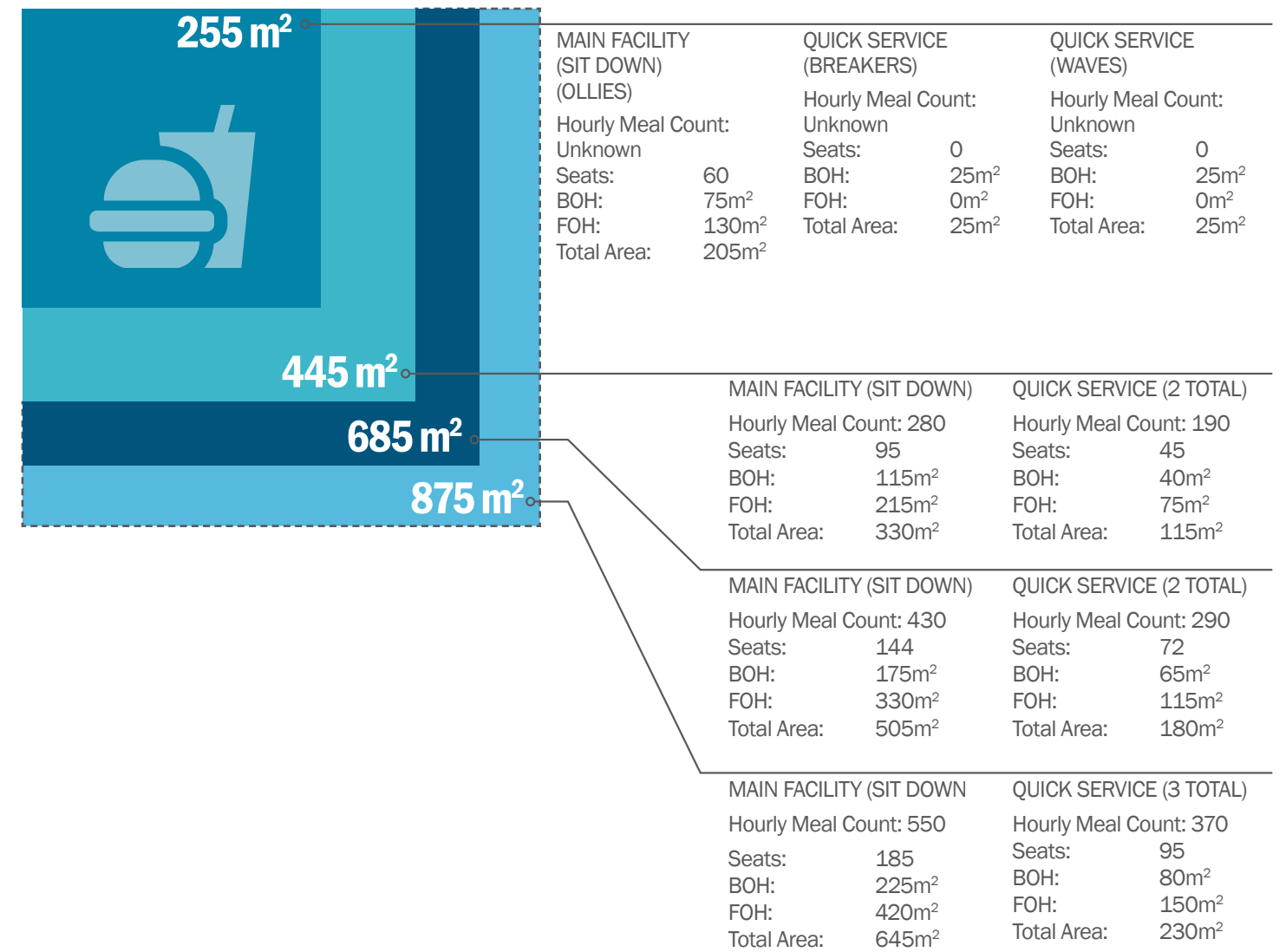


**LEGEND**

Existing (1983)	Current Required	Modest Improv.	New Design
<b>Plaza Area (Outside Gate):</b> 470 m <sup>2</sup>	<b>Peak Arrivals:</b> 480 Guests	<b>Peak Arrivals:</b> 750 Guests	<b>Peak Arrivals:</b> 960 Guests
<b>Ticketing (The Gate):</b> 2 Booths	<b>Plaza Area Requirement (Outside Gate):</b> 720 m <sup>2</sup>	<b>Plaza Area Requirement (Outside Gate):</b> 1,125 m <sup>2</sup>	<b>Plaza Area Requirement (Outside Gate):</b> 1,435 m <sup>2</sup>
<b>Bag Check:</b> 2 Counters & Wristbands	<b>Ticketing (The Gate):</b> 3 Booths	<b>Ticketing (The Gate):</b> 5 Booths	<b>Ticketing (The Gate):</b> 6 Booths
	<b>Bag Check:</b> 3 Counters & Wristbands	<b>Bag Check:</b> 5 Counters & Wristbands	<b>Bag Check:</b> 6 Counters & Wristbands



**FIGURE 7: Food and Beverage Facility Area Comparisons - Existing 1983 / Current Required / Update**

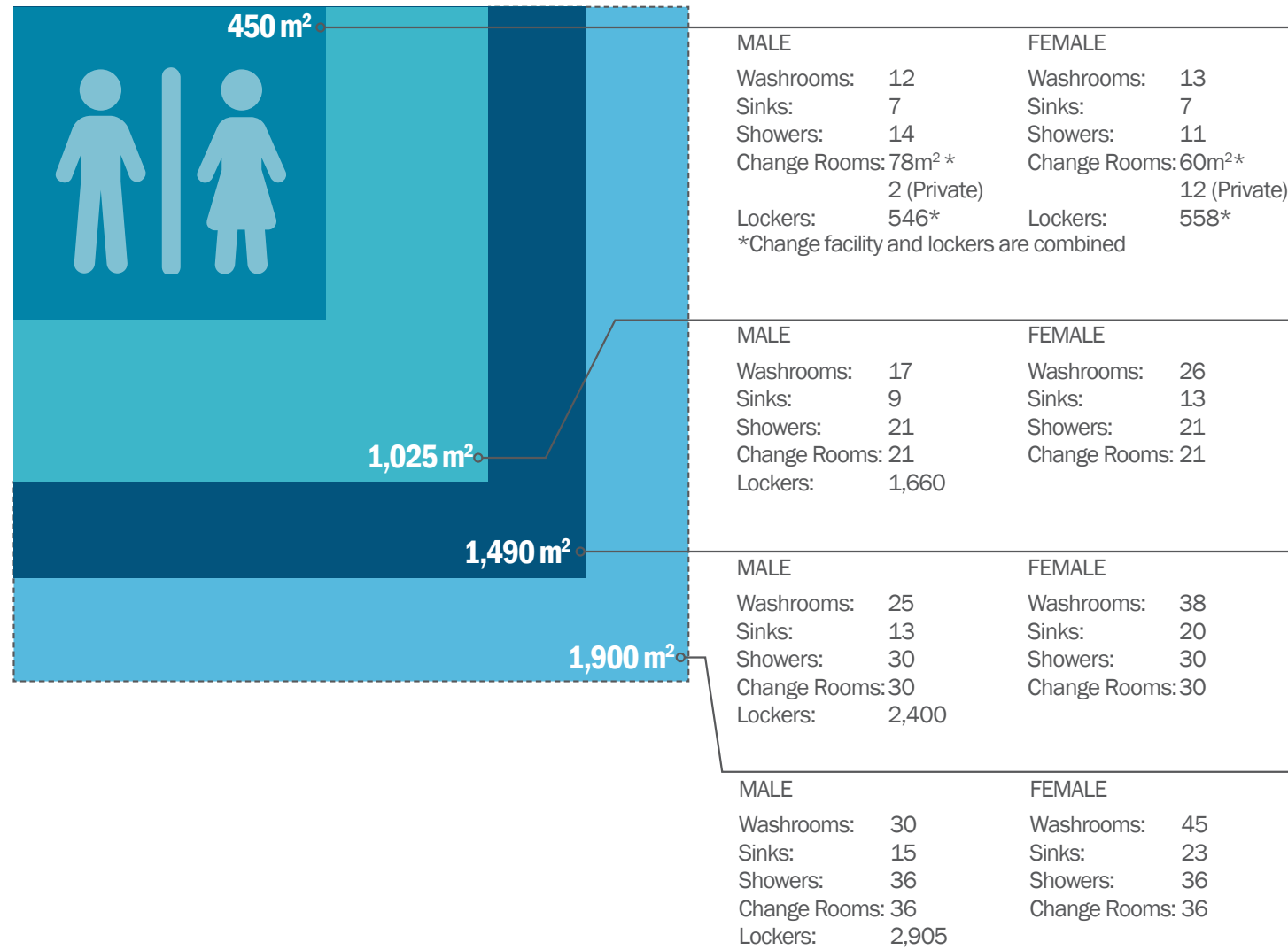


**LEGEND**

Existing (1983)	Current Required	Modest Improv.	New Design
<b>Attendance:</b> 100,000	<b>Attendance (2018):</b> 128,481	<b>Projected Attendance (2022):</b> 145,000	<b>Projected Attendance (2022):</b> 185,000
<b>Planned Guest Design Day:</b> 1,400	<b>Guest Design Day Program Capacity:</b> 2,050	<b>Projected Guest Design Day:</b> 3,000	<b>Projected Guest Design Day:</b> 3,830
<b>Hourly Meal Count Total:</b> Unknown	<b>Hourly Meal Count Total:</b> 470	<b>Hourly Meal Count Total:</b> 720	<b>Hourly Meal Count Total:</b> 920



**FIGURE 8: Male/Female Change Facilities Area Comparisons - Existing 1983 / Current Required / Update**

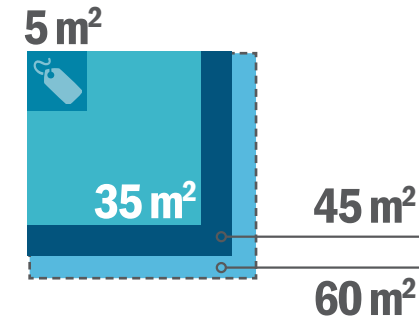


**LEGEND**

Existing (1983)	Current Required	Modest Improv.	New Design
Attendance: 100,000 Planned Guest Design Day: 1,400	Attendance (2018): 128,481 Guest Design Day Program Capacity: 2,050	Projected Attendance (Year 3): 140,000 Projected Guest Design Day: 3,000	Projected Attendance (Year 3): 187,000 Projected Guest Design Day: 3,830



**FIGURE 9: Retail Area Comparisons - Existing 1983 / Current Required / Update**

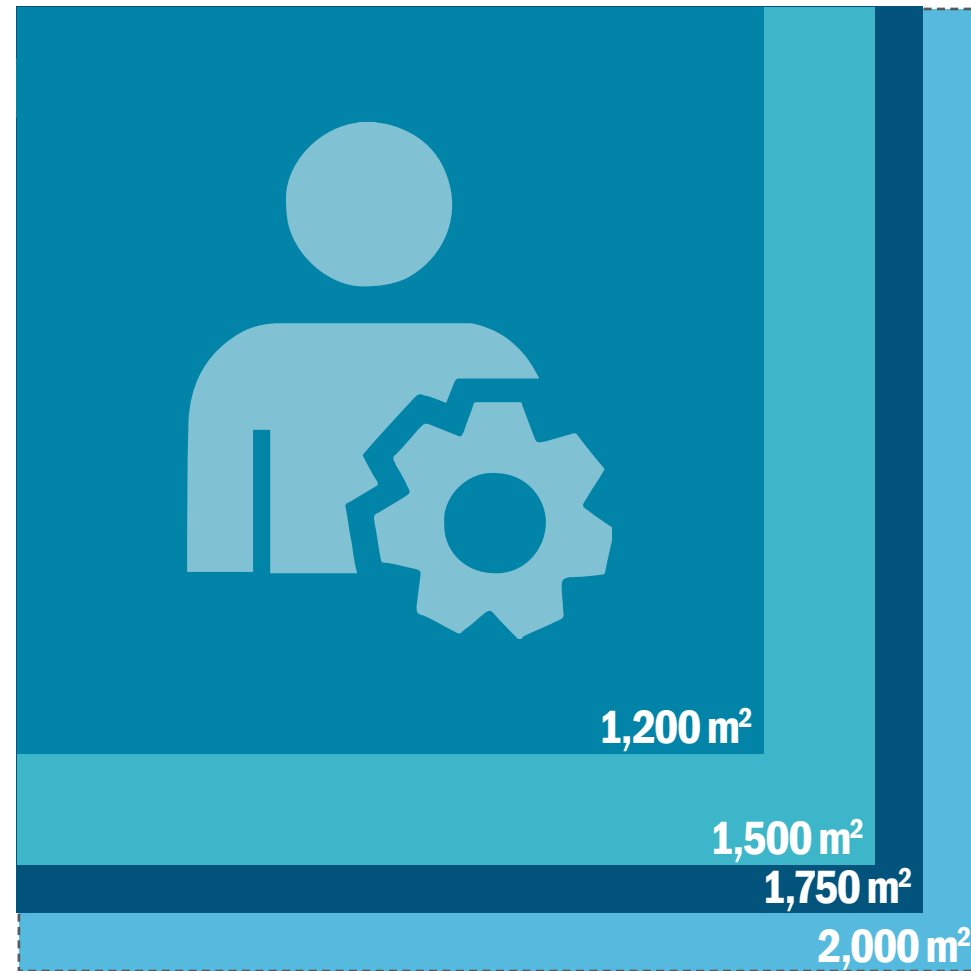


**LEGEND**

Existing (1983)	Current Required	Modest Improv.	New Design
Attendance: 100,000 Estimated Per Guest Spend: \$0.10 Retail Area: 5 m <sup>2</sup>	Attendance: 128,481 Estimated Per Guest Spend: \$0.60 Retail Area: 35 m <sup>2</sup>	Attendance: 145,000 Estimated Per Guest Spend: \$0.75 Retail Area: 45 m <sup>2</sup>	Attendance: 185,000 Estimated Per Guest Spend: \$0.80 Retail Area: 60 m <sup>2</sup>



FIGURE 10: Admin/FOH Area Comparisons - Existing 1983 / Current Required / Update



LEGEND

Existing (1983)	Current Required	Modest Improv.	Future
<b>Attendance:</b> 100,000	<b>Attendance:</b> 128,481	<b>Attendance:</b> 145,000	<b>Attendance:</b> 185,000
<b>FOH Area:</b> 1,200 m <sup>2</sup>	<b>FOH Area Requirements:</b> 1,500 m <sup>2</sup>	<b>FOH Area Requirements:</b> 1,750 m <sup>2</sup>	<b>FOH Area Requirements:</b> 2,000 m <sup>2</sup>
<b>BOH Area:</b> 600 m <sup>2</sup>	<b>BOH Area Requirements:</b> 800 m <sup>2</sup>	<b>BOH Area Requirements:</b> 900 m <sup>2</sup>	<b>BOH Area Requirements:</b> 1,000 m <sup>2</sup>



### 4.2.3 SITE EVALUATION - ANALYSIS SUMMARY

A number of trends emerge when considering the SWOT and facility analyses.

The site has a reasonable amount of open space around the periphery of the site that is currently being utilized as passive park area. Mature trees and other vegetation help to enhance the park, frame or screen views and provide a backdrop for rides and attractions. In recent years, the maintenance of the grounds landscaping has improved as staff have made a concerted effort to improve and maintain the landscaping.

The centralized location of the wave pool and corresponding beach area functions as a “base camp” and allows guests to easily orient themselves. The most notable strength is the dedication of the full-time staff to the maintenance and operation of the water park. Several key skilled and dedicated staff have been able to reduce the water park operations costs while refurbishing older infrastructure with minimal operation funds.

Many weaknesses identified are largely a result of the age of the facility’s infrastructure and the pressures current attendance rates place on aging, end of life facilities. All building facilities, while structurally sound, are significantly undersized to meet the current attendance and are poorly distributed throughout the site. This creates circulation congestion issues throughout (particularly at the entrance area), negative guest experience, and the loss of potential revenue. Outdated POS systems compound these challenges by reducing the efficiency with which staff can serve guests’ needs. The attractions are reaching or are at the end of their lifespan and are having difficulty functioning under the stress of peak days.

Most of the threats identified in the analysis relate directly to the insufficient size of existing facilities or the physical degradation of attractions and their corresponding mechanical systems. A majority of these systems, rides, attractions, and facilities have far exceeded a reasonable operating life cycle.

Other weaknesses relate to the growth of the water park over time and design decisions that were not fully considered when additional attractions or facilities were being built. Amenities such as shade or guest seating have not been properly provided. Revenue-generating amenities such as cabanas and event space are not being capitalized to their full potential. The mix of attraction types provided does not include dry play activities or places for guests to congregate during inclement weather events. The selection of rides and attractions no longer meets the increasing demands of guests for an improved entertainment experience.

On a positive note, the adjacent space to the water park presents an excellent opportunity to remedy many of the layout and programming challenges the park currently faces. There is space to expand/redistribute facilities to meet code/guest requirements, add attractions to increase guest entertainment, and integrate amenities such as shade and seating throughout the site. Underutilized areas within the water park also create an opportunity to provide additional attractions and reorganize facilities.

Overall, there are many challenges the park faces, including a number of critical safety issues which must be addressed as soon as possible. The water park has assets which can be leveraged to overcome several obstacles currently hindering its smooth and successful operation.

## 4.3 ANNUAL ATTENDANCE PAST AND FUTURE

Wild Waterworks opened in 1983 and achieved its highest annual attendance, with just over 153,000 guests in its first year. Attendance over the past 35 years has averaged approximately 110,000 with peak attendance of 140,000 in 2005 and 2016. Attendance has fallen below 100,000 guests in 8 of the past 35 years. In 2018, attendance was approximately 128,000, which was much better than the stabilized average. Based on past and current revenue, operations costs, the park breaks even operationally at approximately 100,000 guests per year. As part of their market and financial analysis, CBRE reviewed the four options required for this study as well as a fifth, indoor water park option requested by City staff. The findings of their report are contained within the Appendix A-1, Market and Financial Analysis of Wild Waterworks. Their analysis reviewed each of the four options for the water park and provided estimated attendance levels for each of the four options. Based on the market and feasibility analysis and estimated attendance, the overall size of Wild Waterworks would remain unchanged

for both Option 1+2. Attendance in Option 1 would gradually decrease in the next 2-5 years falling well below 100,000. As infrastructure, rides and attractions continue to age and are taken out of service, it is expected that the park will become increasingly expensive to operate and would be closed. Attendance for Option 2 will slowly increase over the average attendance, increasing gradually over the next 2-5 years. The size of the water park will remain unchanged for this option as the current park area can accommodate the anticipated attendance.

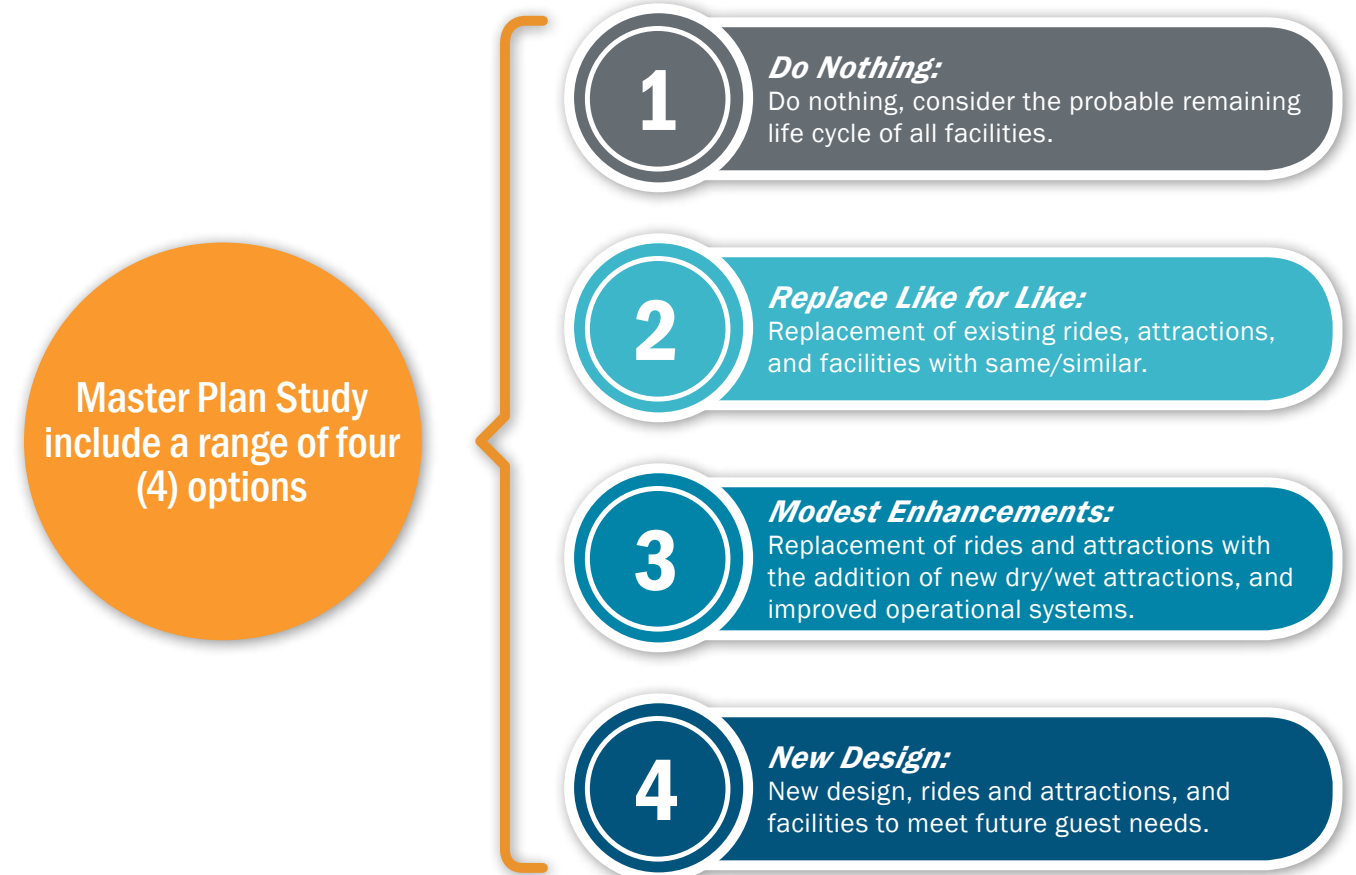
The water park size for Options 3+4 would need to be increased to accommodate increased annual (daily) attendance, as well as provide new rides and attractions for guests. For both options, attendance will increase steadily over the next 5-8 years until a new stabilized attendance level is achieved. Both option 3+4 require additional park area and an increased service level of rides and attractions. Details of the Four Options are presented in subsequent sections of the report.



## 4.5 ANALYSIS OF FOUR OPTIONS

City of Hamilton staff requested that the Master Plan Study include a range of four (4) options for presentation to Senior Management and Public Works Committee and Healthy and Safe Communities in early 2020.

These options can be summarized and will be evaluated as follows:



To complete the analysis of four options, we have broken our scope into tasks as shown below.

**SITE EVALUATION, ANALYSIS AND OBSERVATIONS**

- We reviewed all information collected and recorded to assist in understanding the existing site features, parkland and landscape conditions. This was used to help prepare our comparison and analysis of current capacities and desired capacities. Our team completed a data analysis of both existing and projected attendance.
- Using the market information provided by the City of Hamilton, together with the annual attendance projected by CBRE, we considered individual rides and capacities to determine which rides and attractions are performing well, which are under performing and which are at acceptable levels of performance. We also compared this to the site and area capacities together with the probable service life remaining by estimating how long the ride/ attraction will perform as intended.
- The same steps were taken for all the other facilities including washrooms, change areas, food and beverage, circulation and overall guest experience. This helped guide in a clear and objective way, decisions on replacement of older, under- performing rides/ attractions, adding new rides/attractions and any other design modifications to enhance guest experience, increase capacity or correct identified operational issues.

- FORREC retained Cloward H2O, Aquatic Engineers from Provo Utah, USA, to examine the current aquatic infrastructure through the eyes of an experienced engineer. This was critical to understand the condition and potential remaining service life of existing equipment. Cloward provided an engineering assessment related to the serviceability, operating condition and anticipated longevity of existing systems related to the circulation, treatment and controls of water quality within the park. Their findings and recommendations addressed how to best approach resolution of the identified issues. This report includes, by aquatic attraction, an evaluation of the existing systems (description, condition, functionality, remaining life, risk assessment, photographic documentation, etc.), explanations of identified issues, recommended options for remediation and/or improvements.
- The Aquatic Engineering Report is included as **Appendix A-2: Aquatic Engineering Facility Review Report + Recommendations**

**1 4.5.1 Do Nothing**

The “**Do Nothing**” option considers the remaining and expected lifespan of the water park facilities assuming no major upgrades or capital investment is made to the existing facility.

Given most of the existing infrastructure is aged and has already exceeded a reasonable and expected life cycle, the degradation of infrastructure, rides, and attractions will continue. As rides and attractions stop working or no longer can be reasonably repaired, they will be incrementally closed or shut down. Once this occurs to a point where guest experiences are adversely impacted, guest attendance is expected to begin declining noticeably from current levels. Once the annual attendance drops below the ±90,000 visits required for break even revenue targets, operating costs will exceed revenues. At this point in time the City will need to re-examine the financial viability of Wild Waterworks. It is highly possible the City will need to consider the range of options presented in this report to upgrade facilities or consider closing the facility for other City wide purposes.

Current, aging infrastructure will continue to degrade requiring higher expenditures annually to maintain current operating conditions. It is expected an average of 15-20% annual increase in maintenance costs will occur. This will require an increase in the number of maintenance staff to implement repair work and further require additional and highly specialized repair staff or vendors. We note that many of the facilities have already had a greatly extended life cycle due to the efforts of dedicated and highly skilled staff. While this is a tremendous asset to the water park, it is not reasonable to expect that this trend will occur indefinitely.

While the “**Do Nothing option**” may sound like a no capital cost option, it will require an increasing level of operating/maintenance capital to continue to keep the park open for the remainder of its life cycle. Once the park reaches the point where the decision is made to close, the park will require demolition, regrading and restoration/ rehabilitation, seeding and preparation for a future use. We have included a cost for this work.

**Little Squirt Works**

Ideally this entire area should be replaced. There are too many repairs and alterations to mechanical systems, surfacing, paving, drainage, etc required for the pool to function properly and safely.

**Wave Pool**

Another pool coating re-finish will be necessary in the next few years, as once the finish begins to deteriorate total failure is relatively rapid. Wave pool equipment is in excellent working condition with another 10-15 years life expectancy. Overall the wave pool has a life expectancy of 10-15 years.

**East Slides**

The East slide complex has a life expectancy of 8 – 12 years if upgraded with new slide pumps.

**West Slide**

The West slide complex requires moderate amounts of maintenance and repairs in order to continue to function. Failure is imminent if issues aren’t addressed in the near future.

**Eazy River**

The Eazy River has a few years of service remaining with continued maintenance. Caulking should be replaced, among a few other maintenance items.

2

## 4.5.2 Replace Like for Like

The “**Like for Like**” option considers the replacement of rides, attractions, and facilities with similar elements to those currently existing as existing facilities come to the end of their lifespan and begin to fail. For example, an existing body slide would be replaced with a newer body slide of like or similar quality, rather than replacing with an entirely different ride or attraction. To the extent practical, the replacement ride/ attraction will occur within a similar footprint which further limits the type of replacement which can be utilized. This approach envisions an incremental replacement program of rides and attractions.

All buildings that exist today are undersized to meet the current attendance levels. All front of house, food and beverage, washrooms/showers, lockers, and other staff and guest buildings need to be replaced to meet code requirements and current guest attendance. In this option, it is anticipated that all buildings will be replaced and located to optimize program and resolve many known operational issues.

Further, annual attendance will not increase in this option as the existing facilities will be correctly sized to handle current attendance rates.

### Front Entry & Facilities

Given that many of the issues identified in the SWOT (Strengths, Weakness, Opportunities and Threats) analysis relate to the insufficient size of existing facilities, the entrance buildings will be replaced in all options involving capital investment. This includes increasing the size of ticketing, food and beverage, washrooms, changerooms, lockers, retail, first aid, and administrative facilities to meet current attendance requirements. Plaza space both outside and within the water park will be provided to ease circulation and wayfinding issues in addition to providing appropriate queuing

areas. The redesign of the entrance facilities will also address missing connectivity with the waterfront trail. The increase in size of the entrance facilities will push the arrival sequence west into the existing parking lot. Vehicular and bus parking and drop off areas will also move west and be reconfigured based on existing attendance needs. The current overflow parking will be redesigned as part of the permanent parking area for the water park.

### Little Squirt Works

Ideally this entire area should be replaced. As outlined in the Aquatic Engineering Report (see Appendix A-2), this pool is the most problematic feature in the entire park regarding sanitation and safety and has the most pressing need for replacement. The recommended course of action is to redesign and replace the pool and its features entirely. The pool should be designed to have a dedicated water treatment system, leaving the existing water treatment system to service the east slide complex.

### East and West Slide Complexes

Both slide complexes are visibly aging and will eventually require replacement. With the redesign of Little Squirt Works, including a dedicated water treatment system, the east slides have the potential to last another 8 – 12 years with new pumps and diligent maintenance (Aquatic Engineering Report, Appendix A-2). Once the East and West Slide complexes have reached the end of their lifespan, they will be replaced with similar body and tube slide complex rides.

The west slide complex is in need of immediate attention to avoid imminent failure. Even with careful maintenance, it is likely that the west slide complex will need to be completely replaced in the next few years. Once this complex fails, it will be replaced with another tube slide complex.

*Replace Like for Like (continue)...*

### Eazy River

The Eazy River, has some years of service life remaining, if retained, requires updates to improve its construction weaknesses. The lack of propulsion, poor waterproofing, narrow width, rough surfacing, and insufficient drain grates should all be addressed to increase the safety, efficacy, and entertainment value of this attraction. The path of the river is well-integrated into the site and can be reused with minimal changes or interventions.

### Paving & Pool Surfacing

There are numerous concerns with the pool finishes and hardscape paving which should be addressed. Both the wave pool and river should be resurfaced to reduce safety risks. The concrete paving should be replaced with a slip and heat-resistant surfacing to reduce injuries, improve park aesthetics, and increase guest enjoyment. These improvements should be phased in over time as adjacent rides/attractions are replaced.



FIGURE 11: Like for Like Option



## REPLACE LIKE FOR LIKE ANTICIPATED OUTCOMES

### OUTCOMES

- Adequately sized entrance facilities, improved parking and drop off
- Washrooms/showers brought up to code
- Provides connection with the waterfront trail
- Increased revenue generation potential
- Improved hygiene and safety standards
- Improved entertainment value

### NOT ADDRESSED

- No increase in capacity or attendance
- No improvement in facility distribution throughout park
- No increase in lounging or shade
- No improvement to cabanas or event space
- No dry activities or sheltered areas
- No activities for teens only
- No activities for adults only

While the “**Like for Like**” option allows building facilities and attractions to be brought to meet current standards and accommodate current attendance, it does not address many key issues and cannot accommodate an increase in attendance.

## 3

### 4.5.3 Modest Improvements

The “**Modest Improvements**” option considers both the retention or replacement of major rides and attractions together with the addition of new dry/wet attractions, a sheltered recreation area and improved operational systems. It retains some of the strategies from the “Like for Like” option while also providing additional, new attractions and program to the park. In this option, phased replacement of rides/attractions will occur as they reach end of their respective life cycle. The rides/attractions will be replaced with facilities which are more appropriate for the targeted guest demographic, ages, and types of experiences and thrill levels. Key facilities such as the Wave Pool and Eazy River would be retained and maintained for the remainder of their life cycle and would be replaced in a similar location with layout refinements and additions

#### Front Entry & Facilities

Given that many of the issues identified in the SWOT (Strengths, Weakness, Opportunities and Threats) analysis relate to the insufficient size of existing facilities, the entrance buildings will be replaced in all options involving capital investment. This includes increasing the size of ticketing, food and beverage, washrooms, changerooms, lockers, retail, first aid, and administrative facilities to meet current attendance requirements. Plaza space both outside and within the water park will be provided to ease circulation and wayfinding issues in addition to providing appropriate queuing areas. The redesign of the entrance facilities will also address missing connectivity with the waterfront trail. The increase in size of the entrance facilities will push the arrival sequence west into the existing parking lot. Vehicular and bus parking and drop off areas will also move west and be reconfigured based on attendance needs. The current overflow parking will be redesigned as part of the permanent parking area for the water park.

#### Little Squirt Works

This entire area will be redesigned and replaced in its entirety. The pool should be designed to have a dedicated water treatment system, leaving the existing water treatment system to service the east slide complex.

The new area will increase active water play elements (i.e. squirt guns, tipping bucket, etc.).

A new washroom and a food and beverage unit will be located adjacent to the kid’s pool to improve the distribution of facilities throughout the park and provide easy access for parents of young children. Varied types of seating and cabanas around the attraction will be provided.

#### East and West Slide Complexes

Both slide complexes are visibly aging and will eventually require replacement. With the redesign of Little Squirt Works, including a dedicated water treatment system, the east slides have the potential to last another 8 – 12 years with new pumps and diligent maintenance. Once they have reached the end of their lifespan, they will be replaced with newer body slides, tube slides, a thrill ride or other rides to satisfy the program requirements and guest needs.

The west slide complex requires immediate attention to avoid failure. Even with careful maintenance, it is likely that the west slide complex will need to be completely replaced in the next few years. Given the popularity of these slides, it is recommended that when the complex fails, it be replaced with another tube slide complex with an exciting ride path. The selection will depend on providing a balanced range of rides and attractions throughout the park.

*Modest Improvements (continue)...*

**Easy River**

The Eazy River requires updates to improve its construction weakness. The lack of propulsion, poor waterproofing, rough surfacing, and insufficient drain grates should all be addressed to increase the safety, efficacy, and entertainment value of this attraction. The path of the rivers is well-integrated into the site and can be reused with minimal changes or interventions. Once the facility reaches the end of its service life, a new lazy or action river should replace this with some additional features and possibly a greater length.

**Paving & Pool Surfacing**

There are numerous concerns with the pool finishes and hardscape paving which should be addressed. Both the wave pool and river should be resurfaced to reduce safety risks. The concrete paving should be replaced with a slip and heat-resistant surfacing to reduce injuries, improve park aesthetics, and increase guest enjoyment. These improvements should be phased in over time as adjacent rides/attractions are replaced.

**Play Structure**

A new play structure will be added adjacent to Squirt Works to provide additional program for younger children. The play structure can be a combination of either wet or dry play with an opportunity to provide a significant amount of shade and varied levels of play value.

**Adventure Course**

The northeast corner of the site is generally disconnected from the balance of park attractions, currently serving as a pavilion event space and passive park area. A dry play activity that caters to older kids/teens would take advantage of the mature tree canopy and be integrated into the space. An adventure ropes course or tree-top trek type of attraction would cater to this age demographic. Circulation will be considered providing a connection to the whole park.

**Family Raft Ride**

The water park is currently lacking a thrilling family ride such as a family raft ride. A four or six-person family style raft ride will be added between the east slide complex and the wave pool, providing additional program and visual mass to the southeast corner of the site.

**Teen Activity Pool**

The water park is also currently lacking a water activity for older children and teens. A portion of the area inside the river will be infilled with a teen activity pool, offering a mix of exciting water play options such as floatable walks, zip lines, climbing walls, and basketball, among other activities.

Both a washroom and food and beverage unit will be located inside the river loop to improve the distribution of facilities throughout the park and cater to the demographic of the teen activity pool.

**Guest Amenities**

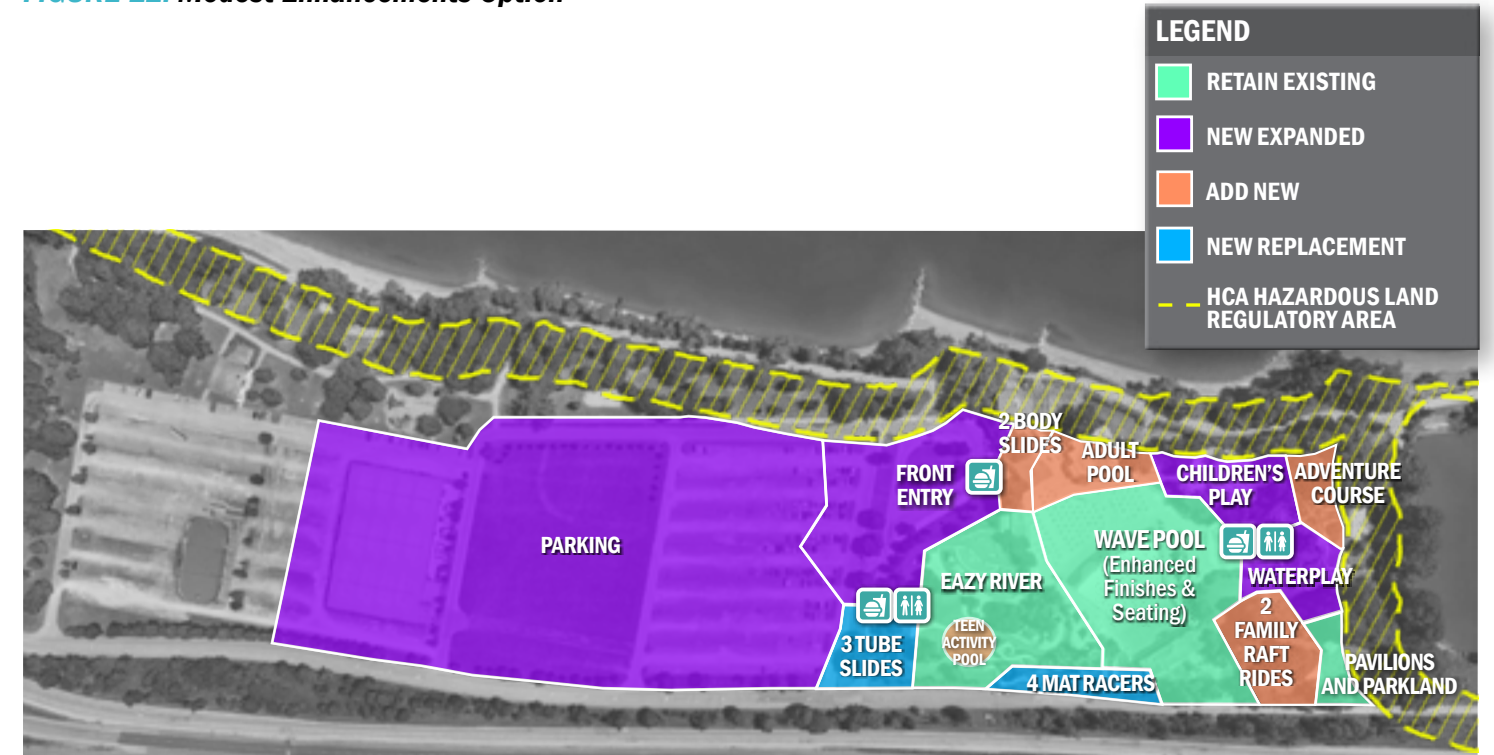
Additional areas of planting will be integrated throughout the park including the wave pool beach area to provide shade, visual interest, and moderate privacy for guests. Picnic tables will be replaced with loungers and chairs, offering a more comfortable and relaxing guest experience and greater deck area capacity.

Cabanas will be increased in number and upgraded to permanent structures with better distribution throughout the water park.

Theming and signage can improve significantly, creating a clear wayfinding strategy while enhancing the guest experience and branding/marketing potential of the park.

A new point of sale (POS) system and radio frequency identification (RFID) wristbands will be integrated with facilities and ticketing to improve ticket processing times, encourage revenue generation through cashless payment, and improve the guest experience.

**FIGURE 12: Modest Enhancements Option**



# 4

## 4.5.4 New Design

The “**New Design**” option considers a new layout and program of the water park including a complete redesign of the existing facility, retaining few, if any of the original components. In this option, the water park will be designed to meet projected future attendance and provide rides and attractions that meet the family demographic and current guest expectations.

The proposed location of rides and attractions and their relationship to one another and to facilities have been explored in an in-depth design process. The new design will accommodate the future projected annual attendance.

### Front Entry & Facilities

The entrance buildings will be designed to accommodate both current and future attendance. This includes increasing the size of ticketing, food and beverage, washrooms, changerooms, lockers, retail, first aid, and administrative facilities. Plaza space both outside and within the water park will be provided to improve circulation and wayfinding, in addition to providing appropriate queuing areas. The redesign of the entrance facilities will also address missing connectivity with the waterfront trail. The increase in size of the entrance facilities will push the arrival sequence west into the existing parking lot. Vehicular and bus parking and drop off areas will also move west and be reconfigured based on attendance needs. The current overflow parking will be redesigned as part of the permanent parking area for the water park.

Additional washroom and food and beverage units will be distributed throughout the site at necessary locations, allowing guests to easily access facilities and increasing the potential revenue generation of the park.

### Wave Pool

A new wave pool will be designed to accommodate the future annual attendance and create shallow water zones for small children and larger beach areas for relaxing and lounging. Given new wave machine technology, the wave heights may be varied to meet different guest profiles at different times of day from smaller children family friendly to larger more teenager/ adult thrill level.

### Children’s Activity Pool

A children’s play area will be designed with exciting, age-appropriate activities. Active water play elements such as squirt guns and tipping buckets will be integrated into a wet deck or shallow pool. Colourful paving and themed water features will create an immersive environment for children to play and explore. Shaded areas offer respite from the sun and places for parents and children to relax.

Both a washroom and food and beverage unit will be located in the near vicinity to provide easy access for parents of young children. Varied types of seating will be provided, including lounge chairs and cabanas.

### Play Structure

A play structure will be added to provide additional program for younger children. The play structure can be either wet or dry play, and there is the opportunity to shelter a portion of the area depending on the type of structure.

### Adventure Course

The northeast corner of the site will be transformed into a dry play activity that caters to older kids/teens and which takes advantage of the mature tree canopy, such as an adventure ropes course or tree-top trek. Circulation will be considered to connect the attraction to the rest of the park activities.

### New Slide Complexes

Both existing slide complexes are visibly aging and will be replaced with newer body slides, tube slides, a thrill ride and other rides to satisfy the program requirements and guest needs. The selection will depend on providing a balanced range of rides and attractions throughout the park.

### Family Raft Ride

A four or six-person raft ride will be integrated into the site, adding a thrilling ride for the entire family to enjoy.

### Easy River

An Eazy river will be designed to be well-integrated with the site and other rides/ attractions. Water spray features will be integrated with the river, adding entertainment value. Bubblers, spray guns, overhead waterfalls, and other features offer a wonderful opportunity to make the river a dynamic experience for all age levels.

### Other Dry activities and sports

A range of other sports and recreation facilities were considered as part of this new design such as cricket, pickle ball courts, sand volleyball and other dry sports. After reviewing the opportunities, the team determined with City staff these uses are more suitable for the former campground area being developed as City-wide sports zone as envisioned in the Confederation Beach Park Master Plan Review & Update 2010, prepared by G. O’Connor Consultants Inc..

### Teen Activity Pool

A lively and energetic teen activity pool will offer a mix of exciting water play options such as floatable walks, zip lines, climbing walls, basketball, among others. Places for older children and teens to play, interact, and hang out will be integrated with the area.

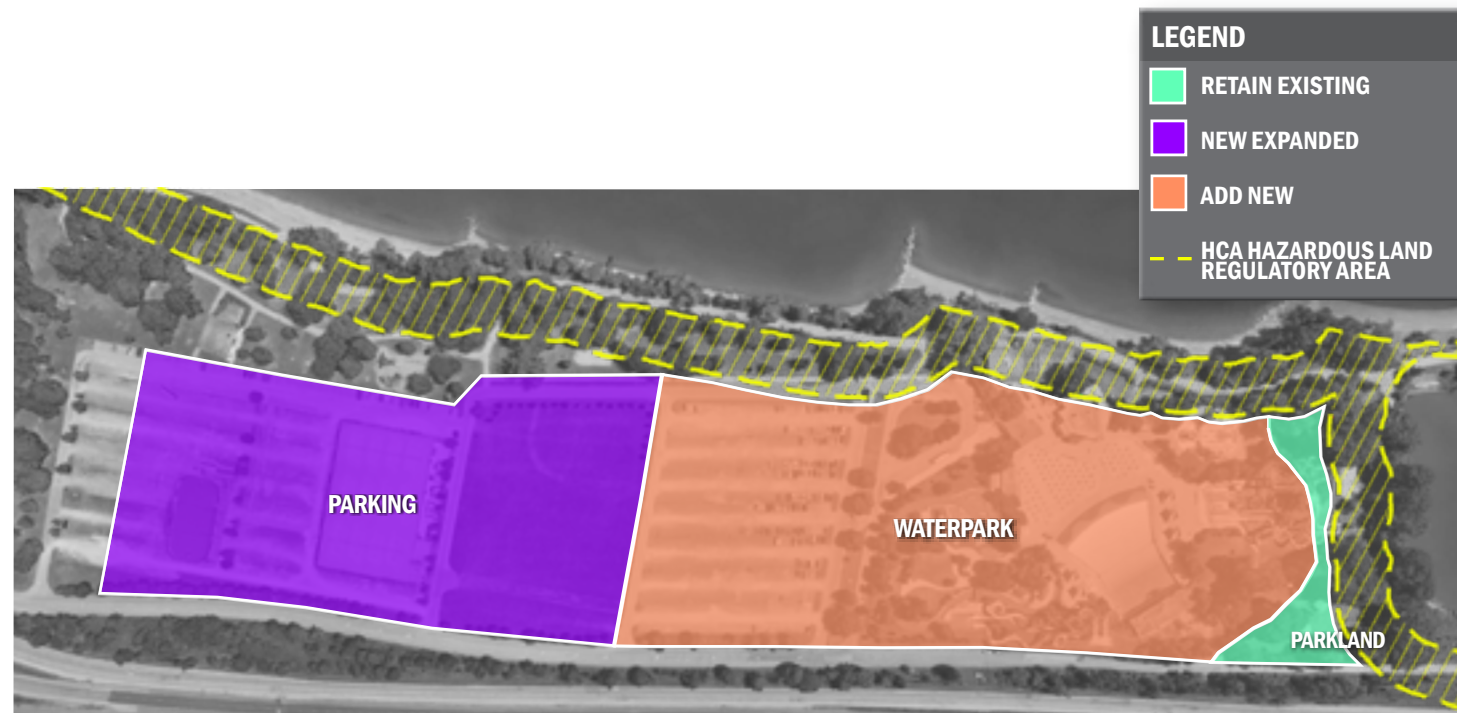
### Guest Amenities

Planting islands will be designed throughout the park to provide shade, visual interest, and moderate privacy for guests. Dedicated areas for loungers, chairs, and tables will all be provided, offering a comfortable and relaxing guest experience. Cabanas will be themed and well-sited, maximizing their revenue generation capacity. Paving and pool surfacing throughout the park will be slip and heat-resistant, and will be designed to enhance the attractions, features, and identity of the park.

Theming and signage will improve significantly, creating a clear wayfinding strategy and enhance the guest experience and branding/ marketing potential of the park.

A new point of sale (POS) system and radio frequency identification (RFID) wristbands will be integrated with facilities and ticketing to improve ticket processing times, encourage revenue generation through cashless payment, and improve the guest experience.

FIGURE 13: Mew Design Option

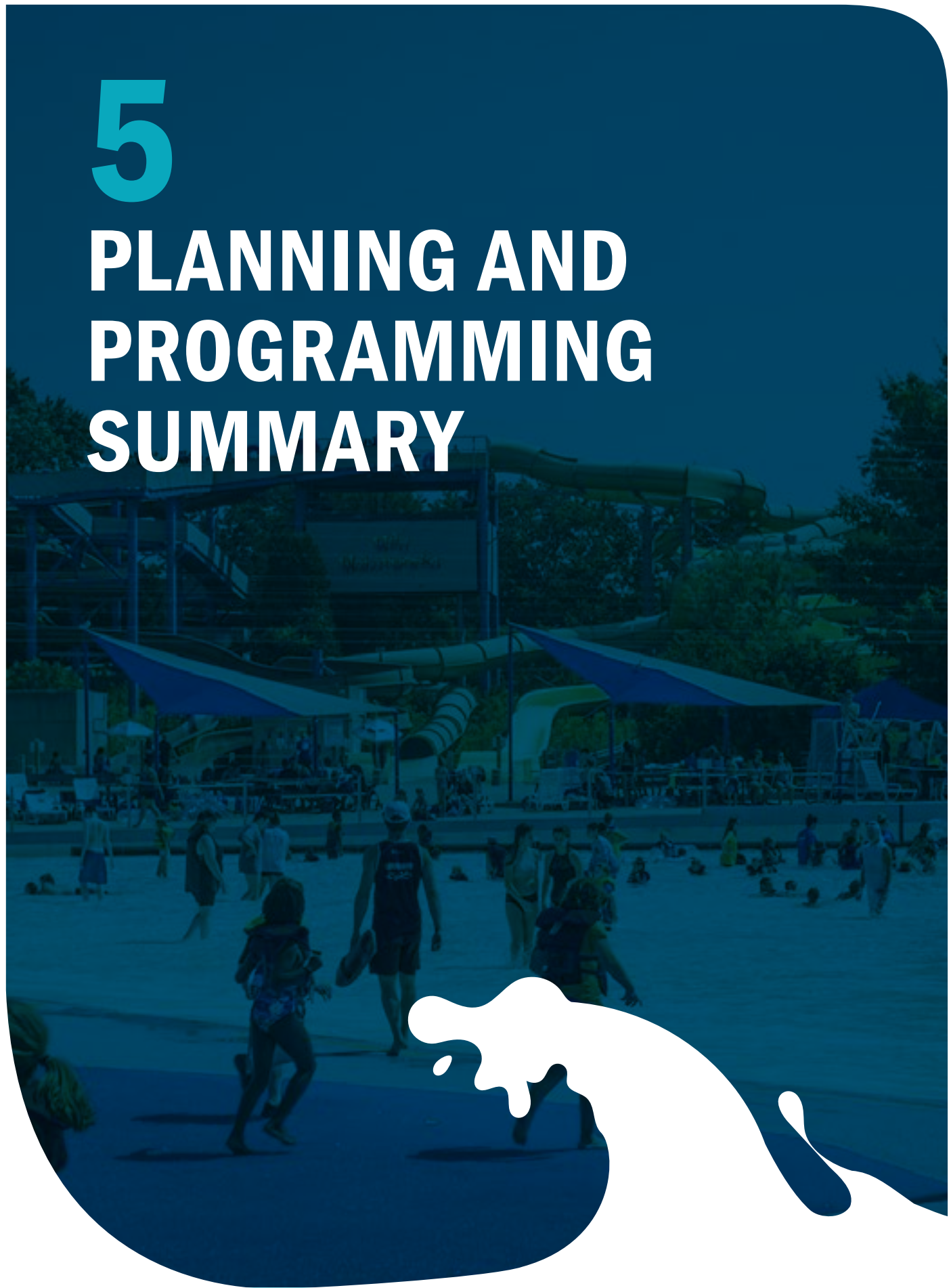


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## NEW DESIGN ANTICIPATED OUTCOMES

### OUTCOMES

- Adequately sized entrance facilities
- Washrooms/showers brought up to code
- Provides connection with the waterfront trail
- Improved vehicular/bus parking, drop off
- Increased revenue generation potential
- Improved hygiene and safety standards
- Improved entertainment value
- Improved operational efficiency
- Increased capacity, greater annual attendance
- Improved facility distribution throughout park
- Improved lounging and shade areas
- Improved and increased number of cabanas
- Provides dry activities
- Improved seasonal activities
- Provides teen activities
- Improved activities for adults only
- Optimal location/relationship of each attraction
- Increased guest satisfaction
- Improved F+B sales and overall park attendance



## 5 PLANNING AND PROGRAMMING STUDY

### PLANNING AND PROGRAMMING ATTRACTIONS/RIDES

The planning and design work will address the issues and opportunities identified in the Analysis task. We considered a range of solutions to enhance guest experience, improve the mix of rides and attractions to provide new, more interesting challenges to meet a changing demographic and increase potential park attendance. We prepared summary graphics and figures to clearly illustrate and support our findings.

These will include dry land play and activities during rain days.

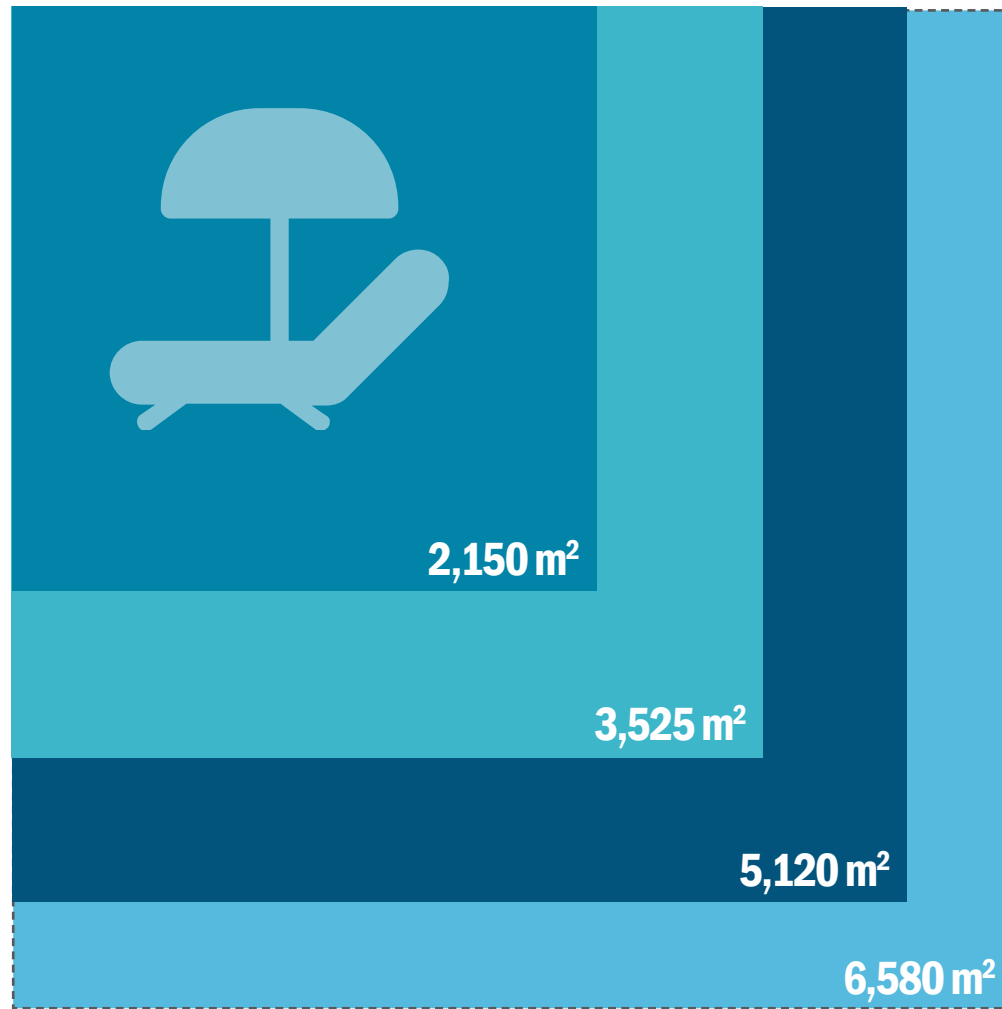
FORREC prepared an Overall Vision Plan for the 10ha site, including the Wild Waterworks Water Park, drop off/arrival areas, parking lot and overflow grass area up to the sand volleyball area. It considered and accommodated the range of programs and activities discussed during the analysis phase. This will allow potential for expansion either initially or in the longer term as deemed applicable by the study.

This task will bring together all the previous discussion and observations to date that creatively address and resolve, to the extent practical, the issues identified and desired programs. Our overall plan will organize and create strong relationships between various elements or areas, whether rides, attractions, food and beverage or back of house. We will show, as appropriate, the replacement of new more iconic rides to supplement and increase the capacity while enhancing the guest experience.

Improvements to driveway, bus drop off, parking and entrances. The plan addresses the required parking, guest arrival sequence, vehicular circulation, pedestrian circulation, water park, dry play and wet programs.

Potential links to the Ontario and Waterfront Trail, adjacent picnic areas, protection of parkland features.

**FIGURE 14: Lounging Area Comparisons - Existing 1983/ Current Required / Update**

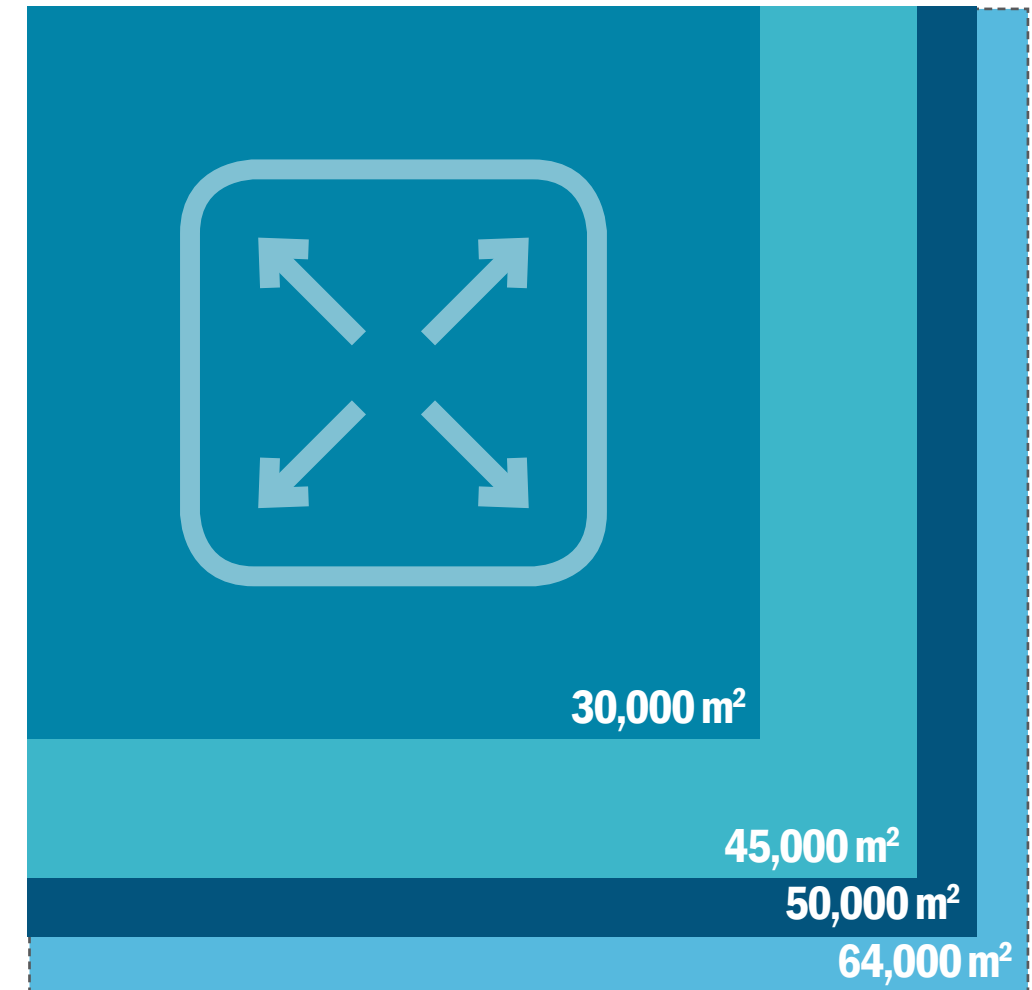


**LEGEND**

Existing (1983)	Current Required	Modest Improv.	New Design
<b>Guest Design Day Assumption:</b> 1,400	<b>Guest Design Day Assumption:</b> 2,050	<b>Guest Design Day:</b> 3,000	<b>Guest Design Day:</b> 3,830
<b>Percentage of Guests Lounging (Passive Activity):</b> 30%	<b>Percentage of Guests Lounging (Passive Activity):</b> 40%	<b>Percentage of Guests Lounging (Passive Activity):</b> 40%	<b>Percentage of Guests Lounging (Passive Activity):</b> 40%
<b>Number of Lounge Chairs:</b> 160	<b>Number of Guests Lounging:</b> 820	<b>Number of Guests Lounging:</b> 1,190	<b>Number of Guests Lounging:</b> 1,530
<b>Number of Picnic Tables:</b> 284	<b>Area Requirement (4.3 m²/pp):</b> 3,525 m²	<b>Area Requirement (4.3 m²/pp):</b> 5,120 m²	<b>Area Requirement (4.3 m²/pp):</b> 6,580 m²
<b>Lounging Area Available:</b> 2,150 m²			

0 m 10 m 30 m 50 m

**FIGURE 15: Park Size Requirement with Increased Attendance - Existing 1983 / Current Required / Update**

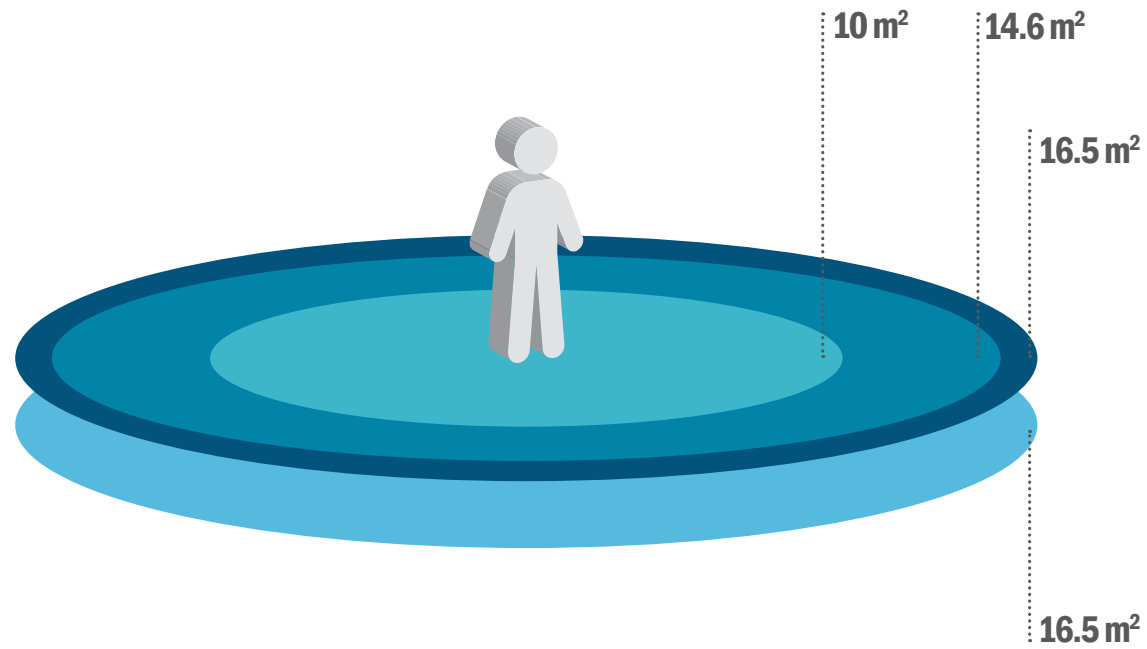


**LEGEND**

Existing (1983)	Current Required	Modest Improv.	New Design
<b>Attendance:</b> 100,000	<b>Attendance:</b> 128,481	<b>Attendance:</b> 145,000	<b>Attendance:</b> 185,000
<b>Guest Design Day:</b> 1,400	<b>Guest Design Day:</b> 3,000	<b>Guest Design Day:</b> 3,000	<b>Guest Design Day:</b> 3,830
<b>Opening Day Park Area:</b> 20,000 m²	<b>Current Usable Park Area:</b> 30,000 m²	<b>Overall Park Area Requirement:</b> 50,000 m²	<b>Overall Park Area Requirement:</b> 64,000 m² (6.4 Ha)
<b>Park Area Per Guest:</b> 14.28 m²/pp	<b>In Park Usable Area Requirement:</b> 45,000 (4.5 Ha)	<b>Park Area Per Guest:</b> 16.5 m²/pp	<b>In Park Area Requirement:</b> 55,000 (5.5 Ha)
<b>Current In Park Area:</b> 30,000 m²	<b>Park Area Per Guest:</b> 15 m²/pp		<b>Park Area Per Guest:</b> 16.5 m²/pp
<b>Guest Design Day:</b> 3,000			
<b>Park Area Per Guest:</b> 10 m²/pp			

0 m 30 m 50 m 250 m

**FIGURE 16: Park Size Requirement with Increased Attendance - Existing 1983 / Current Required / Future**

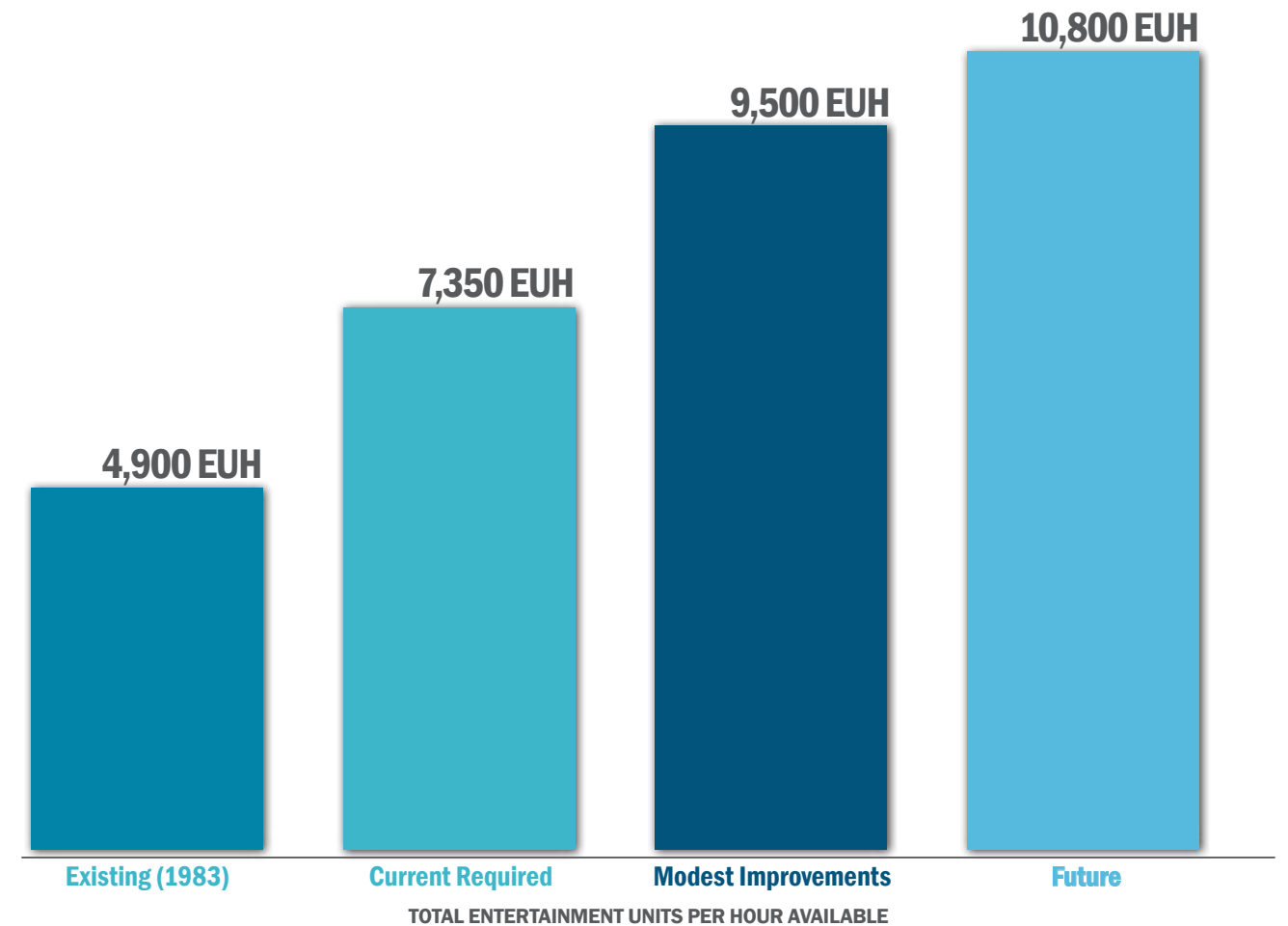


**LEGEND**

Opening (1983)	Current	Modest Improv.	New Design
<b>Attendance:</b> 100,000	<b>Attendance:</b> 128,481	<b>Attendance:</b> 145,000	<b>Attendance:</b> 185,000
<b>Guest Design Day:</b> 1,400	<b>Guest Design Day:</b> 3,000	<b>Guest Design Day:</b> 3,000	<b>Guest Design Day:</b> 3,830
<b>In Park Area:</b> 20,500 (2.05 Ha)	<b>In Park Usable Area:</b> 30,000 (3.0 Ha)	<b>In Park Area:</b> 50,000 (53.0 Ha)	<b>In Park Area:</b> 64,000 (6.4 Ha)
<b>Park Area Per Guest:</b> 14.6 m²/pp	<b>Park Area Per Guest:</b> 10 m²/pp	<b>Park Area Per Guest:</b> 16.5 m²/pp	<b>Park Area Per Guest:</b> 16.5 m²/pp



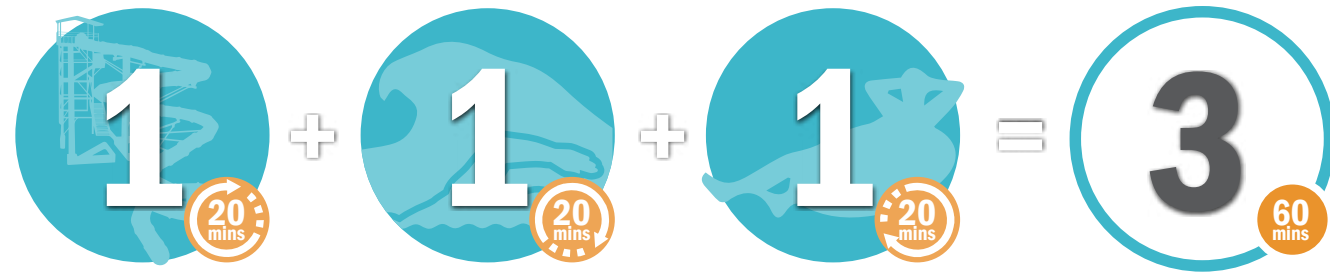
**FIGURE 17: Water Rides and Water Attractions Entertainment Capacity Comparisons - Existing 1983 / Current Required / Update**



**LEGEND**

Existing (1983)	Current Required	Modest Improv.	New Design
<b>Attendance:</b> 100,000	<b>Current Design Entertainment Analysis</b>	<b>Projected Attendance (Year 3):</b> 140,000	<b>Design Entertainment Requirement</b>
<b>Design Day:</b> 1,400	<b>Attendance (2018):</b> 128,481	<b>Design Day:</b> 3,000	<b>Projected Attendance (Year 3):</b> 187,000
<b>Optimal Entertainment Units Per Hour (EUH):</b> 3.5	<b>Total Entertainment Units Per Hour Available:</b> 7,340	<b>Total Entertainment Units Per Hour Required:</b> 9,500	<b>Design Day:</b> 3,830
<b>Total Entertainment Units Required:</b> 4,900	<b>Entertainment Units Per Hour (EUH):</b> 2.5	<b>Entertainment Units Per Hour (EUH):</b> 3.5	<b>Total Entertainment Units Per Hour Required:</b> 12,000
	<b>Recommended Design Day Capacity:</b> 2,050		<b>Entertainment Units Per Hour (EUH):</b> 3.5
	<b>Resultant Entertainment Units Per Hour (EUH):</b> 3.6		

**FIGURE 18: What is entertainment units per hour (EUH)?**

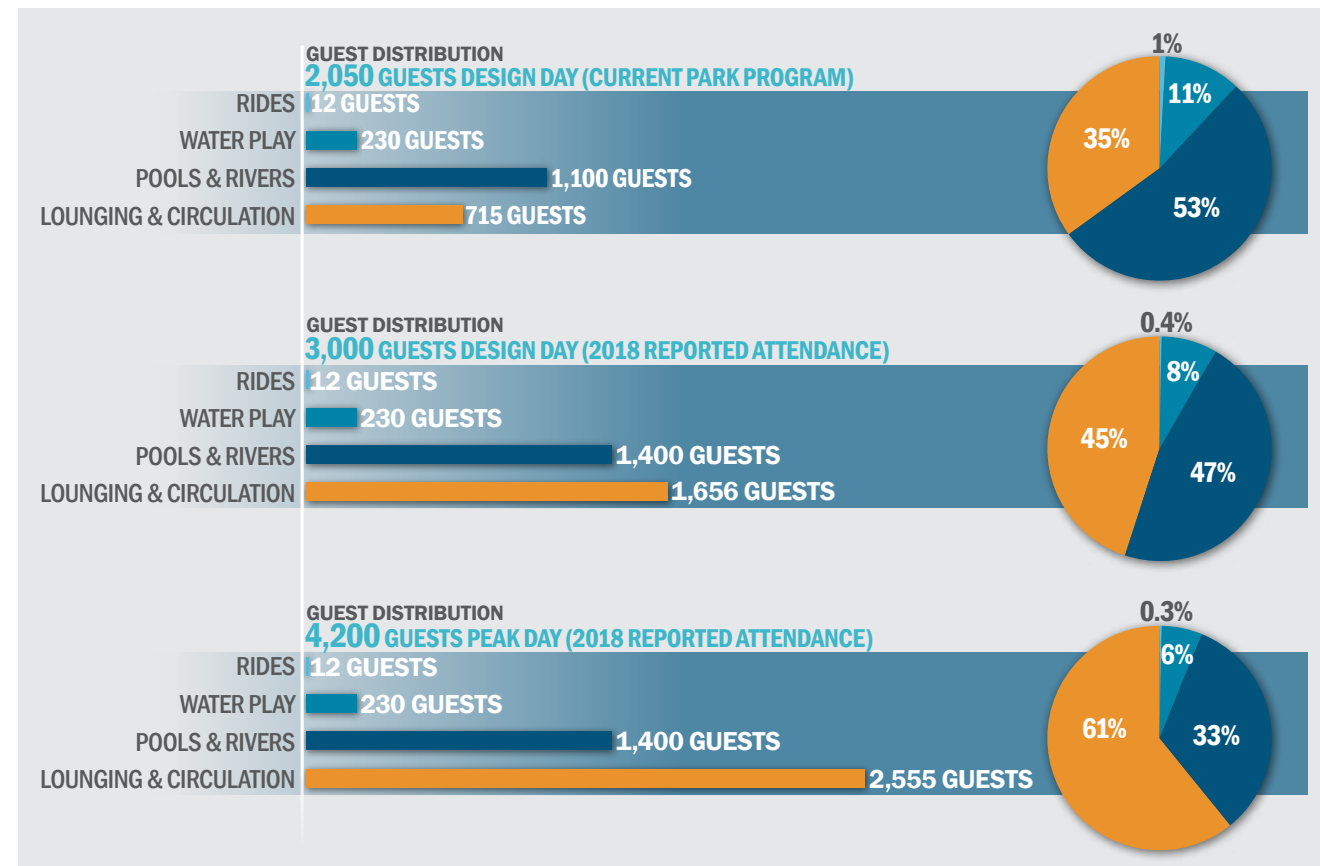


**3 Entertainment Unit Per Hour (EUH)**

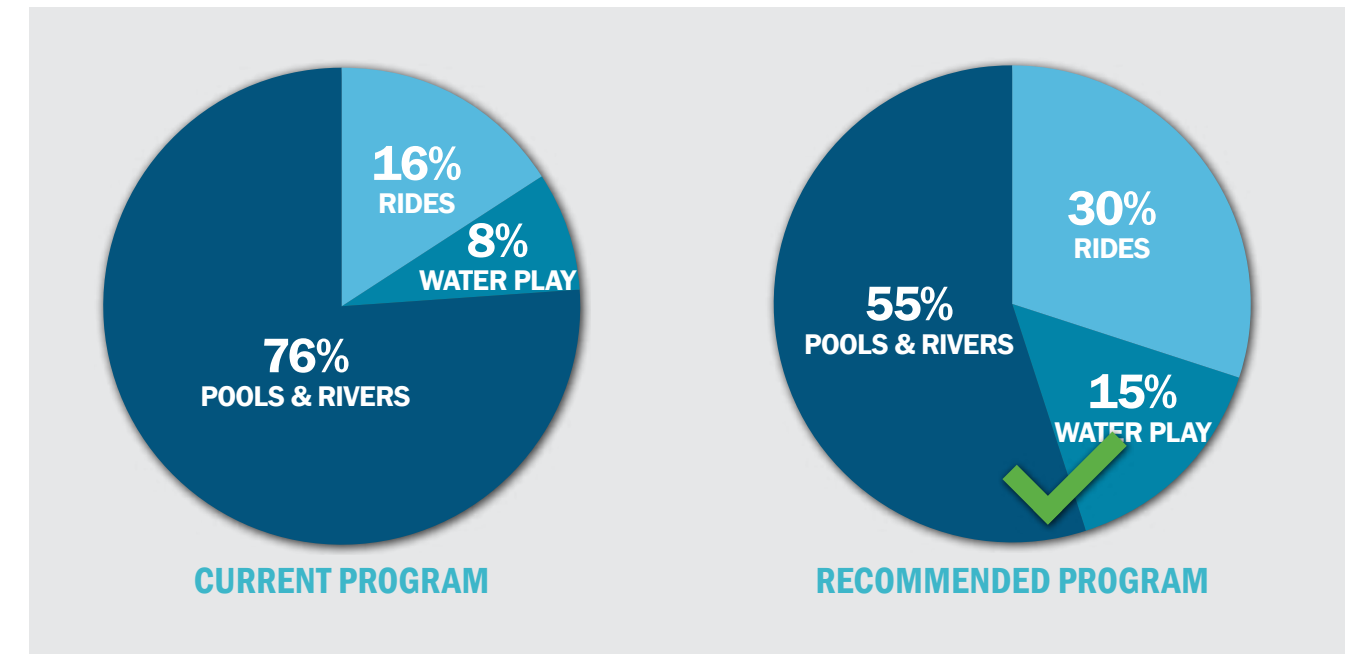
EUH is the number of activities a guest participates in one hour.

3 to 4 EUH is recommended.

**FIGURE 19: Current Entertainment Capacity Analysis - Guest Distribution**



**FIGURE 20: Entertainment Capacity Distribution**



**FIGURE 21: Current Entertainment Capacity Analysis - Entertainment Units Per Hour**

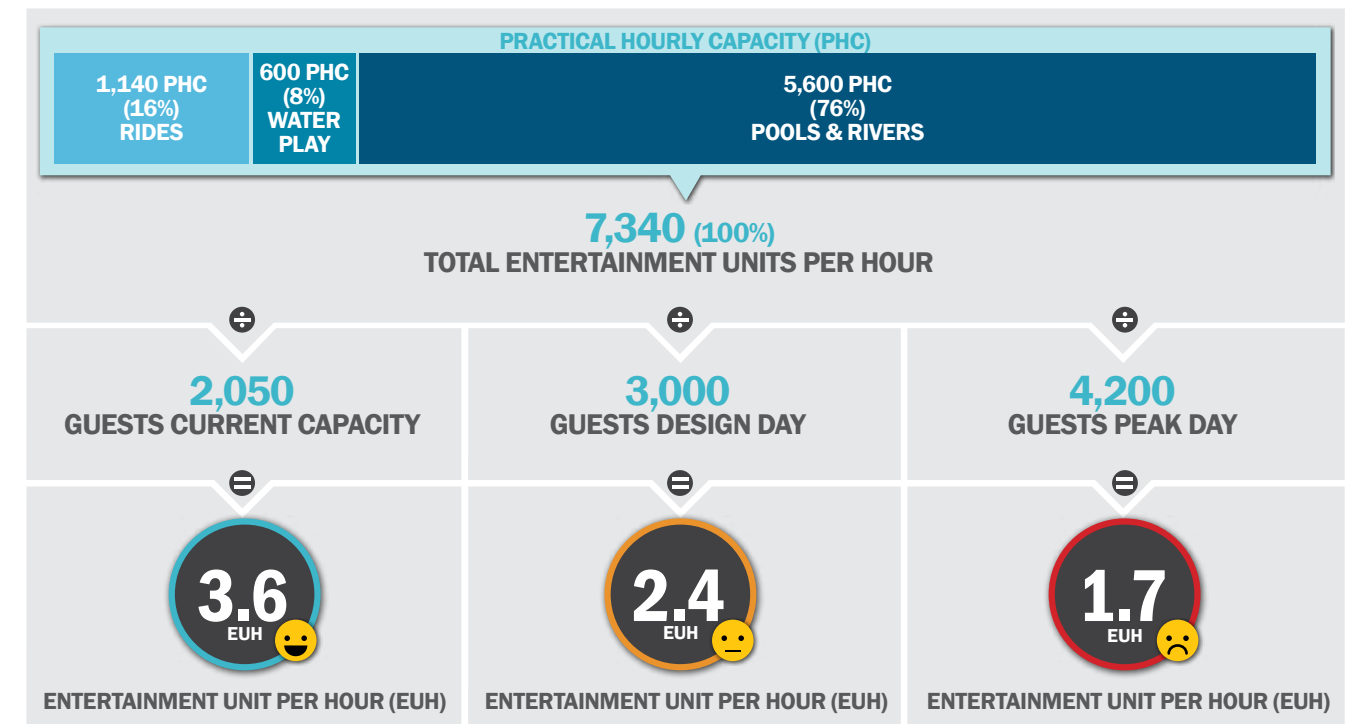




FIGURE 22: Existing Number of Water Rides and Water Attractions by Guest Type - Guest Segmentation

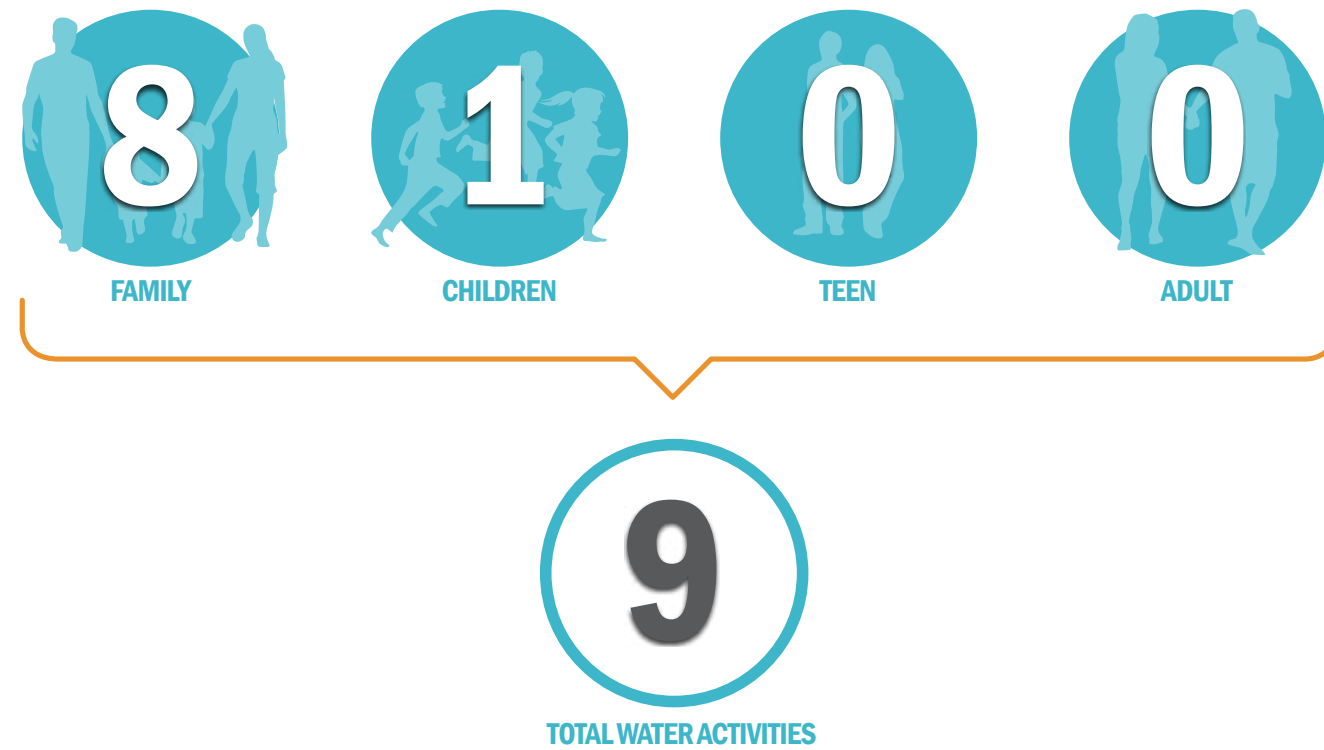
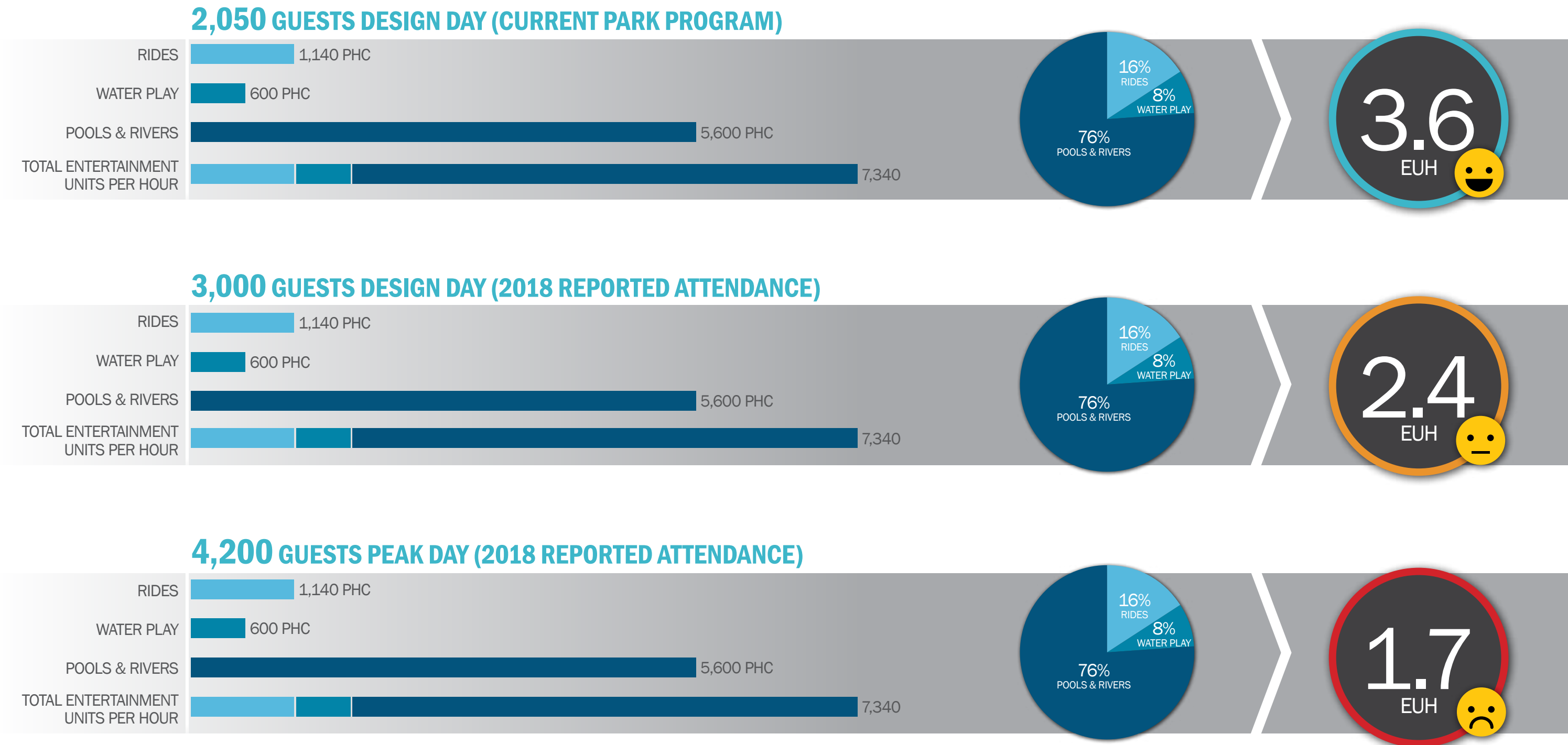


FIGURE 23: Numbers of Rides and Attractions by Experience - Experience Segmentation



FIGURE 24: Current Entertainment Capacity Analysis  
 Entertainment Units Per Hour



## 5.1 GUEST EXPERIENCE

The following section graphically illustrates the range of Guests experiences currently offered and the relative sizes of the current entertainment offered compared to expected entertainment.

In most categories, including but not limited to guest services, washrooms/lockers, showers, lounging, rides and attractions, the existing water park is not able to adequately or properly meet the needs of the guest or their expectations. The type of rides/attractions available and the distribution is limited within the park. As illustrated in the following figures, most categories require enhancement to meet current guests demand and will need to increase in size and or quality to meet future increased attendance. Many of the observations that were previously noted by staff as a concern are correct and are the result of attendance levels being higher than the facilities

are designed to accommodate. This overcrowding adversely impacts the guest experiences. Guest expectations have evolved significantly since the park opened in 1983. At the time the park opened, Wild Waterworks was well ahead of its time and offered a great family experience. Unfortunately given the age and condition of the rides/attractions and guest areas, the current guest experience is well below the expectations of today's guest and the market in general.

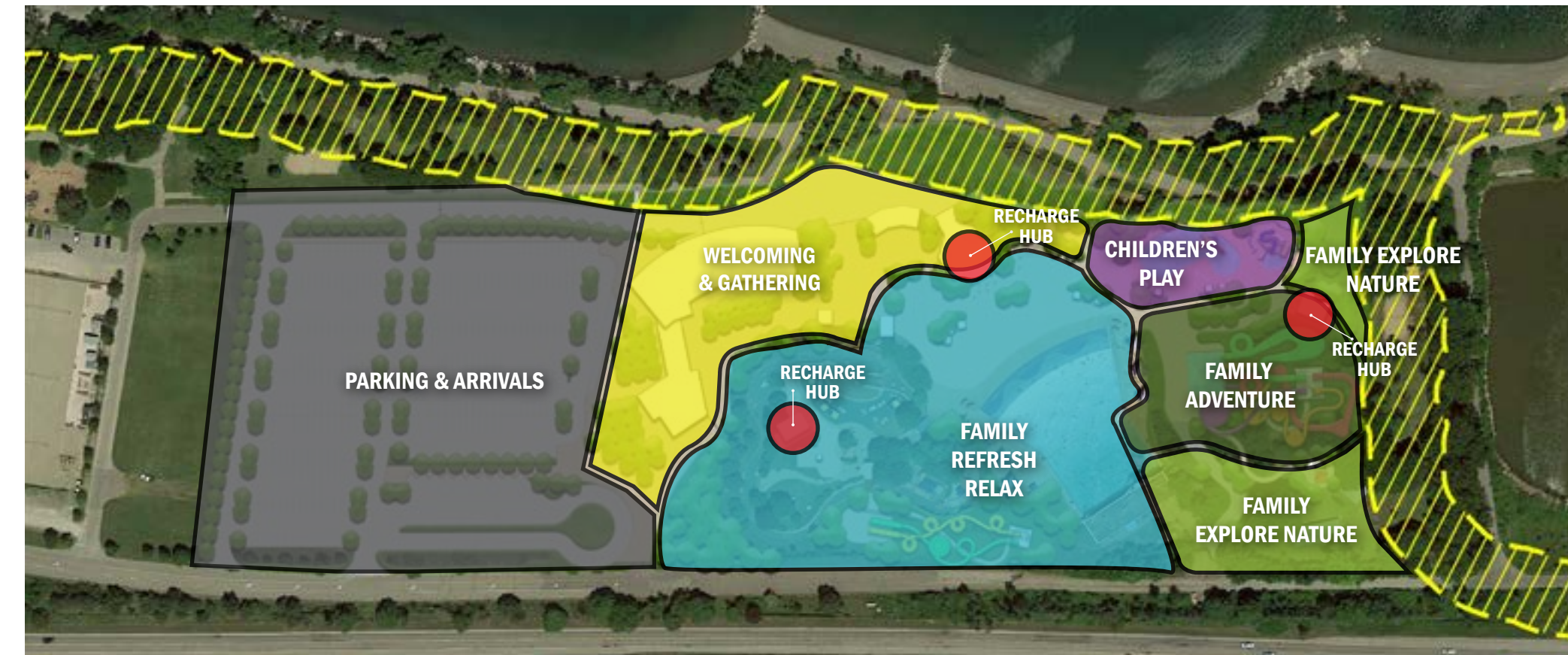
The issue can be summarized as "The guest gets what they pay for and paid for what they got".

In other words, the cost to attend is relatively low and so is the experience. The proposed improvements are intended to address this situation and enhance guest experience and increase overall annual attendance.

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FIGURE 25: Guest Experience Option 2



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FIGURE 26: Guest Experience Option 3

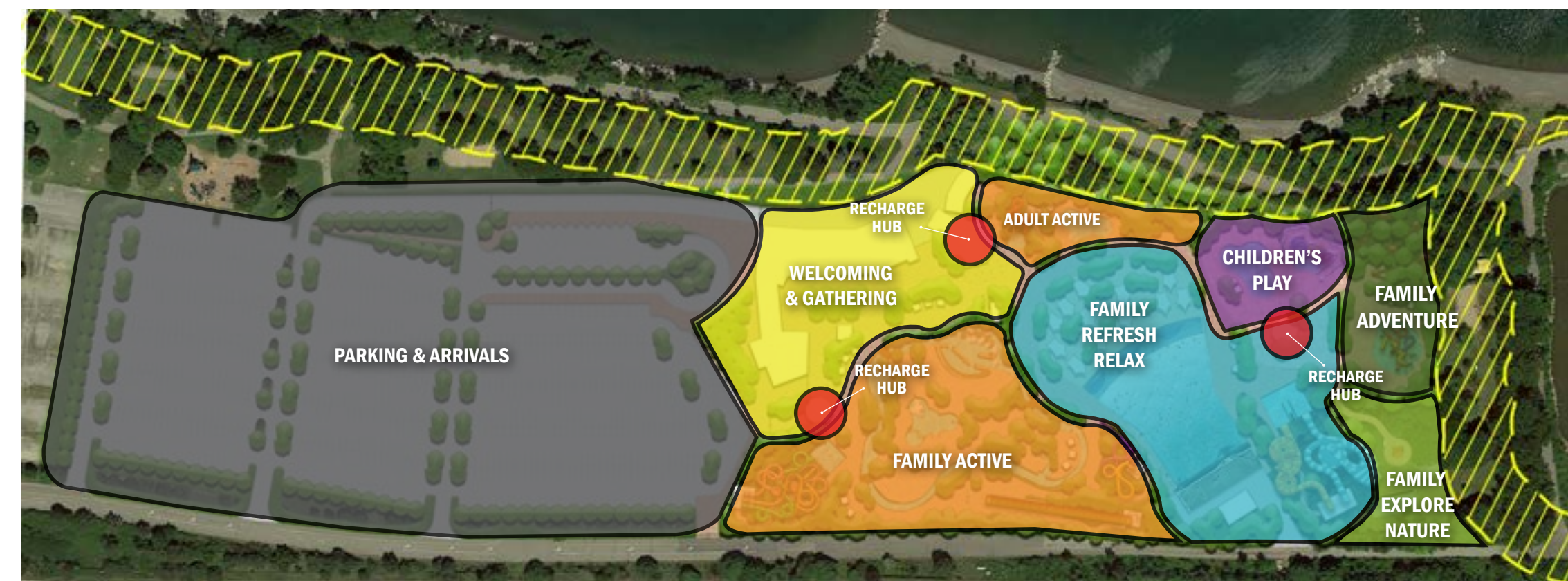


FIGURE 27: Guest Experience Option 4



FIGURE 28: Key Programming Metrics

ATTENDANCE SUMMARY						
<b>ANNUAL ATTENDANCE</b>				124,900	145,000	185,000
Design Day				2,585	3,002	3,830
EUH REQUIREMENT						
Entertainment Units per Hour per Visitor	PHC	3.50	8,144	9,455	12,063	
PARK AREA				m <sup>2</sup>	m <sup>2</sup>	m <sup>2</sup>
Water Park Area Requirement	m <sup>2</sup> /pp	16.50	42,660	49,525	63,187	
Parking Area Requirement	m <sup>2</sup>		37,574	46,444	57,483	
Arrivals Plaza (Outside Gate)	m <sup>2</sup>		900	1,126	1,436	
GUEST ACTIVITY DISTRIBUTION						
% Of Guests in Rides and Attractions				60%	60%	60%
% Of Guests on Deck Lounging				40%	40%	40%
FOH/BOH REQUIREMENTS				m <sup>2</sup>	m <sup>2</sup>	m <sup>2</sup>
FOH/Administration & Guest Services				1,500	1,750	2,000
Back Of House				800	900	1,000

**FIGURE 29: Guest Amenities**

GUEST WASHROOM, CHANGEROOM, LOCKERS & SHOWER FACILITIES		OPTION 3 145,000 ATTENDANCE	
		DD	Fixtures
Peak in Park Design Day		3,002	
No. Female WC		38	
No. Male WC		25	
Park Distribution		3	
	<b>Total Facilities</b> 100%	<b>406</b>	<b>63</b>
	<b>Main A</b> 70%	<b>285</b>	<b>44</b>
	<b>Satellite B</b> 15%	<b>61</b>	<b>9</b>
	<b>Satellite C</b> 15%	<b>61</b>	<b>9</b>
	<b>Total Area Required (m<sup>2</sup>)</b> 100%	<b>406</b>	<b>63</b>
WATER PARK SHOWER CALCULATION			
No. of Showers Men		30	
No. of Showers Women		30	
Total Area Required (m <sup>2</sup> )		<b>150</b>	
WATER PARK CHANGE ROOM CALCULATION			
No. of Changerooms Men		30	
No. of Changerooms Women		30	
Total Area Required (m <sup>2</sup> )		<b>210</b>	
WATER PARK LOCKERS CALCULATION			
Ratio of Guests Per Locker		0.80	
No. of Lockers		2,401	
Total Area Required for 4 High (m <sup>2</sup> )		<b>720</b>	
<b>FACILITIES TOTAL (m<sup>2</sup>)</b>		<b>1,487</b>	

**FIGURE 30: Revenue Facilities**

FOOD AND BEVERAGE REQUIREMENTS AND CAPACITY		OPTION 3 145,000 ATTENDANCE
<b>Meals</b>		
Hourly Meal Count (3 Hour Period)		<b>720</b>
Sit Down	60%	<b>432</b>
Quick Service	40%	<b>288</b>
<b>TOTAL AREA REQUIRED (m<sup>2</sup>)</b>		<b>684</b>
RETAIL SPACE REQUIREMENTS (m <sup>2</sup> )		OPTION 3
Estimated Annual Attendance		145,000
Estimated Spend Per Head for Merchandise		\$0.75
Estimated Annual Sales		\$108,750
Assumed Gross Revenue per (m <sup>2</sup> )		\$3,000
Retail Space (m <sup>2</sup> )		36
Additional Storage and BOH	20%	7
<b>RETAIL SPACE REQUIRED (m<sup>2</sup>)</b>		<b>44</b>

**FIGURE 31: Water Park Attractions Program Option 3**

<b>RIDES &amp; ATTRACTIONS PROGRAM</b>	<b>Unit/ Qty.</b>	<b>Instant Capacity</b>	<b>Practical Hourly Capacity</b>
Water Rides (Body, Tube and Raft Slides)	16	25	2,862
Water Play Attractions		550	1,400
Dry Play Attractions (Adventure Trail)		50	113
Pools & Rivers		1,100	5,728
Seating Capacity		1,191	
<b>TOTAL ATTRACTION CAPACITY</b>		<b>1,725</b>	<b>10,103</b>

<b>WATER PARK SUMMARY</b>		
Poolside Seating Capacity Total	41%	1,191
Water Rides & Attractions Total	59%	1,725
<b>GUEST TOTAL</b>		<b>2,916</b>
<b>ENTERTAINMENT UNITS PER HOUR PHC (ACTIVE)</b>		<b>3.46</b>

**FIGURE 32: Guest Amenities**

<b>GUEST WASHROOM, CHANGEROOM, LOCKERS &amp; SHOWER FACILITIES</b>	<b>OPTION 4 185,000 ATTENDANCE</b>	
	DD	Fixtures
Peak in Park Design Day	3,830	
No. Female WC	48	
No. Male WC	32	
Park Distribution	3	
<b>Total Facilities 100%</b>	<b>519</b>	<b>80</b>
<b>Main A 70%</b>	<b>363</b>	<b>56</b>
<b>Satellite B 15%</b>	<b>78</b>	<b>12</b>
<b>Satellite C 15%</b>	<b>78</b>	<b>12</b>
<b>Total Area Required (m<sup>2</sup>) 100%</b>	<b>519</b>	<b>80</b>
<b>WATER PARK SHOWER CALCULATION</b>		
No. of Showers Men	38	
No. of Showers Women	38	
Total Area Required (m <sup>2</sup> )	191	
<b>WATER PARK CHANGE ROOM CALCULATION</b>		
No. of Changerooms Men	38	
No. of Changerooms Women	38	
Total Area Required (m <sup>2</sup> )	268	
<b>WATER PARK LOCKERS CALCULATION</b>		
Ratio of Guests Per Locker	0.80	
No. of Lockers	3,064	
Total Area Required for 4 High (m <sup>2</sup> )	919	
<b>FACILITIES TOTAL (m<sup>2</sup>)</b>	<b>1,897</b>	

**FIGURE 33: Revenue Facilities**

FOOD AND BEVERAGE REQUIREMENTS AND CAPACITY		OPTION 4 185,000 ATTENDANCE
<b>Meals</b>		
Hourly Meal Count (3 Hour Period)		919
Sit Down	60%	551
Quick Service	40%	368
<b>TOTAL AREA REQUIRED (m<sup>2</sup>)</b>		<b>873</b>

RETAIL SPACE REQUIREMENTS (m <sup>2</sup> )		OPTION 4
Estimated Annual Attendance		185,000
Estimated Spend Per Head for Merchandise		\$0.80
Estimated Annual Sales		\$148,000
Assumed Gross Revenue per (m <sup>2</sup> )		\$3,000
Retail Space (m <sup>2</sup> )		49
Additional Storage and BOH	20%	10
<b>RETAIL SPACE REQUIRED (m<sup>2</sup>)</b>		<b>59</b>

**FIGURE 34: Water Park Attractions Program Option 4**

RIDES AND ATTRACTIONS PROGRAM	Unit/ Qty.	Instant Capacity	Practical Hourly Capacity
Water Rides (Body, Tube and Raft Slides)	19	27	3,342
Water Play Attractions		800	2,040
Dry Play Attractions (Adventure Trail)		110	135
Pools & Rivers		1,417	7,603
Seating Capacity		1,528	
<b>TOTAL ATTRACTION CAPACITY</b>		<b>2,354</b>	<b>13,120</b>

WATER PARK SUMMARY		
Poolside Seating	39%	1,528
Water Rides & Attractions Total	61%	2,354
<b>GUEST TOTAL</b>		<b>3,881</b>
<b>ENTERTAINMENT UNITS PER HOUR PHC (ACTIVE)</b>		<b>3.38</b>

# 6 RIDES AND ATTRACTIONS



Tube Slides



Family Raft Ride



Body Slide



Wave Pool



Family Raft Ride





Interactive Water Play



Adventure Trail



Adult Experience Pool



Matt Racers



Adventure River



Cabanas



Activity Pool



Activity Pool



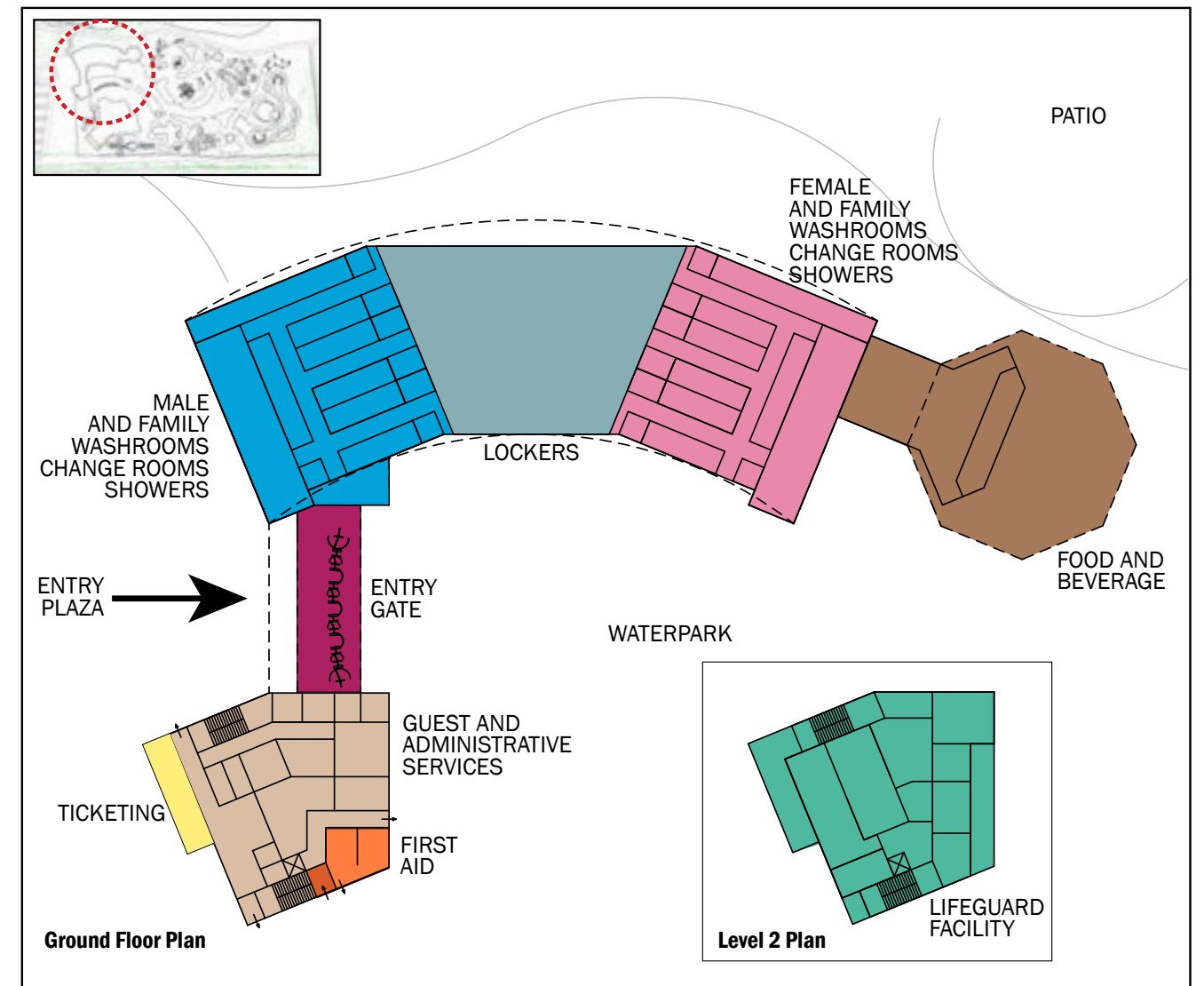
Tots Water Play



Kids Interactive Play



FIGURE 35: Building Design, Functional Relationship Diagram



# 8 MASTER PLAN OPTIONS

## 8.1 MARKET AND FINANCIAL ANALYSIS OF WILD WATERWORKS

### OPTIONS - SUMMARY

FORREC retained CBRE to review the Wild Waterworks operation and provide a market feasibility study and financial analysis. This information was used to consider the existing Park and attendance within the market and options for future attendance for the four (4) options. In addition to the Four required Options, CBRE also investigated the potential of an indoor facility to address the desire of the City to create a year-round facility. This was Option Five in their report. Option Five was deemed not to be financially viable and there was no warrant for additional year-round indoor leisure pool facilities

in the lower City of Hamilton. This market area of the lower City is currently over served with indoor pools, so no further research was completed on an indoor facility. Additionally, based on the warranted investment levels for the other options, it is expected that the investment for an indoor water park is not warranted.

CBRE met with City of Hamilton staff to gain a complete understanding of the scope of work to be undertaken, the expected study outputs, visited the site and reviewed available background reports.



The report contains the following sections:

### 1 STUDY BACKGROUND

This section contains the background, objectives and scope.

### 2 HISTORICAL PERFORMANCE

This section examines the historic attendance, per capital spend, operating revenues, expenses and gross revenue and capital spending.

- Review of historical attendance levels by; day of week; month; origin, admission rate, etc.
- Review of historical detailed operating statements (most recent 3 to 5 years)
- Operating hours and staffing schedule
- Historical per cap spends

### 3 COMPARABLE ANALYSIS

This section examines 10 comparable/ competitive attractions 9 in Ontario and 1 in New York state. This includes attendance, pricing, facility types and F+B.

A review of competitive/comparable attractions in the Ontario market and elsewhere in Canada was completed. Information gathered included the following:

- Site size.
- Facilities offered.
- Published admission rates.
- Dates of operation.
- Key user groups.
- Attendance and utilization factors.
- Seasonal utilization rates attained.
- Capital improvements.

For confidentiality reasons, no individual market or financial performance data will be provided, however we will provide general market indicators.

### 4 MARKET ASSESSMENT

This section examines the potential market capture areas as well as primary, secondary markets, domestic and International markets and visitor profile.

Profile the size and psycho demographic and travel characteristics of the resident and tourist markets to Hamilton Halton Brant (RTO 3) as target markets for the subject attraction, including:

1. Primary Resident Market – those living within 0-60 minutes of the site
2. Secondary Resident Market – those living within 60-120 minutes of the site
3. Domestic Tourists – Domestic tourists to Hamilton Halton Brant, excluding those captured in the primary and secondary resident markets
4. International Tourists – US and Overseas visitors to RTO 3

Utilizing existing data produced by Statistics Canada through the Travel Survey of Residents of Canada (TSRC) and the International Travel Survey (ITS), they identified the profile of existing overnight and day trip visitor market to RTO 3. They profiled the size and travel party composition of the visitor market by geographic origin (Ontario, Rest of Canada, US and International).

### 5 FACILITY PROGRAMS AND ASSUMPTIONS

This section examines the four options and potential programs and budgets tested for investment levels.

### 6 ATTENDANCE PROJECTIONS

This section provides an estimate of attendance for the four options over a period of time to reach stabilized attendance levels.

Based on the 3 alternative facility program/ concept options identified by FORREC for the attraction, CBRE estimated the share of the market that the subject attraction should reasonably be expected to capture by market segment for the first five years of operation.

For each of the options, they analyzed each segment in terms of attainable fees and use this analysis in our projection of operating results.

### 7 FINANCIAL PROJECTIONS

This section provides estimated investment levels, operating projections as well as financing implications and expenses.

Based on the 3 alternative options, financial operating projections were prepared to reflect projected attendance levels, all potential sources of revenue, and required operating expenses for all components of the facilities and operation over the first 5 years. As part of this analysis, revenue, staffing, operating and expense schedules were also prepared.

### 8 CAPITAL INVESTMENT IMPLICATIONS

This section compares the financial model for each option and the implications of financing and warranted investment levels.

Relying on estimates of order of magnitude project capital costs by component provided by FORREC together with our operating projections for the attraction, CBRE examined the potential return on investment for each concept scenario using traditional debt/equity financing.

The market and financial report will assist you in making decisions with respect to this project and the financial viability of three options.

The CBRE report is included as **Appendix: A-1** Market and Financial Analysis of Wild Waterworks Options.

## 8.2 OPTION 1: DO NOTHING OPTION (\$5M CDN.) ANNUAL ATTENDANCE DROPS TO 90,000 IN 5 YEARS.

The “Do Nothing” option considers the remaining and expected lifespan of the water park facilities assuming no major upgrades or capital investment is made to the existing facility. Given the current age of most of the existing infrastructure, the degradation cycle of infrastructure, rides and attractions will continue because most of the facility has already exceeded a reasonable and expected life cycle.

Current, aging infrastructure will continue to degrade requiring higher expenditures annually to maintain current operating conditions. It is expected an average of 15-20% annual increase in maintenance costs will occur over current budgets. As this continues, the operations will become financially cost prohibitive.

### LITTLE SQUIRT WORKS

Ideally this entire area should be replaced as soon as practical due to safety and to function properly. Life expectancy, this should be replaced or removed with 1-2 years maximum.

### WAVE POOL

Wave pool equipment is in excellent working condition with another 10-15 years life expectancy. Overall the wave pool has life expectancy of 10-15 years.

### EAST SLIDES

8 – 12 years with new slide pumps.

### WEST SLIDE

Requires moderate amounts of maintenance and repairs in order to continue to function.

However, failure is very likely if issues aren't addressed in the near future. Life expectancy, is limited and this should be replaced or removed with 1-2 years maximum

### EAZY RIVER

The Eazy River has a few years of service remaining with continued maintenance. Caulking should be replaced, among a few other maintenance items.

Based on the market and financial analysis, the “Do Nothing” option will continue to decline in performance and as rides/ attractions are closed or fail, the attendance will decrease until it drops below 90,000 annual visits within the next 3-5 years, or sooner depending on facility closures. The feasibility study predicts that once attendance decreases below the 100,000 threshold and maintenance costs increase, the park will no longer be financially viable and would likely be closed.

*This “Do Nothing” option is not considered financially viable and is not recommended.*

## 8.3 OPTION 2: REPLACE LIKE FOR LIKE (\$24.92M CDN.) ANNUAL ATTENDANCE INCREASES TO 120,000 IN 5 YEARS

The “Replace Like for Like” option considers the replacement of rides or attractions and facilities with similar elements to those currently existing, replaced as existing facilities come to the end of their lifespan and begin to fail.

### FRONT ENTRY & FACILITIES

The entrance buildings will be replaced entirely, this includes increasing the size of ticketing, food and beverage, washrooms, changerooms, lockers, retail, first aid, and administrative facilities to meet current attendance requirements. Further, major new infrastructure must respect the current Conservation hazard land setbacks of 46m. Plaza space both outside and within the water park will be provided to provide appropriate queuing areas, ease circulation and wayfinding issues. The redesign of the entrance facilities will also address missing connectivity with the waterfront trail. The increase in size of the entrance facilities will push the arrival sequence westerly into the existing parking lot. Vehicular and bus parking and drop off areas will also move west and be reconfigured based on existing attendance needs. The current overflow parking will be redesigned as part of the permanent parking area for the water park. Existing parking lot and bus drop off remain in this scheme. The Confederation Park Master Plan Update (2010) confirms the water park zone is to remain and include improved facilities.

### LITTLE SQUIRT WORKS

Ideally this entire area should be replaced as soon as practical due to safety and to function properly. The recommended course of action is to redesign and replace the pool and it's features entirely. The pool should be designed to have a dedicated water treatment system, leaving the existing water treatment system to service the east slide complex. Life expectancy, this should be replaced or removed with 1-2 years maximum.

### EAST AND WEST SLIDE COMPLEXES

Both slide complexes are visibly aging and will eventually require replacement. With the redesign of Little Squirt Works, including a dedicated water treatment system, the east slides have the potential to last another 8 – 12 years with new pumps and diligent maintenance.

Once the East and West Slide complexes have reached the end of their lifespan, they will be replaced with similar body and tube slide complex rides.

The west slide complex requires immediate attention to avoid imminent failure. Even with careful maintenance, it is likely that the west slide complex will need to be completely replaced in the next few years. Once this complex fails, it will be replaced with another similar tube slide complex.

### EAZY RIVER

The Eazy River, has some years of service life remaining, if retained, requires updates to improve its construction weaknesses. The lack of propulsion, poor waterproofing, narrow width, rough surfacing, and insufficient drain grates should all be addressed to increase the safety, efficacy, and entertainment value of this attraction. The path of the river is well-integrated into the site and can be reused with minimal changes or interventions.

### PAVING & POOL SURFACING

There are numerous concerns with the pool finishes and hardscape paving which should be addressed. Both the wave pool and river should be resurfaced to reduce safety risks. The concrete paving should be replaced with a slip and heat-resistant surfacing to reduce injuries, improve park aesthetics, and increase guest enjoyment. These improvements should be phased in over time as adjacent rides/ attractions are replaced.

Based on the market and financial analysis, the “Replace Like for Like” attendance Option 2 will slowly increase the average attendance over the next 2-5 years to 120,000. The size of the water park will remain unchanged for this option as the current park area can accommodate the anticipated attendance. However, based on the feasibility analysis, the like for like option is not financially viable as the modest increase in attendance does not have a return on investment for the required \$24.92M capital investment.

*The “Like for Like Option” is not considered financially viable and is not recommended.*

FIGURE 36: Replace Like for Like Project Capacity Plan (Option 2)

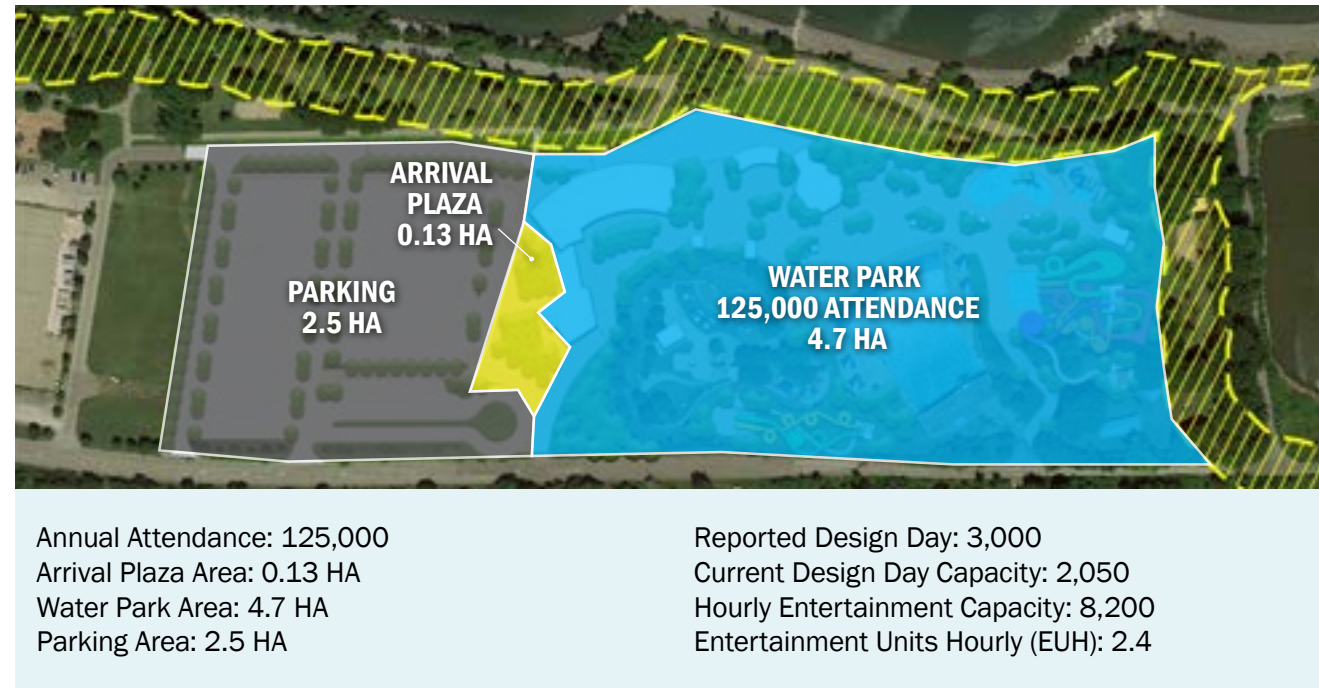







FIGURE 37: Replace Like for Like Master Plan (Option 2)



LEGEND

- ① Car Parking
- ② Taxi Drop Off
- ③ Bus Parking/Drop Off
- ④ Arrival Plaza
- ⑤ Front Gate Facility (New Expanded)
- ⑥ Entry Plaza
- ⑦ BOH
- ⑧ Service Access
- ⑨ Party Room
- ⑩ Main Food & Beverage
- ⑪ Children's Waterplay (New Expanded)
- ⑫ Parkland
- ⑬ Food & Beverage / WC
- ⑭ Tube Slides (2) & Body Slides (2) (New)
- ⑮ Flex Pavilions (Existing)
- ⑯ Wave Pool (Existing)
- ⑰ Lounging
- ⑱ Tube Slides (2) (New)
- ⑲ Cabanas
- ⑳ Eazy River (Existing)
- ㉑ Emergency First Aid Access
- ㉒ Retail (New Expanded)
- ㉓ HCA Hazardous Land Regulatory Area

**LEGEND**

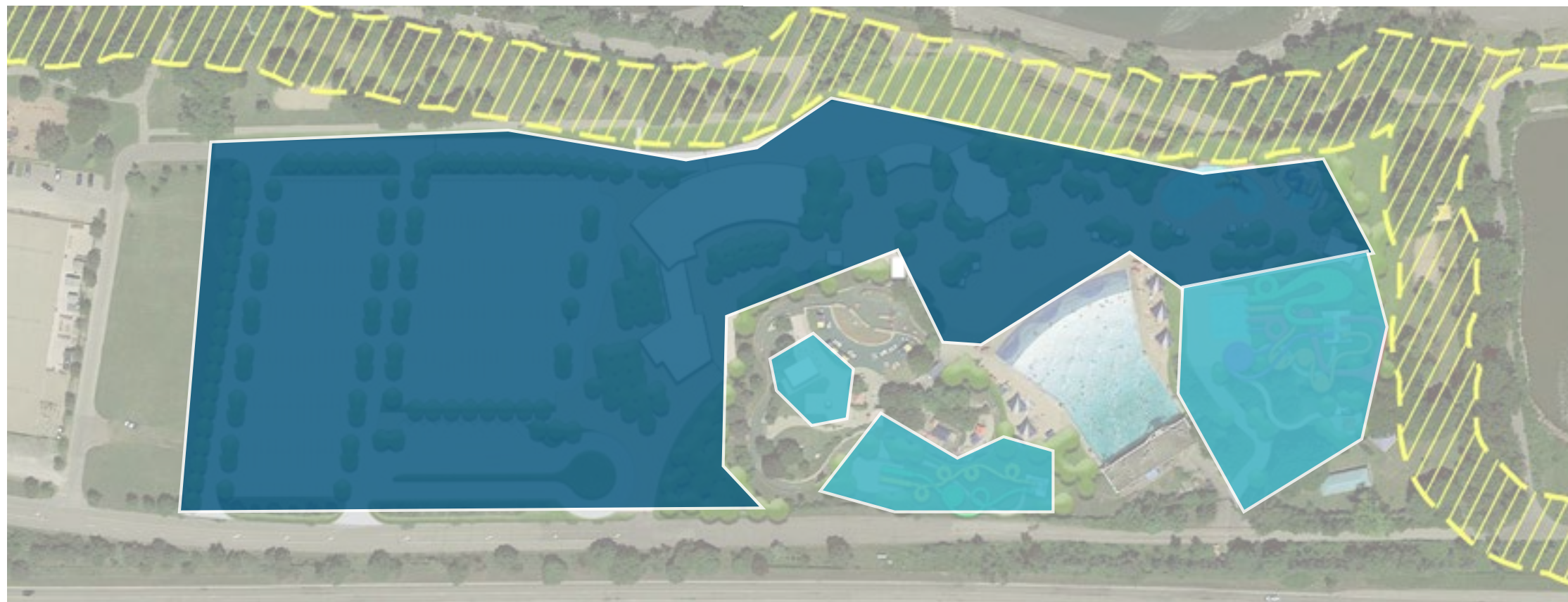
-  Waterfront Trail
-  Guest Circulation
-  Vehicular Circulation - Bus
-  Vehicular Circulation - Car
-  Vehicular Circulation - Service/ Emergency/First Aid



**FIGURE 38: Replace Like for Like Circulation (Option 2)**

**LEGEND**

-  PHASE 1
-  PHASE 2



**FIGURE 39: Replace Like for Like Phasing (Option 2)**

## 8.4 OPTION 3: MODEST ENHANCEMENTS (\$40.14M CDN.) ANNUAL ATTENDANCE INCREASES TO 145,000 IN 7 YEARS

The “Modest Enhancements” option considers the retention or replacement of major rides and attractions together with the addition of new dry/wet attractions, a sheltered recreation area and improved operational systems. It retains some of the strategies from the “Like for Like” option while also providing additional, new attractions and program to the park. In this option, phased replacement of rides/ attractions will occur as they reach end of their respective life cycle.

### FRONT ENTRY & FACILITIES

The entrance buildings will be replaced entirely, this includes increasing the size of ticketing, food and beverage, washrooms, changerooms, lockers, retail, first aid, and administrative facilities to meet current and moderate attendance increase requirements. Further, major new infrastructure must respect the current Conservation hazard land setbacks of 46m. Plaza space both outside and within the water park will be provided to provide appropriate queuing areas, ease circulation and wayfinding issues. The redesign of the entrance facilities will also address missing connectivity with the waterfront trail. The increase in size of the entrance facilities will push the arrival sequence westerly into the existing parking lot. Vehicular and bus parking and drop off areas will also move west and be reconfigured based on existing attendance needs. The current overflow parking (green area) will be redesigned as part of the permanent parking area for the water park. This green overflow parking area is not used for any sports, all new sports are being built in the former campground as outlined in the Confederation Park Master Plan Update (2010), Fig 20 of that report confirms the water park zone to remain. The water park increases in size approximately by 20% in area, excluding the parking expansion.

### LITTLE SQUIRT WORKS

This entire area will be redesigned and replaced in its entirety. The pool will be designed to have a dedicated water treatment system, leaving the existing water treatment system to service the east slide complex.

The new area will increase more active water play elements (i.e. squirt guns, tipping bucket, etc.).

A new washroom and a food and beverage unit will be located adjacent to the kid’s pool to improve the distribution of facilities throughout the park and provide easy access for parents of young children. Varied types of seating will be provided and cabanas around the attraction will be provided.

### EAST AND WEST SLIDE COMPLEXES

Both slide complexes are visibly aging and will eventually require replacement. With the redesign of Little Squirt Works, including a dedicated water treatment system, the east slides have the potential to last another 8 – 12 years with new pumps and diligent maintenance. Once the East and West Slide complexes have reached the end of their lifespan, they will be replaced with similar body and tube slide complex rides.

The west slide complex requires immediate attention to avoid imminent failure. Even with careful maintenance, it is likely that the west slide complex will need to be completely replaced in the next few years. Once this complex fails, it will be replaced with another similar tube slide complex.

### EAZY RIVER

The Eazy River requires updates to improve its construction weakness. The lack of propulsion, poor waterproofing, rough surfacing, and insufficient drain grates should all be addressed to increase the safety, efficacy, and entertainment value of this attraction. The path of the river is well-integrated into this site and can be reused.

Once the facility reaches the end of its service life, a new lazy or action river should replace this with some additional features and possibly greater length.

**PAVING & POOL SURFACING**

There are numerous concerns with the pool finishes and hardscape paving which should be addressed. Both the wave pool and river should be resurfaced to reduce safety risks. The concrete paving should be replaced with a slip and heat-resistant surfacing to reduce injuries, improve park aesthetics, and increase guest enjoyment. These improvements should be phased in over time as adjacent rides/attractions are replaced.

**PLAY STRUCTURE**

A new play structure will be added adjacent to Little Squirt Works to provide additional program for younger children. The play structure can be a combination of either wet or dry play with an opportunity to provide a significant amount of shade and varied levels of play value.

**ADVENTURE COURSE**

The northeast corner of the site is generally disconnected from the balance of park attractions, currently serving as a pavilion event space and passive park area. A dry play activity that caters to older kids/teens would take advantage of the mature tree canopy and be integrated into the space. An adventure ropes course or tree-top trek type of attraction would cater to this age demographic. Circulation will be considered providing a connection to the balance of the park activities.

**FAMILY RAFT RIDE/MAT RACERS**

The water park is currently lacking a thrilling family ride. A four or six-person family style raft ride will be added between the east slide complex and the wave pool, providing additional program and visual mass to the southeast corner of the site.

**TEEN ACTIVITY POOL**

The water park is also currently lacking a water activity for older children and teens. A portion of the area inside the river will be infilled with

a teen activity pool, offering a mix of exciting water play options such as floatable walks, zip lines, climbing walls, basketball, among other activities.

Both a washroom and food and beverage unit will be located inside the river loop to improve the distribution of facilities throughout the park and cater to the demographic of the teen activity pool.

**GUEST AMENITIES**

Additional areas of planting will be integrated throughout the park including the wave pool beach area to provide shade, visual interest, and moderate privacy for guests. Picnic tables will be replaced with loungers and chairs, offering a more comfortable and relaxing guest experience and greater deck area capacity.

Cabanas will be increased in number and upgraded to permanent structures with better distribution throughout the water park.

Theming and signage can improve significantly, creating a clear wayfinding strategy and while enhancing the guest experience and branding/marketing potential of the park.

A new point of sale (POS) system and radio frequency identification (RFID) wristbands will be integrated with facilities and ticketing to improve ticket processing times, encourage revenue generation through cashless payment, and improve the guest experience.

Based on the market and financial analysis, the **“Modest Enhancements”** attendance Option 3 will slowly increase the average attendance over the next 7 years to 145,000 until a new stabilized attendance level is achieved. The size of the water park will increase in size to accommodate the anticipated attendance and an increased service level of rides and attractions. Based on the feasibility analysis, the **“Modest Enhancements”** is recommended as the projected net operating profit levels should be sufficient to service debt levels to 1/3rd of capital costs. The **“Modest Enhancements”** is recommended.

**FIGURE 40: Modest Enhancements Project Capacity Plan (Option 3)**

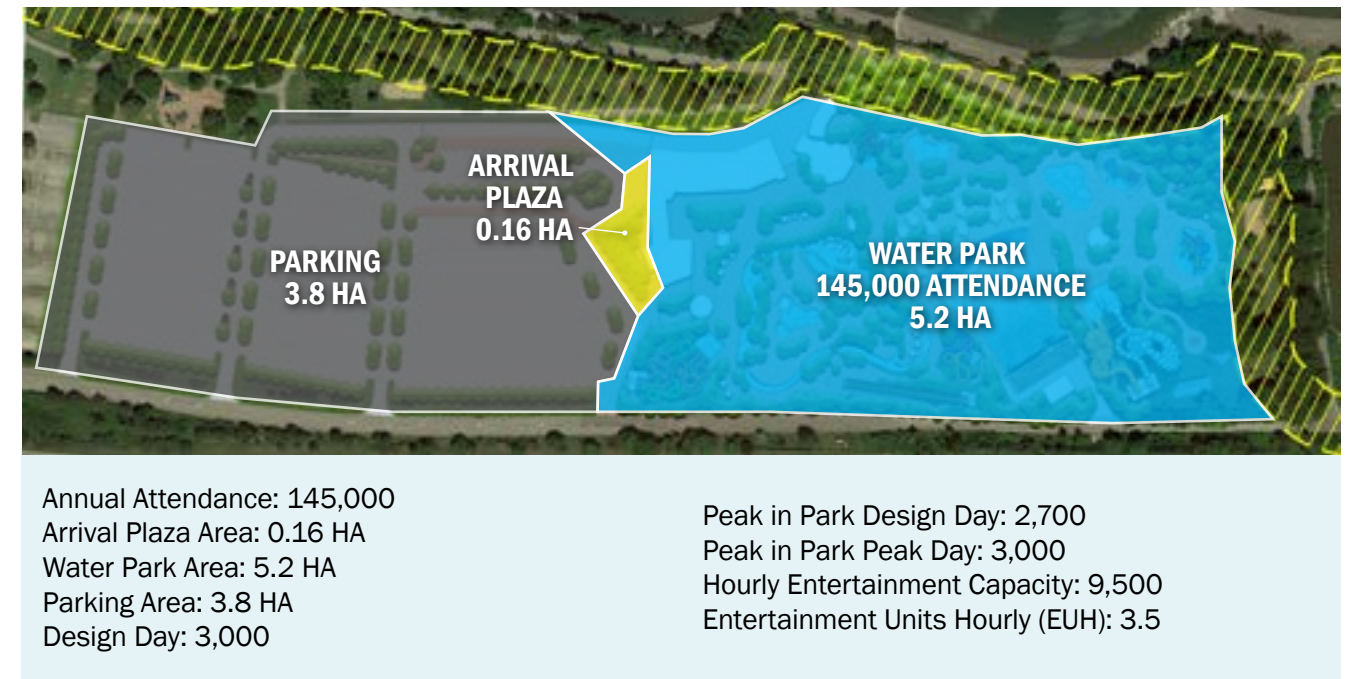




FIGURE 41: Modest Enhancements Master Plan (Option 3)



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LEGEND

- |                        |                          |                           |                                      |
|------------------------|--------------------------|---------------------------|--------------------------------------|
| ① Car Parking          | ⑧ Service Access         | ⑮ Parkland                | ⑳ Mat Racers (4 Lanes)               |
| ② Taxi Drop Off        | ⑨ Party Room             | ⑯ Existing Flex Pavilions | ㉑ Existing Eazy River                |
| ③ Bus Parking/Drop Off | ⑩ Main Food & Beverage   | ⑰ Family Raft Rides (2)   | ㉒ Retail                             |
| ④ Arrival Plaza        | ⑪ Water Experience Pools | ⑱ Food & Beverage / WC    | ㉓ Activity Pool                      |
| ⑤ Front Gate Facility  | ⑫ Children's Waterplay   | ⑲ Cabanas                 | ㉔ Tube Slides (3)                    |
| ⑥ Entry Plaza          | ⑬ Adventure Trail        | ㉒ Existing Wave Pool      | ㉕ Emergency First Aid Access         |
| ⑦ BOH                  | ⑭ Interactive Waterplay  | ㉓ Main Lounging           | ㉖ Pool Sider Body Slides (2)         |
|                        |                          | ㉔ Body Slides (2)         | ㉗ HCA Hazardous Land Regulatory Area |

**LEGEND**

- - - - - Waterfront Trail
- - - - - Guest Circulation
- - - - - Vehicular Circulation - Bus
- - - - - Vehicular Circulation - Car
- - - - - Vehicular Circulation - Service/ Emergency/First Aid



FIGURE 42: Modest Enhancements Circulation (Option 3)

**LEGEND**

- PHASE 1
- PHASE 2

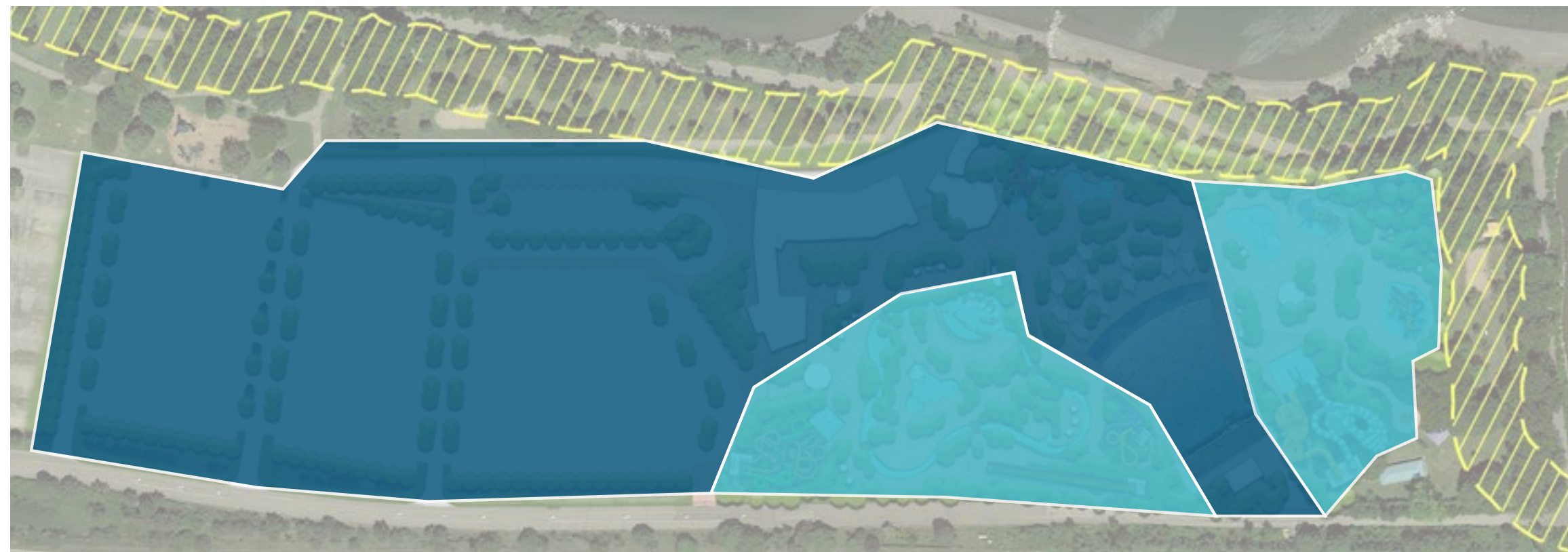


FIGURE 43: Modest Enhancements Phasing (Option 3)

## 8.5 OPTION 4: NEW DESIGN, NEW PROGRAM (\$61.12M CDN.) ANNUAL ATTENDANCE INCREASES TO 185,000 IN 7 YEARS

### 4.5.4 NEW DESIGN, NEW PROGRAM

The "New Design, New Program" option considers a new layout and program of the water park including a complete redesign of the existing facility. In this option, the water park will be designed to meet projected future attendance and provide rides and attractions that meet the family demographic and current guest expectations.

The proposed location of rides and attractions and their relationship to one another and to facilities have been explored, the new design will accommodate the future projected annual attendance.

### FRONT ENTRY & FACILITIES

The entrance buildings will be replaced entirely, this includes increasing the size of ticketing, food and beverage, washrooms, changerooms, lockers, retail, first aid, and administrative facilities to meet future attendance requirements. Further, major new infrastructure must respect the current Conservation hazard land setbacks of 46m. Plaza space both outside and within the water park will be provided to provide appropriate queuing areas, ease circulation and wayfinding issues. The redesign of the entrance facilities will also address missing connectivity with the waterfront trail. The increase in size of the entrance facilities will push the arrival sequence westerly into the existing parking lot. Vehicular and bus parking and drop off areas will also move west and be reconfigured based on existing attendance needs. The current green overflow parking will be redesigned as part of the permanent parking area for the water park. This green overflow parking area is not used for any sports, all new sports are being built in the former campground as outlined in the Confederation Park Master Plan Update (2010), Fig 20 of that report confirms the water park zone to remain. The water park increases in size approximately by 30% in area, excluding the parking expansion.

Additional washroom and food and beverage units will be distributed throughout the site at necessary locations, allowing guests to easily access facilities and increasing the potential revenue generation of the park.

### WAVE POOL

A new wave pool will be designed to accommodate the future annual attendance and create shallow water zones for small children and larger beach areas for relaxing and lounging. Given new wave machine technology, the wave heights may be varied to meet different guest profiles at different times of day from smaller children family friendly to larger more teenager/adult thrill level.

### CHILDREN'S ACTIVITY POOL

A children's play area will be designed with exciting, age-appropriate activities. Active water play elements such as squirt guns and tipping buckets will be integrated into a wet deck or shallow pool.

Colourful paving and themed water features will create an immersive environment for children to play and explore. Shaded areas offer respite from the sun and places for parents and children to relax.

Both a washroom and food and beverage unit will be located in the near vicinity to provide easy access for parents of young children. Varied types of seating will be provided, including lounge chairs and cabanas.

### PLAY STRUCTURE

A play structure will be added to provide additional program for younger children. The play structure can be either wet or dry play, and there is the opportunity to shelter a portion of the area depending on the type of structure.

### CHILDREN'S ACTIVITY POOL

A children's play area will be designed with exciting, age-appropriate activities. Active water play elements such as squirt guns and tipping buckets will be integrated into a wet deck or shallow pool.

Colourful paving and themed water features will create an immersive environment for children to play and explore. Shaded areas offer respite from the sun and places for parents and children to relax.

Both a washroom and food and beverage unit will be located in the near vicinity to provide easy access for parents of young children. Varied types of seating will be provided, including lounge chairs and cabanas.

### PLAY STRUCTURE

A play structure will be added to provide additional program for younger children. The play structure can be either wet or dry play, and there is the opportunity to shelter a portion of the area depending on the type of structure.

### ADVENTURE COURSE

The northeast corner of the site will be transformed into a dry play activity that caters to older kids/teens and which takes advantage of the mature tree canopy, such as an adventure ropes course or tree-top trek. Circulation will be considered to connect the attraction to the rest of the park activities.

### NEW SLIDE COMPLEXES

Both existing slide complexes are visibly aging and will be replaced with newer body slides, tube slides, a thrill ride and other rides to satisfy the program requirements and guest needs. The selection will depend on providing a balanced range of rides and attractions throughout the park.

### FAMILY RAFT RIDE/MAT RACERS

A four or six-person raft ride will be integrated into the site, adding a thrilling ride for the entire family to enjoy.

### EAZY RIVER

An Eazy River will be designed to be well-integrated with the site and other rides/attractions. Water spray features will be integrated with the river, adding entertainment value. Bubblers, spray guns, overhead waterfalls, and other features offer a wonderful opportunity to make the river a dynamic experience for all age levels.

### TEEN ACTIVITY POOL

A lively and energetic teen activity pool will offer a mix of exciting water play options such as floatable walks, zip lines, climbing walls, basketball, among others.

Places for older children and teens to play, interact, and hang out will be integrated with the area.

### GUEST AMENITIES

Planting islands will be designed throughout the park to provide shade, visual interest, and some privacy for guests. Dedicated areas for loungers, chairs, and tables will all be provided, offering a comfortable and relaxing guest experience. Cabanas will be themed and well-sited, maximizing their revenue generation capacity. Paving and pool surfacing throughout the park will be slip and heat-resistant, and will be designed to enhance the attractions, features, and identity of the park.

Theming and signage will improve significantly, creating a clear wayfinding strategy and enhance the guest experience and branding/marketing potential of the park.

A new point of sale (POS) system and radio frequency identification (RFID) wristbands will be integrated with facilities and ticketing to improve ticket processing times, encourage revenue generation through cashless payment, and improve the guest experience.

Based on the market and financial analysis, the "New Design, New Program" attendance Option 4 will slowly increase the average attendance over the next 7 years to 185,000 until a new stabilized attendance level is achieved. The size of the water park will increase in size to accommodate the anticipated attendance and an increased service level of rides and attractions.

However, based on the feasibility analysis, the "New Design, New Program" is financially not viable as the projected net operating profit levels will not be sufficient to service debt levels for the required \$61.12M capital investment. The "New Design, New Program" is not considered financially viable and is not recommended.

FIGURE 44: New Design Project Capacity Plan (Option 4)

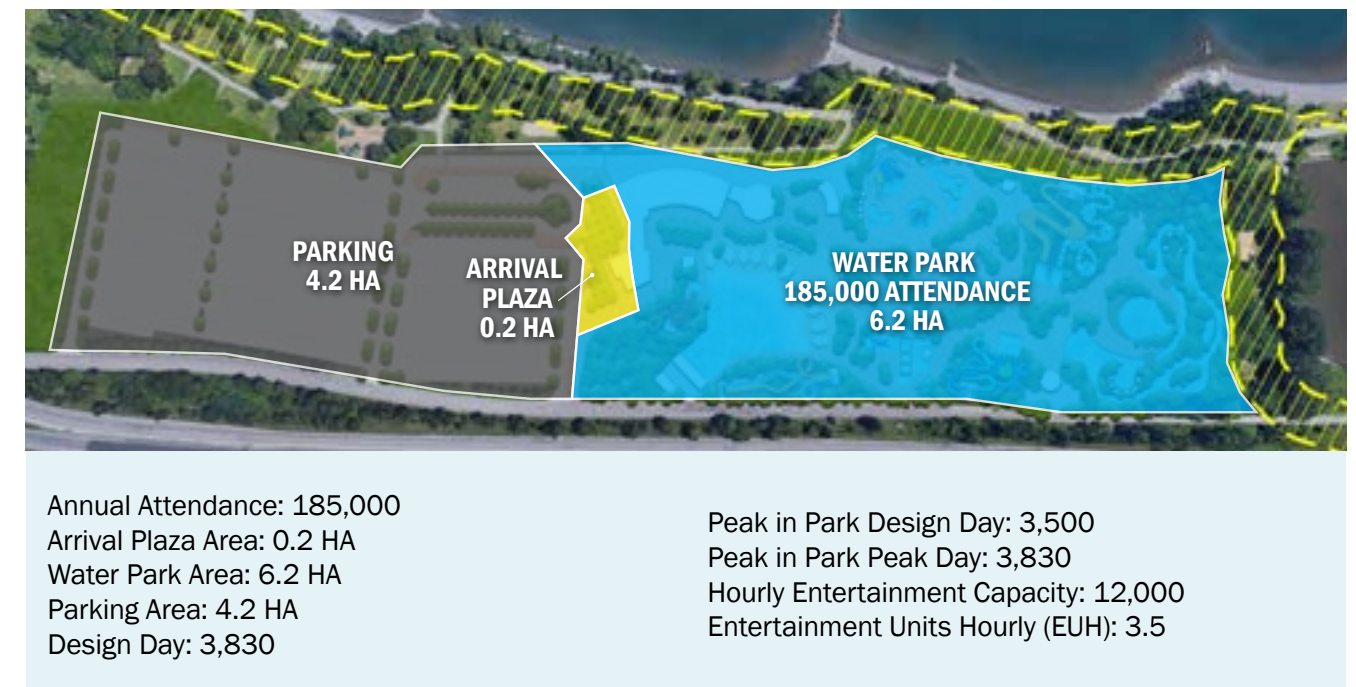


FIGURE 45: New Design Master Plan (Option 4)



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LEGEND

- ① Car Parking
- ② Taxi Drop Off
- ③ Bus Parking/Drop Off
- ④ Arrival Plaza
- ⑤ Front Gate Facility
- ⑥ Entry Plaza
- ⑦ Main Food & Beverage
- ⑧ BOH
- ⑨ Service Access
- ⑩ Party Room
- ⑪ Children's Waterplay
- ⑫ Food & Beverage / WC
- ⑬ Family Raft Rides (2)
- ⑭ Adventure Trail
- ⑮ Cabanas
- ⑯ Parkland
- ⑰ Water Experience Pools
- ⑱ Lazy River
- ⑲ Tube Slides (4)
- ⑳ Interactive Waterplay
- ㉑ Body Slides (2)
- ㉒ Activity Pool
- ㉓ Lounging
- ㉔ Wave Pool
- ㉕ Mat Racers (6 Lanes)
- ㉖ Retail
- ㉗ Emergency First Aid Access
- ㉘ HCA Hazardous Land Regulatory Area

LEGEND

- - - - - Waterfront Trail
- - - - - Guest Circulation
- - - - - Vehicular Circulation - Bus
- - - - - Vehicular Circulation - Car
- - - - - Vehicular Circulation - Service/  
Emergency/First Aid

FIGURE 46: New Design Circulation (Option 4)



LEGEND

- PHASE 1
- PHASE 2

FIGURE 47: New Design Phasing (Option 4)



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## 9 ROUGH ORDER OF MAGNITUDE BUDGETS

Rough order of magnitude budgets are provided for three of the four options which require capital, Options 2,3 +4. The investment budget level is tied to attendance and phasing to achieve the desired results that can sustained over both the short and long term. These investment levels and budgets were tested by CBRE as part of their financial analysis. Based on their attendance projections for the Four Options, FORREC provided preliminary rough budget ranges for testing purposes. These ranges were tested based on the financial model and subsequently refined based on attendance, operating costs, expenses, interest expenses all compared to revenue sources. The resulting

Rough Order of Magnitude Budgets reflect anticipated local costs in the local market based on 2020 costs. Budget estimates include City of Hamilton design contingencies of (10%), additional studies, permits, construction contingencies of (12%), project management fees of (15%). Inflation will need to be added to all estimates at (2%) per year from the 2020 base year to when funds are approved. It should be noted that while these are not final budget numbers for elemental items within the budget, they are indicative of the overall budget warranted for each of the options and identify the level of warranted investment.

FIGURE 48: Wild Waterworks WP R.O.M. Estimate Summary

BREAKOUT	OPTION 2 LIKE FOR LIKE		OPTION 3 MODEST ENHANCEMENTS		OPTION 4 NEW BUILD	
	Gross Budget	% Of Total	Gross Budget	% Of Total	Gross Budget	% Of Total
<b>HARD COSTS</b>						
Architecture Subtotal	\$4,921,500	27%	\$5,641,500	19%	\$6,116,500	14%
Rides/Attractions Subtotal	\$6,960,000	38%	\$14,460,000	49%	\$27,480,000	62%
Site Work Subtotal	\$6,307,000	35%	\$9,194,625	31%	\$11,015,875	24%
<b>HARD COST TOTAL</b>	<b>\$13,507,000</b>	<b>100%</b>	<b>\$25,989,500</b>	<b>100%</b>	<b>\$45,486,500</b>	<b>100%</b>
<b>SOFT COSTS</b>						
Design Contingency Subtotal	\$1,818,850	10%	\$2,929,613	10%	\$4,461,238	10%
Studies, Permits, Construction Contingency Subtotal	\$2,182,620	12%	\$3,515,535	12%	\$5,353,485	12%
City Project Management Fees Subtotal	\$2,728,275	15%	\$4,394,419	15%	\$6,691,856	15%
<b>Soft Cost Total</b>	<b>\$6,729,745</b>	<b>37%</b>	<b>\$10,839,566</b>	<b>37%</b>	<b>\$16,506,579</b>	<b>37%</b>
<b>TOTAL</b>	<b>\$24, 918, 245</b>		<b>\$40,135,691</b>		<b>\$61,118,954</b>	

## OPTION 2: REPLACE LIKE FOR LIKE (\$24.92M CDN.)

FIGURE 49: Wild Waterworks WP R.O.M. Estimate Option 2 Like For Like

PROGRAM AREA BREAKDOWN	Gross Area (m <sup>2</sup> )	Estimated Gross Budget	Cost/m <sup>2</sup>	% Of Total
<b>Architecture</b>				
Administration	150	\$387,500	\$2,500	
Guest Services	130	\$335,000	\$2,500	
Entry	175	\$283,500	\$1,500	
First Aid	35	\$72,000	\$2,000	
Ticket/Cash Control	120	\$240,000	\$2,000	
Tube Rental	20	\$40,000	\$2,000	
Storage	45	\$67,500	\$1,500	
Life Guard Facility	50	\$106,000	\$2,000	
Change/Washrooms	960	\$1,920,000	\$2,000	
Lockers	495	\$990,000	\$2,000	
Restaurant Kitchen	240	\$480,000	\$2,000	
<b>Subtotal</b>	<b>2,420</b>	<b>\$4,921,500</b>		<b>27%</b>
<b>Rides/Attractions</b>				
Rides & Play Attractions (Purchased Lump Sum)		\$4,050,000		
Pools (Site Built Lump Sum)		\$750,000		
Mechanical Fit Out (Lump Sum)		\$2,160,000		
<b>Subtotal</b>		<b>\$6,960,000</b>		<b>38%</b>
<b>Site Work</b>				
Walkways, Plaza & Paving	15,690	\$2,353,500	\$150.00	
Softscape/Landscape	13,795	\$1,724,375	\$125.00	
Curbs (lin.M)	2,110	\$263,750	\$125.00	
New gravel parking	19,130	\$1,434,750	\$75.00	
Landscape reinstatement (outside park limits)	4,245	\$530,652	\$125.00	
<b>Subtotal</b>	<b>6,150</b>	<b>\$6,307,000</b>		<b>35%</b>
<b>HARD COSTS TOTAL</b>		<b>\$18,185,500</b>		<b>100%</b>
<b>Design Contingency Soft Costs</b>				
Design Contingency		\$1,818,850		10%
Studies, Permits, Construction Contingency		\$2,182,620		12%
City Projects Management Fees		\$2,728,275		15%
<b>Sub total (design continency, permits, management fees)</b>		<b>\$6,729,745</b>		<b>37%</b>
<b>HARD &amp; SOFT COSTS TOTAL</b>		<b>\$24,918,425</b>		

## OPTION 3: MODEST ENHANCEMENTS (\$40.14M CDN.)

FIGURE 50: Wild Waterworks WP R.O.M. Estimate Option 3 Modest Enhancements

PROGRAM AREA BREAKDOWN	Gross Area (m <sup>2</sup> )	Estimated Gross Budget	Cost/m <sup>2</sup>	% Of Total
<b>Architecture</b>				
Administration	155	\$387,000	\$2,500	
Guest Services	134	\$335,000	\$2,500	
Entry	189	\$283,500	\$1,500	
First Aid	36	\$72,000	\$2,000	
Ticket/Cash Control	120	\$240,000	\$2,000	
Tube Rental	20	\$40,000	\$2,000	
Storage	45	\$67,500	\$1,500	
Life Guard Facility	53	\$106,000	\$2,000	
Change/Washrooms	960	\$1,920,000	\$2,000	
Lockers	495	\$990,000	\$2,000	
Restaurant Kitchen	255	\$510,000	\$2,000	
Retail	45	\$90,000	\$2,000	
Cabanas (Lump Sum)		\$100,000		
General Warehouse/Shops and Maintenance	500	\$500,000	\$1,000	
<b>Subtotal</b>	<b>3,007</b>	<b>\$5,641,500</b>		<b>19%</b>
<b>Rides/Attractions</b>				
Rides & Play Attractions (Purchased Lump Sum)		\$9,000,000		
Pools (Site Built Lump Sum)		\$1,000,000		
Mechanical Fit Out (Lump Sum)		\$4,460,000		
<b>Subtotal</b>		<b>\$14,460,000</b>		<b>49%</b>
<b>Site Work</b>				
Walkways, Plaza & Paving	24,315	\$3,647,250	\$150.00	
Softscape/Landscape	18,110	\$625,000	\$125.00	
Refurbish Parking	19,000	\$1,900,000	\$100.00	
Curbs (Lm)	2,670	\$333,750	\$120.00	
New Parking (Gravel)	31,865	\$2,389,875	\$50.00	
<b>Subtotal</b>		<b>\$9,194,625</b>		<b>31%</b>
<b>HARD COSTS TOTAL</b>		<b>\$29,296,125</b>		<b>100%</b>
<b>Design Contingency Soft Costs</b>				
Design Contingency		\$2,929,613		10%
Studies, Permits, Construction Contingency		\$3,515,535		12%
City Projects Management Fees		\$4,394,419		15%
<b>Sub total (design continency, permits, management fees)</b>		<b>\$10,839,566</b>		<b>37%</b>
<b>HARD &amp; SOFT COSTS TOTAL</b>		<b>\$40,135,691</b>		

## OPTION 4: NEW DESIGN, NEW PROGRAM (\$61.12M CDN.)

FIGURE 51: Wild Waterworks WP R.O.M. Estimate Option 4 New Design, New Program

PROGRAM AREA BREAKDOWN	Gross Area (m <sup>2</sup> )	Estimated Gross Budget	Cost/m <sup>2</sup>	% Of Total
<b>Architecture</b>				
Administration	155	\$387,500	\$2,500	
Guest Services	134	\$335,000	\$2,500	
Entry	189	\$283,500	\$1,500	
First Aid	356	\$72,000	\$2,000	
Ticket/Cash Control	120	\$240,000	\$2,000	
Tube Rental	20	\$40,000	\$2,000	
Storage	45	\$67,500	\$1,500	
Life Guard Facility	53	\$106,000	\$2,000	
Change/Washrooms	960	\$1,920,000	\$2,000	
Lockers	495	\$990,000	\$2,000	
Restaurant Kitchen	300	\$600,000	\$2,000	
Retail	75	\$150,000	\$2,000	
Cabanas (Lump Sum)		\$175,000		
General Warehouse/Shops and Maintenance	750	\$750,000	\$1,000	
<b>Subtotal</b>	<b>3,332</b>	<b>\$6,116,500</b>		<b>14%</b>
<b>Rides/Attractions</b>				
Rides & Play Attractions (Purchased Lump Sum)		\$12,000,000		
Pools (Site Built Lump Sum)		\$5,000,000		
Mechanical Fit Out (Lump Sum)		\$10,480,000		
<b>Subtotal</b>		<b>\$27,480,000</b>		<b>62%</b>
<b>Site Work</b>				
Walkways, Plaza & Paving	24,950	\$3,741,000	\$150.00	
Softscape/Landscape	28,155	\$3,519,375	\$125.00	
Refurbish Parking	4,640	\$580,000	\$125.00	
Curbs (Lm)	2,265	\$225,000	\$125.00	
New Parking (Gravel)	38,565	\$1,620,000	\$60.00	
<b>Subtotal</b>		<b>\$11,015,875</b>		<b>24%</b>
<b>HARD COSTS TOTAL</b>		<b>\$44,612,375</b>		<b>100%</b>
<b>Design Contingency Soft Costs</b>				
Design Contingency		\$4,461,238		10%
Studies, Permits, Construction Contingency		\$5,353,485		12%
City Projects Management Fees		\$6,691,856		15%
<b>Sub total (design continency, permits, management fees)</b>		<b>\$16,506,579</b>		<b>37%</b>
<b>HARD &amp; SOFT COSTS TOTAL</b>		<b>\$61,118,954</b>		

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# 10

## CONCLUSIONS AND RECOMMENDATIONS

### 10.1 CONCLUSIONS

The 2020 Master Plan Study, Wild Waterworks at Confederation Beach Park Hamilton, Ontario presents a comprehensive review of Wild

Waterworks and proposes a range of options based on a review of existing infrastructure, comprehensive data analysis, market and financial analysis, programming and design. This review of options assessed the existing Wild Waterworks Park and provided recommendations for improvements

and redevelopment. The viability of the waterpark was considered together with opportunities for improvement and methods of increasing annual attendance at the waterpark. The Water Park design and facilities options were planned in a comprehensive way from the standpoint of a guest, while considering opportunities for expansion.

The features are a major component of this destination to create a unique place aimed at an enhanced and memorable guest experience. As with any park reinvestment, the investment is tied to attendance and phasing to achieve the desired results that can sustained over both the short and long term. Planning and design work address the issues and opportunities identified in the

Analysis task. We proposed a range of solutions to enhance guest experience, improve the mix of rides and attractions to provide new, more interesting challenges to meet a changing demographic and increase potential and sustained park attendance. The following are the recommended first steps towards the implementation and improvements to Wild Waterworks.

### 10.2 RECOMMENDATIONS

1. That the Report "Master Plan Study Wild Waterworks at Confederation Beach Park" prepared by FORREC be adopted and presented to Public Works Committee for consideration.
2. That "Option 3, Modest Improvements" be selected as the recommended option.
3. That a detailed business case be developed using the available FORREC report, together with the CBRE Market and Financial Analysis of Wild Waterworks.
4. That following selection of a suitable Option by Public Works Committee and Council, a detailed Water Park Concept Plan be prepared by a qualified Water Park consultant.
5. That subject to the final business case, Option 3 be constructed in phases, as soon as practical.

# 11

## APPENDIX

### A-1 MARKET AND FINANCIAL ANALYSIS OF WILD WATERWORKS OPTIONS



# 11

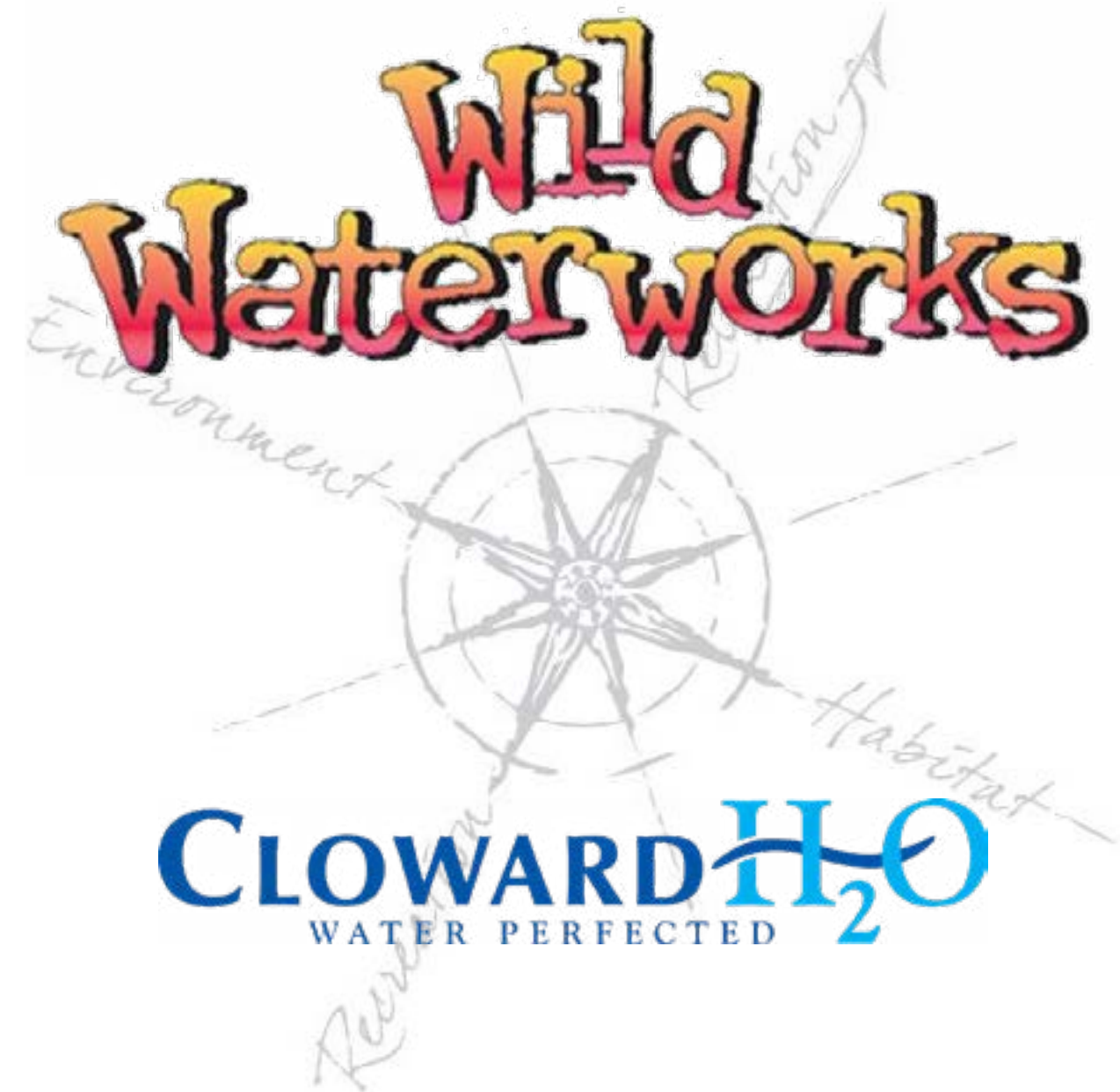
## APPENDIX

### A-2 AQUATIC ENGINEERING FACILITY REVIEW REPORT + RECOMMENDATIONS



## Aquatic Engineering Facility Review

### Report & Recommendations



Date: 15 October 2018

Prepared by: Allen Clawson, P.E.



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## Introduction and Overview

Wild Water Works of Hamilton Ontario has engaged Forrec and **CLOWARD H<sub>2</sub>O** to provide an assessment report and recommendations for the various pools, slides, water features and their associated mechanical systems currently in operation at the park.

The initial investigative site visit was carried out by Allen Clawson (CH<sub>2</sub>O) and Glenn O'Connor (Forrec) on the 29<sup>th</sup> of August 2018. Our team worked with Peter Purins and other park operational staff through the day to ensure that each system was accessed, non-visible infrastructure was explained, mechanical equipment was evaluated, and operational issues thoroughly discussed.

This assessment focuses on the operational condition of the existing structures, coatings, finishes, ride components and mechanical systems with the objective of determining the viability of the recommended course of action between: 1) Projecting potential serviceability over a 5-7year term. 2) Prioritizing replacement for risk management and working toward an overall renovation master plan. 3) Complete re-design and re-development of the park.

Scanned copies of the original plans from 1982-83 and the expansion in 1994 were provided as reference along with the "West Slides" (Pro-Slide) added in 1999 and replacement of the "East" slides in 2008. Various other repairs and re-configurations have been made of necessity to correct or replace failed, damaged, or worn equipment (i.e. replacement of wave generation equipment in 2011, new pool surface finishes, ...). However, for the most part the existing structures and systems are operating as designed with only incidental upgrades in the intervening years and they are nearing the end of their expected service life.

It is evident that any significant renovation of buildings or infrastructure will require complete replacement of all basic mechanical and electrical systems. Much is not only outdated but inadequate to the current number of guests and staff using the facility.



## Overall Facility & Basic Infrastructure System Observations

In addition to the specific evaluation of the Pools and Aquatic Systems specifically in the **CLOWARD H<sub>2</sub>O** scope, we were asked to provide an opinion regarding several other points relating generally to the condition of the buildings and supporting infrastructure. The following then are our notes and observations though no detailed analysis was carried out.

- Despite age and challenges the overall facility is in remarkably good condition with a few notable exceptions. I attribute this to the staff dedication and commitment to excellence, especially Peter. What he is doing in his efforts to keep up with preventative maintenance, inspections and his attention to detail, processes and planning has extended the life of existing attractions and infrastructure many years.
- Peter's description of his attention to certain details such as timing the start of the wave cycles or kids pool sprays to be active when the doors open was exemplary and representative of the attitude overall of the full-time staff.
- Aging infrastructure will continue to degrade and require higher expenditures annually. The city should expect an average of 15-20% annual increase in maintenance costs. It is important to note that some large expenditures (such as structural repair on towers or re-surfacing of the wave pool) may spread over multiple years. This also means that Peter needs a corresponding increase in staff to implement the repair work.
- Entry gate, food service, restrooms, lockers, pavilions, and all FF&E are definitely showing their age and appear to be operating at or beyond capacity when the park is busy (reported to us that a 1,500 person day is insane and staff have trouble managing)
- City needs to identify their long-term goal – and willingness to re-invest most if not all proceeds back into the park for maintenance and upgrades. Of course, this requires higher ticket prices and larger crowds that cannot currently be justified or accommodated, even if they could attract them.
- Cabanas need to be upgraded to permanent structures, portable maybe (i.e. with forklift), but permanent. Lots of potential locations for Cabanas were evident throughout.



- Most of the pumps are in their last phase of life. Noted multiple failures, repairs, rebuilds, etc. Pump failures will continue throughout the park and should be replaced with new whenever possible. A comprehensive plan to do so should be formulated and spares purchased for those at the highest levels of risk to minimize downtime when the pumps finally let go. New pumps should be purchased with high efficiency motors and fit with VFDs to enable operations to fine-tune flow to the slides and features without adding artificial head by choking flow with valves. Typically, the energy cost savings from VFDs and high efficiency motors will pay for the upgrade within a few months of operation. Even with a seasonal park it would likely have an ROI of less than 2 years.
- Combined filtration systems should be separated for sanitation purposes.
- Secondary Sanitation Systems should be considered on any new, upgraded or renovated systems.



## Wave Pool

### System Description:

Approximate Water Surface Area:	3,000 m <sup>2</sup>
Total Pool Volume:	5 Million Liters, 5,000 m <sup>3</sup> [1.32 M gallons]
Design Treatment Flow Rate:	3x 84.1 L/s, 900 cmh [4,000 gpm]
Design Turnover Time:	5.56 hr (330 min)
Filter:	Vacuum DE filter sumps (3) using Pearlite coating media

### Observations

1. It was reported that the wave pool loses approximately 50 mm [2"] of water /day and requires about 15,000 L [4,000 gal] /day in makeup water. These values do not add up – 50 mm of water loss is 10x the reported makeup volume. However, assuming the 50mm is correct, most of the observed losses must be due to leaks in the pool shell or piping. Based on our experience and calculated estimation, maximum daily evaporation loss for this pool would be expected to be more in the range of 6-8 mm, very close to the reported makeup volume. Thus, further investigation will be necessary to determine the water-tightness of the pool and systems.
2. Beach deck is rather barren and needs something to break up the monotony. Everywhere else there are planters, trees and flowers, but the wave pool deck is just a big field of splintery picnic tables and cracked concrete.
3. Pool was re-surfaced in 2004. Operator reports evidence of deterioration of that finish (including waterline and coping tile) indicating that another re-finish will be necessary soon. Once the finish begins to deteriorate total failure is relatively rapid.
4. Resilient decking (Duraroc) finish was added at the beach in 2011 then re-done in 2016. Material seems to be in good condition at the beach and is a nice addition with color, slip resistance, and impact attenuation.
5. Balance tank (Filter tanks) were inspected and re-coated in 2011. Coatings have failed and are peeling off the interior of the tanks.
6. Circulation/treatment appeared to be in decent working condition with well cared for equipment. I've rarely seen such organization and cleanliness in a facility of this age.



7. We were not able to see the condition of the filter disks but presumably, and from all appearances, they are in good shape and have been well maintained/replaced as necessary by operations staff.
8. Original design called for 3 operating filter sumps and 1 spare or future filter for slides. It appears that the spare was fit out and is now in use as a 4<sup>th</sup> filter on the wave pool increasing the total flow capacity to 1,200 cmh [5,290 gpm] for a turnover of 4.2 hrs (250 min). If this is the case, and the pumps can move the design flow, the resulting turnover is much better.
9. Treatment pumps were reportedly replaced in 2012 but recent failures indicate that the pumps have likely not been operating optimally in the past so continued failures are likely. As is common with vacuum DE style filters, it is fairly clear that the treatment pumps were routinely run under high negative pressure conditions in the past. This condition causes cavitation, degradation of impellers and pump volute and causing vibration that damage bearings and seals. It is likely that the pumps, though they appear to be functional, are operating at a reduced capacity and certainly at reduced life expectancy.
10. New wave equipment (installed in 2012) appears to be in excellent working condition and well maintained should have better than 15 years left in it.
11. Beach return grating / skimming is not up to today's standards but appears sufficient to the need. However, due to operations running the water level a bit higher than design intended the gutter is consistently flooded so provides no skimming action. This is the same with the side gutters. Consequently, floating debris must be manually removed. The trade-off however, is accelerated degradation of the pool finish so, in this case operations has made the right choice to raise water level.
12. Electrical service components appear to be in serviceable condition though aged as one would expect in a moist environment.



### Design Evaluation

1. Original design called for 3 operating filter sumps and 1 spare or future filter for slides. The design turnover was 5.5 hours which, while technically meeting code requirements is somewhat below standards for a heavily used pool of this type. Our standard for a wave pool would be a 3-4 hour turnover rate design to accommodate a large number of patrons.
2. It was not clear from the walk-thru but it appears that the spare filter sump has been fit out since original construction and is now in use as a 4<sup>th</sup> filter on the wave pool. Assuming equivalent design flow to the other 3 sumps this increases the total flow capacity to 1,200 cmh [5,290 gpm] for a turnover of 4.2 hrs (250 min). If this is the case, and the pumps can

move the design flow, the resulting turnover is much more in line with today's standards. This should be confirmed with operations staff.

3. Design pipe sizing results in high velocities – higher than 1.5 m/s [5 ft/s] on suction lines and greater than 3 m/s [10 ft/s] on some pressure lines. This is well beyond the recommended velocities for PVC piping and will result in scouring of the inner walls, thinning and eventual failure of the pipe and fittings. High velocities also create excessive pressure loss (higher than necessary energy consumption) and increased potential for water hammer. Recommended velocities are < 1 m/s [3.3 ft/s] for suction and < 2 m/s [6.5 ft/s] for pressure lines.
4. Drain piping is not capable of full treatment flow as designed without excessive head differential. Thus, if the pool is not filled to gutter level the pumps will quickly drain-down the balance tank and may expose the filter disks to air while water is displaced from the balance tank to the pool to create the necessary operating head. This has likely contributed to the short life expectancy of the treatment pumps.

### Concerns & Recommendations

**Concern 1:** Pool may be leaking as much as 150,000 L [40,000 gal] /day according to reports that there are 50 mm [2"] of water loss per day. This is a huge load on the chemical treatment and heating to bring that volume of makeup water up to steady state with the pool that could be saved if the leaks are found and repaired.

**Recommendation 1:** Validate the volume of water loss and investigate where leaks may be (pool shell, piping, balance tank, filter sumps, etc.) and repair.

**Concern 2:** Pool surface degradation. This could be a source of the leaking in C1 and can also be a safety hazard as pieces of the floor become loose potentially creating sharp edges and debris in the pool.

**Recommendation 2:** Drain the pool and carefully examine the pool surface during the off season. Consult a qualified pool finish contractor to recommend patching or replacing the existing finish. Using a quality material that can be exposed to dry conditions and will stand up to freeze/thaw cycles will minimize future refinishing work. One material to consider would be a relatively new powdercoat material from ecoFINISH (<https://www.ecopoolfinish.com/>) which is a flame-applied polyethylene coating.

**Concern 3:** Balance tank waterproofing coating has failed.

**Recommendation 3:** Recommend removing the existing coating then prepping and replacing with either a quality cementitious coating similar to Basecrete (<http://www.basecreteusa.com/>) or the same flame applied polyethylene as in R2 above.

**Concern 4:** Circulation pumps have most likely been damaged through cavitation due to operational conditions in the past and are functioning at reduced capacity/efficiency today. This is resulting in higher operational costs (power) and reduced capacity for water quality.

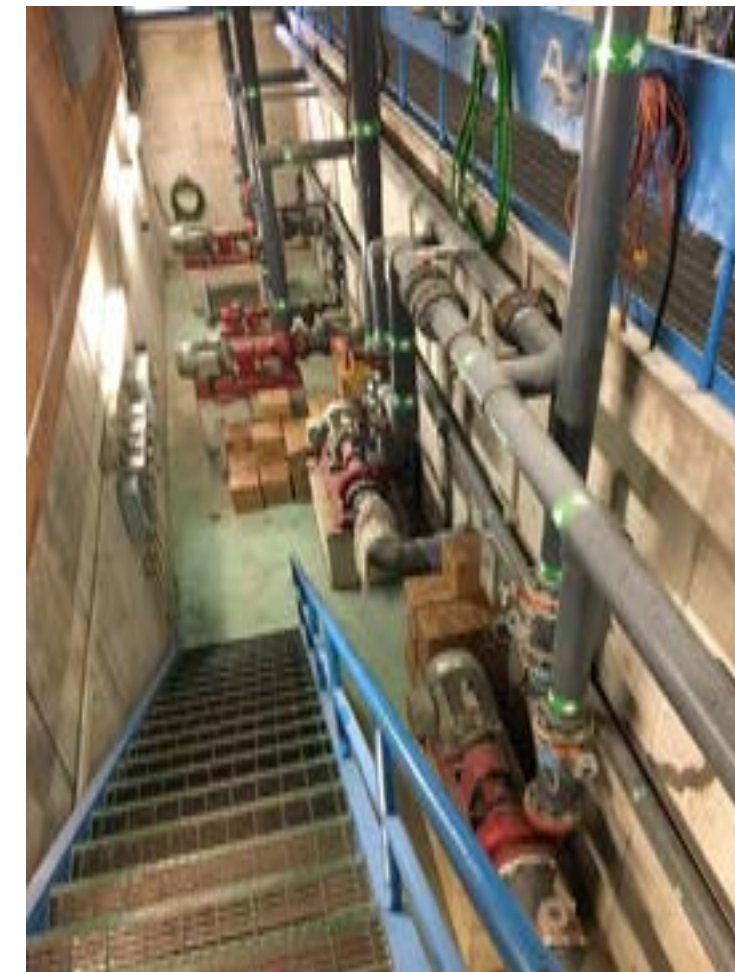
**Recommendation 4:** Replace pumps with new at original design capacity. Recommend high efficiency motors and VFD operators to maintain constant flow. Pressure transducers on each pump suction should be implemented to alarm and reduce pump flow when pump suction drops below the NPSHr limit for that pump.

**Concern 5:** As the park becomes more popular the design filter capacity is likely to be exceeded and water quality will suffer as a result. Original design turnover is 5.6 hours which may have been reduced to 4.2 hours by brining on the 4<sup>th</sup> filter sump (to be verified). The flow rate cannot be increased however due to the pipe size constraints.

**Recommendation 5:** Short of major demo of the pool shell, adding drains, and replacing piping there is no simple way to increase treatment flow. Care should be taken to ensure that new pumps (R4) are optimized the filter sump and piping capacities. It may be possible to engineer a retrofit drain and return system that would augment the optimized existing treatment by creating a wall drain on each side wall the returning through the wave generator chambers. This would require some detailed engineering to determine feasibility with the existing structures and facilities.

### Summary

With the above outlined deficiencies addressed we would expect that the system could operate with only general PM for another 10-15 years. The basic piping is essentially in good order as far as we can determine though a bit undersized and limiting to the additional desired capacity. It should be possible to R&R existing equipment without changing the basic infrastructure. However, electrical might be a can-of-worms once opened and require new conduit runs, wire pulls, breakers and possibly boxes.



## East Side: Slides & Kids Pool

### System Description

Approximate Water Surface Area:	1,200 m <sup>2</sup>
Total Pool Volume:	1 Million Liters, 1,000 m <sup>3</sup> [264,000 gallons]
Design Treatment Flow Rate:	Unknown
Design Turnover Time:	Unknown
Filter:	High Rate Sand

### General Observations

1. Kids Pool and East Slides share a common circulation and treatment system. This is problematic from an operation and sanitation point of view but the facility and operators have learned to live with the issues this creates.
2. Actual installed treatment equipment (pumps and filters) was not determined during the site visit nor was the age/condition of the filter media. We anticipated being able to identify this information from the drawings provided to us but have been unable to do so. Water quality on this lightly attended day appeared good but reportedly degrades on a moderately busy day. This may be due to many factors ranging from pump performance, filter media condition, and oxidation/sanitation chemistry control.
3. If similar pipe sizing criteria to what was used in design of the wave pool then pipe velocities are likely excessive leading to reduced efficiencies, potential for pipe/fitting scouring and increased risk of water hammer.
4. It was reported that there is approximately 20,000 L [5,200 gal] /day of makeup water used in these combined systems. Though there may be leaks this seems to be a nominal amount and not unexpected with the amount of splash, spray and carryout due to the slide and spray feature operations.



### East Slides

5. Structural repair of the slide tower was carried out last spring when significant corrosion damage to the upper deck was found.
6. Slides are aging/weathering but in good working order if good maintenance practices are continued.
7. Slide pumps have seen failures and will continue to do so. Equipment is aged and should be replaced proactively to prevent failure during operation. Piping appears to be



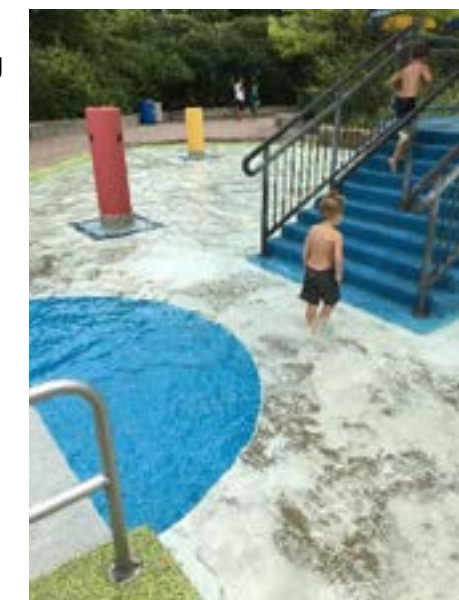
undersized with higher than recommended velocities (as has been noted on the wave pool). This is likely contributing to pump wear.

8. Operator noted that pumps are difficult to prime – a further indication of a combination of pump wear (cavitation) and smaller than recommended pipe size causing restricted inlet flow. Dampened check valves should be considered for installation on the discharge of each slide pump to help prevent loss of prime and minimize risk of water hammer when an e-stop is thrown, or pump is shut down in normal operation. See Appendix C.
9. Deck drains did not appear to be working well – maybe just due to accumulation of debris at the end of seasonal operation.
10. It was unclear how the collection tank for the slides was connected to the kid's pool area though the two are treated in common.
11. Electrical panels in the slide pump house appeared to not be faring well. May need to be replaced within a short time, perhaps along with new pumps.



### Kids Pool

12. Multiple issues with nozzles and control valves. Operation staff has been working to correct these issues and have restored function to a good portion of the nozzles compared with a few years ago. It should be possible to disassemble and repair or replace the solenoids and get all the systems working.
13. Shade sails over the pool are in fairly good condition having been replaced within the last few years.
14. Pool deck is sand bedded pavers with low points and drainage issues evident all over. This would not be code allowable in most locations in North America.
15. Duraroc on slide platform and around pool perimeter showing signs of deterioration.
16. A large quantity of sand was noted in the in pool from degrading concrete surfaces and washing in from deck due to storms. Loose material such as sand creates potential for sanitation issues in the pool and should be cleaned out daily if necessary. The source of these (deck and decomposing pool finish) should be corrected.
17. Inadequate deck drainage, deck appears to slope toward pool instead of away in some areas.
18. Pump noise was excessive, an indication of wear and imminent failure.
19. Drains, inlets and skimming all appear inadequate to the guest capacity. A number of the return fittings are damaged





and not functioning. It is probable that the pool met design standards at the time of construction but does not do so now.

20. Of any of the features in the park this pool is the most problematic in terms of sanitation and safety.
21. Electrical in the kid's pool vault also appeared to be nearing it's end though it is impressive that the original Crystal Fountains controller from 1983 is still functioning as well as it is.

### Concerns & Recommendations

**Concern 6:** Common circulation system and aging filtration / sanitation equipment.

**Recommendation 6:** Circulation and treatment for the slides and kids pool should be separated to allow operations to optimize water quality and sanitation. Inspect and verify condition of sand filter media looking for caking, channeling, etc. if sand is worn (typical 5-7 year life) consider replacing with activated glass media such as Dryden Aqua AFM (see Appendix A)

**Concern 7:** Slide pumps have most likely been damaged through cavitation due to operational conditions in the past and are functioning at reduced capacity/efficiency today. This is resulting in priming difficulties, higher operational costs (power) and reduced capacity for slide function. Kids pool pumps also seemed excessively loud, indicative of bearing / seal issues. Several of the pumps were observed to be leaking.

**Recommendation 7:** Replace pumps with new at slide design capacity. Recommend high efficiency motors and VFD operators to maintain constant flow. Pumps should operate at constant flow condition to ensure that the slides are operating within manufacturers specified conditions. Add dampened check valves to improve priming and reduce the risk of water hammer.

**Concern 8:** Slide deck drains not flowing causing standing water. This is both a safety and potential health hazard.

**Recommendation 8:** Check and clean out deck drain lines. Ensure that slide water drains away quickly and thoroughly after each rider.

**Concern 9:** Inoperative nozzles and valves in kids play area.

**Recommendation 9:** Repair or replace inoperable valves and solenoids on kids pool spray features. Flush lines with strong sanitizing solution prior to operation.

**Concern 10:** Kids pool deck material is inappropriate for the application and has slope and draining issues.

**Recommendation 10:** Pool deck should be a durable, slip resistant, impervious surface. Cast in place concrete is the common choice. Newer resilient surface materials available today, such as LifeFloor ([www.lifefloor.com](http://www.lifefloor.com)) can be applied over concrete to enhance the slip resistance and attenuate falls.

**Concern 11:** Loose material, sand, decomposed concrete, etc. evident in the kids pool.

**Recommendation 12:** Sand and debris should be cleaned out as often as necessary to prevent accumulation. Repair or replace the materials, finishes, etc. where this debris is coming from.

**Concern 11:** Drains, skimming and returns appear inadequate to ensure proper circulation, treatment and sanitation in the kids pool

**Recommendation 12:** There is no simple fix for this. Continual repairs can be implemented but resolving the root problem will likely require replacing the pool.

### Summary

In consideration of all of the issues raised with this system we believe the best course of action would be to demo the existing kids pool leaving the existing treatment system for just the slides. With new slide pumps and continued vigilance in maintaining the slides and their mechanical systems the slides should last another 8-12 years though there will undoubtedly be additional structural issues to address with the slide tower and supports along the way.

A brand new kids pool with a separate treatment and circulation system at current industry standards should be planned and built.



## West Side: Slides & River

### System Description

Approximate Water Surface Area:	2,200 m <sup>2</sup>
Total Pool Volume:	2 Million Liters, 2,000 m <sup>3</sup> [528,000 gallons]
Design Treatment Flow Rate:	Unknown
Design Turnover Time:	Unknown
Filter:	High Rate Sand

### General Observations

1. Actual installed treatment equipment (pumps and filters) was not determined during the site visit nor was the age/condition of the filter media. We anticipated being able to identify this information from the drawings provided to us but have been unable to do so. Water quality on this lightly attended day appeared good but reportedly degrades on a moderately busy day. This may be due to many factors ranging from pump performance, filter media condition, and oxidation/sanitation chemistry control.
2. If similar pipe sizing criteria to what was used in design of the wave pool then pipe velocities are likely excessive leading to reduced efficiencies, potential for pipe/fitting scouring and increased risk of water hammer. This is very likely a contributing factor in the lack of propulsion and skimming efficiency noted.
3. Recent repair work (last season?) was done on both the river and slides. Slides were painted and the river was caulked. Though there are some issues with these repairs they were largely effective at extending the life and reducing water losses.



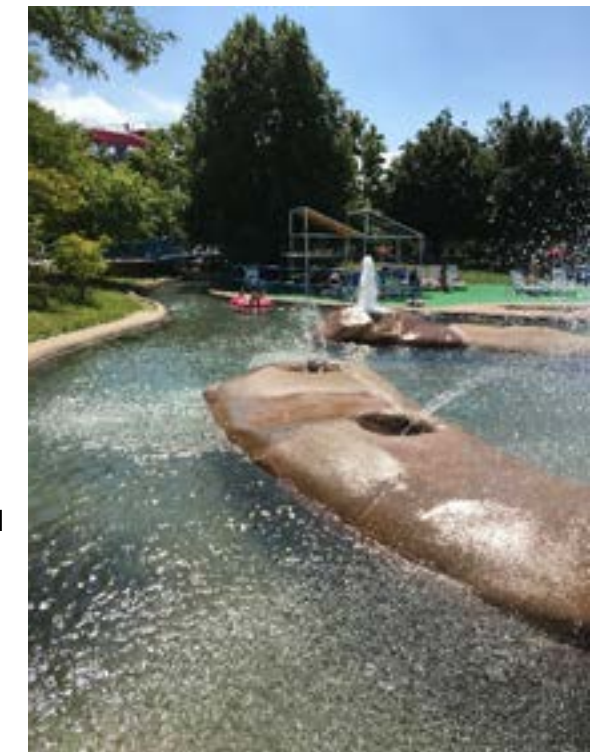
### West Slides

1. Slide fiberglass and support structures are definitely showing their age. Corrosion on steel members has been noted and attempts have been made to protect and paint. Gel coating on fiberglass is oxidized and at a point where accelerated deterioration is likely.
2. We were not able to get a close look at the interior slide surfaces but the exterior had been recently painted – already peeling off in many places
3. Leaks were evident at several joints. This will accelerate as the fiberglass and support structures continue to age.
4. Water hammer condition reported on slide pumps. Should retrofit with dampened check valves on pump outlet. See Appendix C. Otherwise the slide pumps appear to be some of the best operating pumps on the site without many of the difficulties observed elsewhere.

5. Slide pump intake in the river flow should be evaluated. These are direct suction grates and the open area appears very small when compared with the flow required and the pumps installed. Design and record drawings of this area are unclear and it is likely that modification has been made since that time. Intake grate velocities should be kept to less than 0.5 m/s [1.5 ft/s] to avoid entrapment danger when the slide pumps are operating.
6. Reported leaks in slide pump intake box at the river.

### River

7. River propulsion is minimal and very inefficient. Average velocity appears to be around 0.3 m/s [1.0 ft/s]. What propulsion there is appears to be primarily driven by the slide pumping. The propulsion intakes, nozzles and pumps designed for the task appear to be largely ineffective for that purpose though design intent and calculations were not evident on the provided drawings for a thorough evaluation. Possibly this detail was left to the discretion of the contractor.
8. Several large eddies exist in the river channel. This condition traps people and debris.
9. A large quantity of leaf litter from all the amazing planting and trees was evident – skimming and drain grates are inadequate to the task and are constantly plugged. Need a much more robust means of removing both floating and sinking debris.
10. Drain grates throughout appear inadequate and possibly pose an entrapment risk. Need to verify piping and drain velocities
11. River structure is creative and fun. However, it was poorly waterproofed. Recent comprehensive caulking work appears to have dramatically reduced water loss through leakage. However, caulking is rarely a permanent solution.
12. Caulking contractor opened up joints that were placed to be decorative and filled with caulk. This potentially weakened the structure (similar to crack control joints) and may cause additional cracking to occur.
13. The caulk that was used throughout the river is staining, growing algae and mold.



14. Spray nozzles in the play beach zone have been repaired in an unconventional manner. The effect is good with good water spray as intended but the fix exposes pipe and valves that are an attractive nuisance and potential danger for kids.
15. Surface degradation of the pool walls and floor is evident throughout.

### Concerns & Recommendations

**Concern 13:** Slide structures and fiberglass deterioration.

**Recommendation 13:** Structural support of the slide tower and supporting columns should be carefully inspected by a qualified structural engineer and the fiberglass by the slide manufacturer. Their instructions for repair and maintenance should then be carried out.

**Concern 14:** Slide pump water hammer, if not corrected will eventually result in catastrophic failure.

**Recommendation 14:** Retrofit piping to install a dampened check valve (see Appendix C).

**Concern 15:** Slide intake drain box and grating appear to be undersized for the slide flow. All river intake grates (propulsion and treatment) appear similarly undersized.

**Recommendation 15:** Direct suction fittings on a pool should be designed as “unlockable” with low velocities through the cover to eliminate risk of entrapment. Refer to ASME/ANSI A112.19.8.

**Concern 16:** Leak in slide intake box.

**Recommendation 16:** Open, inspect and repair slide intake box leak. Apply an appropriate elastomeric coating.

**Concern 17:** River propulsion pumping is ineffective. Low velocities are not necessarily a problem, but mixing/sanitation of the water is somewhat dependent on the movement through the channel.

**Recommendation 17:** This is difficult to solve without re-construction of the propulsion stations however, it may be possible to design new intake systems and wall jets at the existing locations with marginal impact to pool structure.

**Concern 18:** Caulking material used appears to be the wrong sort. Less than 1 year old, the caulk joints are discolored and evidently harboring micro-organisms (mold, algae and bacteria). This is a sanitation and well as an aesthetic issue. If unchecked will lead to failure of the caulk joints.

**Recommendation 18:** Replace caulking with a quality sealing compound such as Deck-O-Seal by WR Meadows.



**Concern 19:** Spray nozzles in river island area is a potential safety hazard.

**Recommendation 19:** Nozzles should be recessed within a contained area in accessible to curious guests. Nozzle velocities over 2 m/s [6 ft/s] should be avoided unless the stream is completely inaccessible by guests.

**Concern 20:** Surface degradation of concrete in the river.

**Recommendation 16:** Erosion and spalling of the concrete river surface finish is evident throughout. As the structure ages this degradation is likely to accelerate, eventually exposing reinforcing steel to the water. A coating could be applied to halt the degradation similar to what is recommended for the wave pool. Using a quality material that can be exposed to dry conditions and will stand up to freeze/thaw cycles will minimize future refinishing work. One material to consider would be a relatively new powdercoat material from ecoFINISH (<https://www.ecopoolfinish.com/>) which is a flame-applied polyethylene coating.

### Summary

Overall and despite the deficiencies noted, the river and its mechanical systems are in decent condition given the current state of maintenance and labor required. The slides are on the verge of potential failure of one kind or another and in need of attention prior to re-opening next season.



## Conclusions and Summary

For the age and obvious challenges this facility faces the staff is doing a remarkable job at keeping up on critical issues. It is a rare thing indeed to see 30-year old mechanical spaces in as good a condition and organized so well.

That said, there are certainly some very real and pressing priorities that need attention in order to maintain a quality, safe experience for guests in the near (5-7 year) term.

Item	Priority
• Evaluate River drains and slide intake box – effect repairs	Immediate
• Re-build and protect river spray nozzles	Immediate
• Inspect and repair east & west slide structures and fiberglass	Immediate
• Dampened Check Valves on Slide pumps	Immediate
• Design and construct new Kids Pool to address the multiple issues	1 year
• Replace wave pool treatment pumps	1 year
• Repair and re-coat wave pool balance and filter tanks	1 year
• Evaluate feasibility of optimization of wave pool treatment, 3-hour turnover	1 year
• Evaluate sand filters, replace media as necessary	1-2 years
• Replace East Slide pumps	1-2 years
• Resurface Wave Pool	1-2 years
• Replace River Caulking	2-3 years

## Appendix A: Activated Filtration Media

The screenshot shows the website for Activated Filtration Media (AFM). The navigation menu includes HOME, ABOUT, AFM, SWIMMING POOLS, WATER TREATMENT, AQUARIA & AQUACULTURE, and CONTACT. The main header features the AFM logo and the text 'Activated Filter Material'. Below this is a section titled 'What is AFM?' which explains that AFM is a direct replacement for sand, doubling the performance of sand filters without the need for additional infrastructure investments. It also mentions that AFM is a highly engineered product made from a specific glass type, processed to increase its surface area by up to 300 times. To the right of this text is an image of a hand holding green AFM particles. Below the 'What is AFM?' section is a list of 'AFM benefits at a glance', including: more than doubling performance, not being subject to biodynamic instability, substantially lowering chlorine oxidation demand, lowering backwash water demand by 50%, and providing a quick return on investment. The next section is 'Excellent performance of AFM in comparison with quartz sand and other glass filter media', which includes a line graph showing performance metrics for various filter media. The final section is 'What makes AFM so effective?', which lists three key factors: 1. Clean, carefully selected glass; 2. Ideal hydraulic properties; and 3. Activation process.

## Appendix B: Typical Life Expectancy of Critical Pool Equipment

The following are predicated on indoor equipment installation and an effectively implemented preventative maintenance program.

**Motors:** High-quality, commercial type motors that are well maintained have a typical useful life expectancy of 7-12+ years.

**Pumps:** High-quality, commercial type pumps that are well maintained area expected to last between 15-20 years.

**Sand Filter Tanks:** High-quality, commercial type tanks typically last 20-30 years. FRP tanks are not subject to corrosion degradation and when installed indoors have a life expectancy in excess of 30 years.

**Sand Filtration Media:** This topic is very controversial but almost everyone agrees that most sand type materials should be replaced when backwashing no longer returns the system to normal, "clean filter", lower pressures. Many filter suppliers recommend changing the sand every 5-7 years. Specialty filter media may have much longer life cycles with some never needing to be changed. In an system with frequent or aggressive backwash cycles a 5-year replacement cycle would not be unusual.

**Sand Filter Internal Components:** in addition to normal wear, it is common for laterals to be damaged by the media change process. Therefore, filter manufacturers typically recommend that laterals (both upper and lower) be replaced when media is changed or every 5-7 years.

**Heaters:** Very dependent on the type and quality of the Chiller. Many facilities expect 10+ years before considering replacing them. Regular maintenance is extremely important but equally important is recording temperatures and power consumption to give an accurate picture of how the chiller is performing. Costly damage can be avoided by watching for degradation in performance which can lead to irreversible damage. The final decision is usually based on performance cost vs. cost of a new chiller unless there is a major breakdown.

**Chemical Control Systems:** pH and ORP probes should be replaced every 6-12 months. The rest of the components are robust and should last 20+ years.

## Appendix C: Large Diameter Swing Check Valves

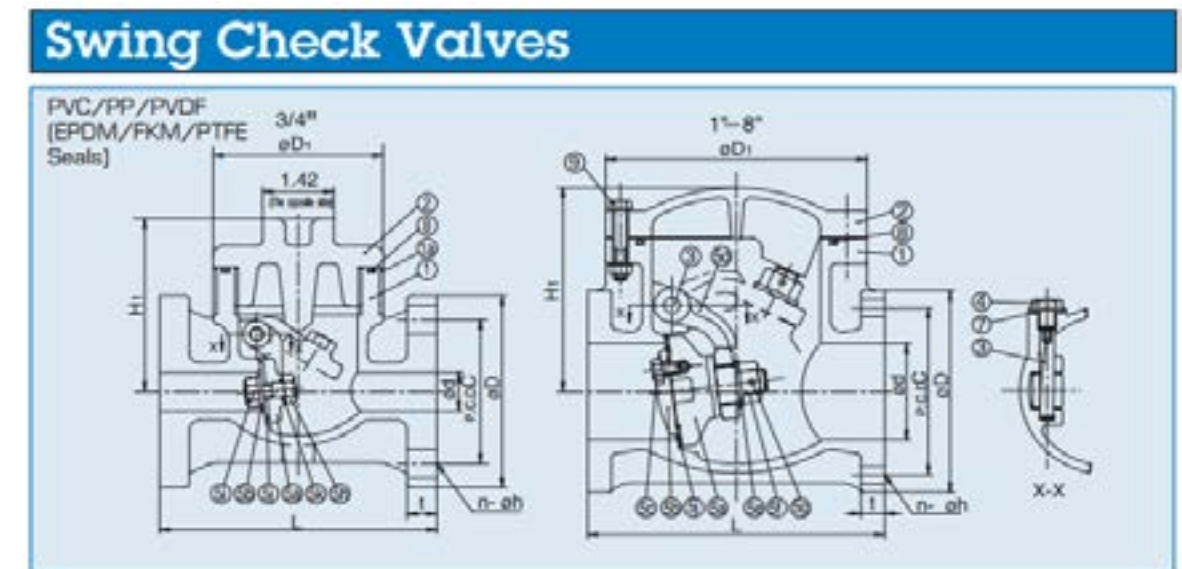
Current piping and method of control on slide pumps is producing water hammer when the system is shut down. Adding dampened check valves or replacing existing non-dampened check valves will improve the longevity of the installation.

### Swing Check Options - Assist Assemblies

Swing check valves often have the option to install an external spring or lever & weight assist assembly. This assembly is mounted external to the valve. When fluid pressure starts to drop, the spring (or lever & weight) retracts the swing arm and brings the disc back into the seat position effectively reducing the speed of the fluid flowing back towards the check valve, in turn reducing the shock caused by water hammer. The assembly returns the disc to the seat, but does not add to the sealing force. Hence, minimum backpressure requirements still apply for swing check valves with spring assists.



Because lever and weight assemblies rely on gravity to provide their assistance on a closed stroke, they tend to work better in vertical installations.



### Swing Check Valve – Sample Specification

All swing check valves shall be of solid thermoplastic construction, having no metal that comes in contact with media, (except when lever & weight or stainless-steel spring option is installed). Valves shall incorporate a single disc design suitable for either horizontal or vertical installations. Valves shall be of top entry bonnet design for maintenance purposes with O-ring top bonnet seal. PVC shall conform to ASTM D1784 Cell Classification 12454A, PP conforming to ASTM D4101 Cell Classification PP0210B67272 and PVDF conforming to ASTM D3222 Cell Classification Type II. Valves shall be rated to 150psi sizes 3/4" through 3", 100psi sizes 4" through 6", and 70psi size 8" at 70° F, as manufactured by Asahi/America, Inc.

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## APPENDIX

### A-3 PROGRAM OPTIONS

ATTENDANCE SUMMARY				OPTION 2	OPTION 3	OPTION 4
<b>ANNUAL ATTENDANCE</b>				<b>124,900</b>	<b>145,000</b>	<b>185,000</b>
Peak Month	40%		49,960	58,000	74,000	
Peak Week	23%		11,491	13,340	17,020	
Peak Day	25%		2,873	3,335	4,255	
Design Day	90%		2,585	3,002	3,830	
Peak In Park DD	90%		2,327	2,701	3,447	
Peak In Park PD	90%		2,585	3,002	3,830	
<b>EUH</b>						
Entertainment Units per Hour per Visitor (PHC)	3.50		8,144	9,455	12,063	
<b>PARK AREA</b>				<b>m<sup>2</sup></b>	<b>m<sup>2</sup></b>	<b>m<sup>2</sup></b>
Water Park Area Requirement	m <sup>2</sup> /pp	16.50	42,660	49,525	63,187	
Parking Area Requirement	m <sup>2</sup>		37,574	46,444	57,483	
<b>GUEST ACTIVITY DISTRIBUTION</b>						
% Of Guests In Rides & Queues			15%	15%	15%	
% Of Guests In Water Play Attractions			15%	15%	15%	
% Of Guests In Pools & Rivers			30%	30%	30%	
% Of Guests On Deck Lounging			40%	40%	40%	
<b>TOTAL</b>			<b>100%</b>	<b>100%</b>	<b>100%</b>	
<b>ENTRY PLAZA</b>				<b>m<sup>2</sup></b>	<b>m<sup>2</sup></b>	<b>m<sup>2</sup></b>
Outside Gate	m <sup>2</sup> /pp	1.50	1,000	1,126	1,436	
Inside Gate	m <sup>2</sup> /pp	3.00	400	675	862	
<b>FOH/BOH REQUIREMENTS</b>				<b>m<sup>2</sup></b>	<b>m<sup>2</sup></b>	<b>m<sup>2</sup></b>
FOH/Administration & Guest Services			1,500	1,750	2,000	
Back of House			800	900	1,000	

GUEST WASHROOM, CHANGEROOM, LOCKERS & SHOWER FACILITY GUIDELINES		OPTION 3 145,000 ATTENDANCE	
Peak in Park Design Day			3,002
Ratio of Female Guests Per WC (50% of guests)			40
No. Female WC			38
No. Female Sinks (1:2 per WC)			19
Ratio of Male Guests Per WC (50% of guests)			60
No. Male WC Fixtures Required			25
No. Male WC			8
No. Male Urinals			17
No. Male Sinks (1:2 per WC)			13
<b>Total Fixtures</b>			<b>63</b>
<b>Area Required Per WC (m<sup>2</sup>)</b>			<b>6.5</b>
<b>Park Distribution</b>			<b>3</b>

BREAKOUT		m <sup>2</sup>	Fixtures
Main A	70%	285	44
Satellite B	15%	61	9
Satellite C	15%	61	9
<b>Total Area Required</b>	<b>100%</b>	<b>406</b>	<b>63</b>

WATER PARK SHOWER CALCULATION		
Peak in Park Design Day		3,002
Ratio of Guests Per Shower		1:50
No. of Showers Men		30
No. of Showers Women		30
Area Required Per Shower (m <sup>2</sup> )		2.5
<b>Total Area Required (m<sup>2</sup>)</b>		<b>150</b>

Note: One shower and one change room combined in one stall

WATER PARK CHANGE ROOM CALCULATION		
Peak in Park Design Day		3,002
Ratio of Guests Per Changeroom		1:50
No. of Changerooms Required		60
No. of Changerooms Men		30
No. of Changerooms Women		30
Area Required Per Changeroom (m <sup>2</sup> )		3.5
<b>Total Area Required (m<sup>2</sup>)</b>		<b>210</b>

WATER PARK LOCKERS CALCULATION		
Peak in Park Design Day		3,002
Percentage of Guests Requiring Lockers		80%
No. of Lockers Required		2401
Area Required Per Locker (m <sup>2</sup> )		1.2
Total Area Required (m <sup>2</sup> )		2881
<b>Total Area Required (4 High) (m<sup>2</sup>)</b>		<b>720</b>

<b>FACILITIES TOTAL (m<sup>2</sup>)</b>	<b>1,487</b>
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TICKETING REQUIREMENT		OPTION 3 145,000 ATTENDANCE	
Design Day	90%		3,002
Daily Hours of Operation			10
TICKETING DISTRIBUTION			
Walk-up			50.00%
Group Tickets (Gross)			35.00%
Advance Individual Guest Sales			5.00%
Multi Visit Tickets (if applicable)			5.00%
Annual Pass			5.00%
			<b>100.00%</b>

WALKUP	
Transactions per hour is based on <u>0:02:00</u> (2.00) minutes per transaction, with the number of transactions based on the average walkup group size of <u>3</u> persons, as corresponds the # of visitors/car.	
Peak walk up ticketing hour	375
Max. Number of transactions/hr.	126
Sales positions Required	4

GROUP	
Transactions per hour is based on <u>0:06:00</u> (6.00) minutes per transaction, with the number of Group sales ticketing based on <u>40</u> persons per group, anticipated size of individual coach average capacity.	
Peak Group Ticketing Hour	210
Max. Number of Transactions/hr.	6
Sales Positions Required	1

DESIGN DAY GUEST ARRIVALS		OPTION 3 - 145,000 ATTENDANCE		
Time	Arrivals	Departures	Arriving	Departing
9:00-10:00 AM	0.00%	0.00%	0	0
10:00-11:00 AM	25.00%	0.00%	750	0
11:00-12:00 PM	20.00%	0.00%	600	0
12:00-1:00 PM	15.00%	5.00%	450	150
1:00-2:00 PM	10.00%	10.00%	300	300
2:00-3:00 PM	8.00%	10.00%	240	300
3:00-4:00 PM	10.00%	15.00%	300	450
4:00-5:00 PM	10.00%	15.00%	300	450
5:00-6:00 PM	2.00%	20.00%	60	600
6:00-7:00 PM	0.00%	20.00%	0	600
7:00-8:00 PM	0.00%	5.00%	0	150
	<b>100.00%</b>	<b>100.00%</b>	<b>3,002</b>	<b>3,002</b>

ARRIVALS PLAZA	No. of Guests	Area Requirement m <sup>2</sup> /pp	Total Area m <sup>2</sup>
Peak Guest Arrival	750	1.5	1,126

**FOOD AND BEVERAGE REQUIREMENTS AND CAPACITY** **OPTION 3**  
**145,000 ATTENDANCE**

**Meals**

Peak in Park DD Attendance		2,701
Meal Demand	80%	2,161
Hourly Meal Count	3	720
Sit Down	60%	<b>432</b>
Quick Service	40%	<b>288</b>

<b>FACILITY BREAKDOWN</b>	Hourly Meals	Turns/ Hour	Covered Seats	Area/ Seat (m <sup>2</sup> )	Area Req'd (m <sup>2</sup> )
Main F&B (1 Facility)	<b>432</b>	3	144	3.5	504
Quick Service (2 Facilities)	<b>288</b>	4	72	2.5	180
<b>TOTAL</b>	<b>720</b>		<b>216</b>		<b>684</b>

<b>FACILITY BREAKDOWN</b>		Covered Seats	Total Area	BOH Area (m <sup>2</sup> ) 35%	Seating Area (m <sup>2</sup> ) 65%
1 Main	100%	144	504	176	328
2 Quick Service	50%	36	90	32	59
3 Quick Service	50%	36	90	32	59
<b>Total</b>	<b>100%</b>	<b>72</b>	<b>180</b>	<b>63</b>	<b>117</b>

**RETAIL SPACE REQUIREMENTS** **OPTION 3**  
**145,000 ATTENDANCE**

Estimated Spend Per Head for Merchandise	\$0.75
Estimated Annual Sales	\$108,750
Retail Space (m <sup>2</sup> )	36
Additional Storage and BOH (m <sup>2</sup> ) 20%	7
<b>RETAIL SPACE REQUIRED (m<sup>2</sup>)</b>	<b>44</b>

**GUEST PARKING CALCULATIONS** **OPTION 3 - 145,000**  
**PEAK IN PARK DESIGN DAY** **3,002**

Mode of Transportation	% of Guests Arriving by Vehicle Type	# of Guests Arriving by Vehicle Type	Persons per Vehicle	Total # of Spaces Required	Average # of Spaces per Hectare	Total Area (m <sup>2</sup> )	Gross Up Area (m <sup>2</sup> )
Private Car	85%	2,551	3	850	250	34,017	39,120
Bus	15%	450	45	10	60	1,668	2,084
Taxi Stacking						120	138
Guest Total	100%	3,002				35,805	41,342
Employee Parking	5.0%	128	1.5	85	250	3,402	5,103
<b>TOTAL GENERAL - OVERALL TOTAL</b>						<b>39,206</b>	<b>46,444</b>

**WATER PARK RIDES & ATTRACTIONS** **OPTION 3**

Water Rides	Area (m <sup>2</sup> )	Unit/ Qty.	Capacity/ Unit	Instant Capacity	Cycles/ hour	Theoretical Hourly Capacity	Efficiency	Practical Hourly Capacity
Matt Racers		4	1	4	120	480	80%	384
Body Slides		2	1	2	120	240	80%	192
Pool Sider Body Slides		2	1	2	120	240	75%	180
Family Raft Rides		2	4	8	720	1440	80%	1,152
Tube Rides Complex		3	2	6	360	1080	80%	864
Children's Body Slides		3	1	3	60	180	50%	90
<b>Subtotal</b>		<b>16</b>		<b>25</b>		<b>3,660</b>		<b>2,862</b>

Water Play Attractions	Area (m <sup>2</sup> )	Instant Capacity	Cycles/ hour	Theoretical Hourly Capacity	Efficiency	Practical Hourly Capacity	Design Requirements
Water Play Structure		350	3	1,050	80%	840	
Children's Water Play	400	200	4	800	70%	560	2.0 m <sup>2</sup> /person
<b>Subtotal</b>		<b>550</b>		<b>1,850</b>		<b>1,400</b>	

Dry Play Attractions	Instant Capacity	Cycles/ hour	Theoretical Hourly Capacity	Efficiency	Practical Hourly Capacity
Adventure Trail	50	3	150	75%	113
<b>Subtotal</b>	<b>50</b>		<b>150</b>		<b>113</b>

Pools & Rivers	Area (m <sup>2</sup> )	Instant Capacity	Cycles/ hour	Theoretical Hourly Capacity	Efficiency	Practical Hourly Capacity	Design Requirements
Wave Pool	1,950	650	6	3,900	80%	3,120	3.0 m <sup>2</sup> /person
Eazy River	1,350	450	6	2,700	80%	2,160	3.0 m <sup>2</sup> /person
Teen Activity Pool	300	100	4	400	70%	280	3.0 m <sup>2</sup> /person
Adult Plunge Pool	200	80	3	240	70%	168	2.5 m <sup>2</sup> /person
<b>Subtotal</b>	<b>3,800</b>	<b>1,100</b>		<b>6,600</b>		<b>5,728</b>	
<b>TOTAL ATTRACTION CAPACITY</b>		<b>1,725</b>				<b>10,103</b>	

Seating Capacity	Area (m <sup>2</sup> )	Unit/ Qty.	Capacity/ Unit	Instant Capacity
Parkwide Lounging				910
F&B Patios				200
Cabanas		20	4	80
<b>TOTAL SEATING CAPACITY</b>				<b>1,191</b>

**WATER PARK SUMMARY**

Poolside Seating Capacity Total (Passive)	41%	1,191
Water Rides & Attractions Total (Active)	59%	1,725
<b>Guest Total</b>		<b>2,916</b>
<b>ENTERTAINMENT UNITS PER HOUR PHC (ACTIVE)</b>		<b>3.46</b>



GUEST WASHROOM, CHANGEROOM, LOCKERS & SHOWER FACILITY GUIDELINES WATER PARK WC CALCULATION		OPTION 4 185,000 ATTENDANCE
Peak in Park Design Day		3,830
Ratio of Female Guests Per WC (50% of guests)		40
No. Female WC		48
No. Female Sinks (1:2 per WC)		24
Ratio of Male Guests Per WC (50% of guests)		60
No. Male WC Required		32
No. Male WC		11
No. Urinals		21
No. Male Sinks (1:2 per WC)		16
<b>Total Fixtures</b>		<b>80</b>
Area Required Per WC (m <sup>2</sup> )		6.5
Park Distribution		3

BREAKOUT		m <sup>2</sup>	Fixtures
Main A	70%	363	56
Satellite B	15%	78	12
Satellite C	15%	78	12
<b>Total Area Required</b>	<b>100%</b>	<b>519</b>	<b>80</b>

WATER PARK SHOWER CALCULATION		
Peak in Park Design Day		3,830
Ratio of Guests Per Shower		1:50
No. of Showers Men		38
No. of Showers Women		38
Area Required Per Shower (m <sup>2</sup> )		2.5
<b>Total Area Required (m<sup>2</sup>)</b>		<b>191</b>

Note: One shower and one change room combined in one stall

WATER PARK CHANGE ROOM CALCULATION		
Peak in Park Design Day		3,830
Ratio of Guests Per Changeroom		1:50
No. of Changerooms Required		77
No. of Changerooms Men		38
No. of Changerooms Women		38
Area Required Per Changeroom (m <sup>2</sup> )		3.5
<b>TOTAL AREA REQUIRED (m<sup>2</sup>)</b>		<b>268</b>

WATER PARK LOCKERS CALCULATION		
Peak in Park Design Day		3,830
Percentage of Guests		80%
No. of Lockers Required		3064
Area Required Per Locker (m <sup>2</sup> )		1.2
Total Area Required (m <sup>2</sup> )		3676
<b>Total Area Required (4 High) (m<sup>2</sup>)</b>		<b>919</b>

<b>FACILITIES TOTAL (m<sup>2</sup>)</b>	<b>1,897</b>
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TICKETING REQUIREMENT		OPTION 4 185,000 ATTENDANCE
Design Day	90%	3,830
Daily Hours of Operation		10
TICKETING DISTRIBUTION		
Walk-up		50.00%
Group Tickets (Gross)		35.00%
Advance Individual Guest Sales		5.00%
Multi Visit Tickets (if applicable)		5.00%
Annual Pass		5.00%
		100.00%

WALKUP	
Transactions per hour is based on <u>0:02:00</u> (2.00) minutes per transaction, with the number of transactions based on the average walkup group size of <u>3</u> persons, as corresponds the # of visitors/car.	
Peak walk up ticketing hour	479
Max. Number of transactions/hr.	160
Sales positions Required	5

GROUP	
Transactions per hour is based on <u>0:06:00</u> (6.00) minutes per transaction, with the number of Group sales ticketing based on <u>40</u> persons per group, anticipated size of individual coach average capacity.	
Peak group ticketing hour	268
Max. Number of transactions/hr.	7
Sales positions required	1

DESIGN DAY VISITORS		OPTION 4 - 185,000 ATTENDANCE		
Time	Arrivals	Departures	Arriving	Departing
9:00-10:00 AM	0.00%	0.00%	0	0
10:00-11:00 AM	25.00%	0.00%	957	0
11:00-12:00 PM	20.00%	0.00%	766	0
12:00-1:00 PM	15.00%	5.00%	574	191
1:00-2:00 PM	10.00%	10.00%	383	383
2:00-3:00 PM	8.00%	10.00%	306	383
3:00-4:00 PM	10.00%	15.00%	383	574
4:00-5:00 PM	10.00%	15.00%	383	574
5:00-6:00 PM	2.00%	20.00%	77	766
6:00-7:00 PM	0.00%	20.00%	0	766
7:00-8:00 PM	0.00%	5.00%	0	191
	<b>100.00%</b>	<b>100.00%</b>	<b>3,830</b>	<b>3,830</b>

ARRIVALS PLAZA	No. of Guests	Area Requirement m <sup>2</sup> /pp	Total Area m <sup>2</sup>
Peak Guest Arrival	957	1.5	1,436

**FOOD AND BEVERAGE REQUIREMENTS AND CAPACITY** **OPTION 4**  
**185,000 ATTENDANCE**

**Meals**

Peak in Park DD Attendance	3	<b>3,447</b>
Meal Demand	80%	<b>2757</b>
Hourly Meal Count	3	<b>919</b>
Sit Down	60%	<b>551</b>
Quick Service	40%	<b>368</b>

<b>FACILITY BREAKDOWN</b>	Hourly Meals	Turns/ Hour	Covered Seats	Area/ Seat (m <sup>2</sup> )	Area Req'd (m <sup>2</sup> )
Main F&B (1 Facility)	551	3	184	3.5	643
Quick Service (2 Facilities)	368	4	92	2.5	230
<b>TOTAL</b>			<b>276</b>		<b>873</b>

<b>FACILITY BREAKDOWN</b>		Covered Seats	Total Area	BOH Area (m <sup>2</sup> ) 35%	Seating Area (m <sup>2</sup> ) 65%
1 Main	100%	184	643	225	418
2 Quick Service	50%	46	115	40	75
3 Quick Service	25%	23	57	20	37
4 Quick Service	25%	23	57	20	37
<b>Total</b>	<b>100%</b>	<b>92</b>	<b>230</b>	<b>80</b>	<b>149</b>

**FULL BUILD OUT GUEST PARKING CALCULATIONS** **OPTION 4 - 185,000**

**PEAK IN PARK DESIGN DAY** **3,830**

Mode of Transportation	% Guests Arriving by Vehicle Type	# Of Guests Arriving by Vehicle Type	Persons per Vehicle	Total # of Spaces Required	Average # of Spaces per Hectare	Total Area Requirement (m <sup>2</sup> )	Gross Up Area Requirement (m <sup>2</sup> )
Private Car	85%	3,255	3	1,085	250	43,401	49,911
Bus	15%	574	45	13	60	2,128	2,659
Taxi Stacking						120	138
Guest Total	100%	3,830				45,649	52,709
Employee Parking (add 5% of total guest cars)	5.0%	163	1.5	109	250	4,340	4,774
<b>TOTAL GENERAL - OVERALL TOTAL</b>						<b>49,989</b>	<b>57,483</b>

**RETAIL SPACE REQUIREMENTS** **OPTION 4**  
**185,000 ATTENDANCE**

Estimated Spend Per Head for Merchandise	\$1.00
Estimated Annual Sales	\$185,000
Retail Space (m <sup>2</sup> )	62
Additional Storage and BOH m <sup>2</sup> 20%	12
<b>RETAIL SPACE REQUIRED (m<sup>2</sup>)</b>	<b>74</b>

**WATER PARK RIDES AN& ATTRACTIONS** **OPTION 4**

Water Rides	Unit/ Qty.	Capacity/ Unit	Instant Capacity	Cycles/ hour	Theoretical Hourly Capacity	Efficiency	Practical Hourly Capacity
Matt Racers	6	1	4	120	720	80%	576
Body Slides	2	1	2	120	240	80%	192
Pool Sider Body Slides	2	1	2	120	240	75%	180
Family Raft Rides	2	4	8	720	1440	80%	1,152
Tube Rides Complex	4	2	8	360	1440	80%	1,152
Children's Body Slides	3	1	3	60	180	50%	90
<b>Subtotal</b>	<b>19</b>		<b>27</b>		<b>4,260</b>		<b>3,342</b>

Water Play Attractions	Area (m <sup>2</sup> )	Instant Capacity	Cycles/ hour	Theoretical Hourly Capacity	Efficiency	Practical Hourly Capacity	Design Requirements
Water Play Structure		500	3	1,500	80%	1,200	
Children's Water Play	700	300	4	1,200	70%	840	2.0 m <sup>2</sup> /person
<b>Subtotal</b>		<b>800</b>		<b>2,700</b>		<b>2,040</b>	

Dry Play Attractions	Instant Capacity	Cycles/ hour	Theoretical Hourly Capacity	Efficiency	Practical Hourly Capacity
Dryland Attractions	50	2	100	50%	50
Adventure Trail	60	3	180	75%	135
<b>Subtotal</b>	<b>110</b>		<b>180</b>		<b>135</b>

Pools & Rivers	Area (m <sup>2</sup> )	Instant Capacity	Cycles/ hour	Theoretical Hourly Capacity	Efficiency	Practical Hourly Capacity	Design Requirements
Wave Pool	2,500	833	6	5,000	80%	4,000	3.0 m <sup>2</sup> /person
Eazy River	1,750	583	6	3,500	80%	2,800	3.0 m <sup>2</sup> /person
Teen Activity Pool	500	167	4	667	70%	467	3.0 m <sup>2</sup> /person
Adult Plunge Pool	400	160	3	480	70%	336	2.5 m <sup>2</sup> /person
<b>Subtotal</b>	<b>5,150</b>	<b>1,417</b>		<b>8,500</b>		<b>7,603</b>	
<b>TOTAL ATTRACTION CAPACITY</b>		<b>2,354</b>				<b>13,120</b>	

Seating Capacity	Unit/ Qty.	Capacity/ Unit	Instant Capacity
Parkwide Lounging			1,138
F&B Patios			270
Cabanas	30	4	120
<b>TOTAL SEATING CAPACITY</b>			<b>1,528</b>

**WATER PARK SUMMARY**

Poolside Seating Capacity Total (Passive)	39%	1,528
Water Rides & Attractions Total (Active)	61%	2,354
<b>Guest Total</b>		<b>3,881</b>
<b>ENTERTAINMENT UNITS PER HOUR PHC (Active)</b>		<b>3.38</b>







Hamilton

## INFORMATION REPORT

<b>TO:</b>	Chair and Members Emergency and Community Services Committee
<b>COMMITTEE DATE:</b>	November 5, 2020
<b>SUBJECT/REPORT NO:</b>	Hamilton Fire Department Service Delivery Plan (2019 - 2028) Progress Update (HSC19026(a)) (City Wide)
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Linda Button (905) 546-2424 Ext. 3104 Helen Klumpp (905) 546-2424 Ext. 3508
<b>SUBMITTED BY:</b>	David Cunliffe Chief, Hamilton Fire Department Healthy and Safe Communities Department
<b>SIGNATURE:</b>	

### COUNCIL DIRECTION

Not Applicable

### INFORMATION

The Hamilton Fire Department Service Delivery Plan (2019 – 2028) was approved by Council in June 2019 (Report HSC19026). The Plan was developed to provide direction for the delivery of optimal fire protection and rescue services presently and into the future. The Plan serves as a road map for the Hamilton Fire Department (HFD) to navigate through challenges and capitalize on opportunities. It outlines the critical initiatives the HFD will implement in the coming years to achieve its 12 objectives that support the Plan's four Guiding Principles:

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OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

**SUBJECT: Hamilton Fire Department Service Delivery Plan (2019 - 2028) Progress Update (HSC19026(a)) (City Wide) - Page 2 of 7**

<b>Optimized Service Delivery</b>	<b>Exceptional People and Performance</b>	<b>Robust Collaboration and Integration</b>	<b>Reduced Risk for a Safer Community</b>
Innovative and effective use of technology	Skilled and diverse workforce	Coordination with City Departments/ Divisions/HFD	Community Risk Assessment response
Revenue generation opportunities	Healthy, inclusive and engaged workplace culture	Collaboration with external partners	Resourcing community growth demands
Existing resources efficiently utilized to maximum potential	Professional development opportunities		Code Red response
Enhanced customer value proposition			

The Plan is essential for addressing challenges faced by the HFD related to significant growth that has occurred and continues to occur in rural/suburban areas specifically Waterdown, Binbrook, Upper and Lower Stoney Creek. Furthermore, the Plan outlines how to manage Hamilton's complex risk profile which comprises of high-density residential areas, industrial occupancies and a topography of bodies of water, waterfalls, heavily wooded areas and the escarpment.

The Plan also includes initiatives for building and cultivating meaningful partnerships within the City and outside of the organization, promoting employee development and engagement, enhancing performance metrics and strengthening preventive measure to reduce risks to the community.

This Report provides an update on the status of implementing the initiatives identified in the Plan for 2019/2020. Also included in this Report is the data indicating operational performance of the HFD in 2020. This information is provided in lieu of the HFD Annual Report and henceforth this data will be included in an annual progress update of the Plan.

### Major Accomplishments

Much was accomplished over the past 15 months by optimizing current resources with little or no financial impact. Highlights of achievements made for each of the Plan's objectives since June 2019 include:

#### Innovative and Effective Use of Technology

- Commenced a pilot project for updated mobile navigation application
- Acquired a drone to support firefighting search and rescue efforts

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- Implemented virtual technology to support sharing of information and communication during large scale emergency responses through Emergency Operations Center pandemic response
- Launched an online portal to enable residents to apply for and purchase burn permits
- Implemented “I Am Responding” a secondary incident notification for Volunteer response

#### Revenue Generation Opportunities

- Obtained grant from Firehouse Subs to support drone program
- Received Enbridge Project Zero donation of Carbon Monoxide (CO)/Smoke alarms
- Implemented three new approved Fire Prevention user fees

#### Existing Resources Efficiently Utilized to Maximum Potential

- Replaced three Rescue Units in urban areas with multipurpose firefighting and rescue apparatus
- Redeployed three Rescue Units to volunteer response areas

#### Enhanced Customer Value Proposition

- Developed performance dashboards for each HFD division with key metrics to inform decision-making
- Launched the “Strong for You” show on Cable 14 to demonstrate the value HFD provides the community through a range of services

#### Skilled and Diverse Workforce

- Advanced Leadership Team succession plans by revolving portfolio assignments providing opportunities to gain knowledge and strengthen collective understanding of all areas of HFD
- Continuous improvements on firefighter recruitment process to enable efficiencies and enhancements within shortened timelines

#### Healthy, Inclusive and Engaged Workplace Culture

- Mandatory training for all personnel facilitated through Human Resources on respectful and supportive workplace f underway
- Established a number of employee working groups to obtain input into new initiatives related to:
  - Internal communications portal
  - Youth camp to expand on Camp FFIT (Female Firefighters in Training) concept
  - Apparatus continuous improvements
  - Nature trail response vehicle

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- Tactics for fireground operations, techniques and equipment
- Tri-service Water Rescue Unit planning
- Ice water rescue
- Development is underway of a communication portal that can be accessed across all devices and computers to increase employee engagement, accessibility and timely communication and collaboration

#### Professional Development Opportunities

- Recruited five classes of Career firefighters in 2019 and 2020 and two classes of Volunteer firefighters in 2019
- Provided a variety of development opportunities for personnel (e.g. drone operators, medical instructors, recruit instructors, shift instructors, HAZMAT (Hazardous Materials) response instructors, firefighter survival instructors, live fire instructors, orientation and operation of apparatus instructor, vehicle rescue curriculum development, Safety/Accountability Officers)
- Initiated discussions with the Ontario Fire College surrounding National Fire Prevention Association (NFPA) Standards training delivery

#### Coordination with City Departments/Divisions/HFD

- Participation in the Healthy and Safe Communities Department Information Technology Advisory Board to support technological integration and initiatives
- HFD firefighter recruitment process improvements in collaboration with Human Resources
- Successful corporate trunk radio contract negotiation with Information Technology Division (IT), Hamilton Police Service and Public Works
- Completed transition of resources and systems to IT through IT Centralization
- Distribution of alarms and pamphlets to Healthy and Safe Communities Department programs through Children's Services and Neighbourhood Development, Recreation, Ontario Works and Housing Services divisions

#### Collaboration with External Partners

- Work with targeted local businesses to develop individualized Business Continuity Plans with long term care facilities
- Joint initiative with Hamilton Police Service for development of a new combined station in Waterdown
- CityLab projects underway in collaboration with McMaster University
- Ongoing collaborations with Hamilton Police Service and Hamilton Beach Rescue for Tri-Service Water Rescue Unit
- COVID measures facilitated through Ontario Fire Marshall office

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**Community Risk Assessment Response**

- Established partnerships with a variety of organizations to develop and/or disseminate information to the public about fire safety including presentations to Keith and Sherman neighbourhood hubs (identified through Code Red) and Ontario Federation of Union Retirees (OFUR) Seniors Fire Safety Symposium
- Collaboration with Healthy and Safe Communities Department divisions for distribution of alarms and pamphlets through existing programs and services
- Enhanced presence on Twitter to increase awareness of public safety information and knowledge of HFD programs and services available to residents
- Implementation of updated response plans to ensure appropriate resources are dispatched based on risk, including utilizing an Effective Firefighting and Rescue Force (EFRF)
- Implemented closest unit dispatch response capabilities
- Establishment of Ice Water Rescue Unit with Hamilton Police Service and Hamilton Beach Rescue Unit to be implemented in January 2021

**Resourcing Community Growth Demands**

- Revised response levels from Volunteer fire service delivery to Composite fire service delivery within four urban/suburban areas of the city to address the growth and increasing risk profile
- Obtained approval for ten Full time equivalents (FTE) to establish two day crews to transition to a composite model in two Volunteer stations (Upper Stoney Creek and Waterdown)
- Obtained approval for four multi-functional Firefighter Safety/Accountability Officer FTE positions to ensure on-scene safety and provide shift training
- Established a joint initiative with Hamilton Police Service to share accommodations in a new Waterdown station to mitigate the increased risk due to the area's significant and ongoing growth

**Investments in Apparatus**

- Introduced three new urban design pumper apparatus in the lower city (John Street Station 1, Barton and Wentworth Station 6, Kenilworth Station 9)
- Deployed three new 103-foot ladder apparatus (lower Stoney Creek Station 12, Nebo and Stone Church Station 5 and Garner Road Station 20)
- Replaced volunteer ladder apparatus 15 with a multipurpose pumper at Arvin Avenue Station 15
- Replaced both a new rural pumper and tanker apparatus at Binbrook Station 18
- Replaced both a new rural pumper and tanker apparatus at Mount Hope Station 19
- Replaced a new rural pumper apparatus at Lynden Station 26
- Replaced a new rural pumper apparatus at Greensville Station 25

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Although many initiatives have progressed since the Plan was approved in June 2019, the onset of COVID-19 in March 2020 resulted in some others being delayed as City wide resources were redirected to pandemic-related issues. The attached workplan indicates the status on each of initiative identified on the Plan as commencing in 2019 or 2020 (attached as Appendix “A” to Report HSC19026(a)).

### Response Times

The pandemic has created some unique challenges for the HFD resulting in the need to modify a number of practices and processes. Despite the upheaval caused by this virus, the HFD’s resiliency has enabled the focus to remain on delivering optimal services to reduce risks for a safer community. As shown below, most HFD response times in 2020 have improved on the 90<sup>th</sup> percentile target times identified in the Plan.

Response time according to the first unit on the scene of a non-medical call is as follows:

<b>Response Type</b>	<b>Non-Medical Call 90<sup>th</sup> Percentile Target Time (mins)</b>	<b>2020 Q1-Q3 Non-Medical 90<sup>th</sup> Percentile Response Time (mins)</b>	<b>Difference from Target Time (secs)</b>
<b>Overall HFD</b>	9:34	9:27	-0:07
<b>Career</b>	7:57	7:54	-0:03
<b>Volunteer</b>	16:25	16:41	+0:16

Response time based on the first unit on scene to medical calls is as follows:

<b>Response Type</b>	<b>Medical Call 90<sup>th</sup> Percentile Target Time (mins)</b>	<b>2020 Q1-Q3 Medical Calls 90<sup>th</sup> Percentile Response Time (mins)</b>	<b>Difference from Target Time (secs)</b>
<b>Overall HFD</b>	7:37	7:21	-0:16
<b>Career</b>	6:52	6:42	-0:10
<b>Volunteer</b>	14:56	15:08	+0:12

Effective Firefighting and Rescue Force (EFRF) consists of a minimum four four-person apparatus which is required to efficiently and safely conduct initial fire suppression and/or rescue operations. The response times for a convergence of an EFRF in 2020 is as follows:

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<b>Response Type</b>	<b>EFRF 90<sup>th</sup> Percentile Target Time (mins)</b>	<b>2020 Q1-Q3 EFRF 90<sup>th</sup> Percentile Response Time (mins)</b>	<b>Difference from Target Time (mins, secs)</b>
<b>Career</b>	10:54	10:37	-0:17
<b>Composite</b>	18:51	13:26	-5:25
<b>Volunteer</b>	20:45	20:31	-0:14

In 2020, the HFD outperformed the defined target times for all responses except the Volunteer response for non-medical and medical calls which was slightly slower than the target time by 16 seconds and 12 seconds, respectively. Robust Volunteer Firefighter recruitment planning for 2021 is in progress after efforts in 2020 were paused due to pandemic response limitations.

It is anticipated response times and the HFD ability to assemble effective firefighting and rescue force will continue to improve with fully operational updated response plans, closest unit dispatch and the dedicated resource investments made to date. As committed in the Plan, initiatives will continue to be evaluated for bona fide need prior to proceeding with further action plans and/or budgetary requests.

**APPENDICES AND SCHEDULES ATTACHED**

Appendix "A" to Report HSC19026(a): HFD Service Delivery Plan (2019-2028)  
Action Plan Status September 2020



## Hamilton Fire Department (HFD) Service Delivery Plan (2019 - 2028) Action Plan Status - September 30, 2020

OBJECTIVE/INITIATIVES	ACTIONS	START DATE	END DATE	% COMPLETE	STATUS	STATUS UPDATE
<b>1. Innovative and effective use of technology</b>						
1.1 Leverage integration with Corporate database applications	Learning Management System (LMS) - Human Resources Peoplesoft Training Administration integration with Fire Data Management (FDM) training records	2020	2020	↑ 80	In Progress	
	Learning Management System (LMS) in collaboration with Human Resources enterprise platform	2021	2022		Not started	
	Automated Geographic Information System (GIS) mapping quarterly updates to Computer Aided Dispatch (CAD)	2019	2020	→ 50	In Progress	
	Automated dispatch and GIS mapping capabilities to in-station screens	2020	2021	→ 50	In Progress	
	FDM Information Technology (IT) support requests automated to IT Service Desk in conjunction with IT centralization	2020	2020	↑ 100	Completed	
	Fire Prevention online service intake and payment	2020	2020	→ 70	In Progress	Go live Q4 2020
	Moneris gateway application for Fire Prevention online and phone payment options	2020	2020	↑ 80	In progress	
1.2 Investigate updated mobile information system for Hamilton Fire Department vehicles	Navigation platform for apparatus to replace current mobile data terminals	2019	2020	→ 70	In progress	Pilot project underway. Go live Q1 2021
	Apparatus operational support platform to enable tactical and incident management support	2021	2021		Not started	
	Fire Prevention mobile office	2020	2020	↑ 80	In Progress	Go live Q4 2020
1.3 Explore the use of drone technology	Training and implementation of Remotely Piloted Aircraft System (RPAS) program	2019	2021	→ 70	In Progress	Delayed due to COVID
1.4 Expand the utilization of the asset management platform within Fire Data Management (FDM)	Public Works Enterprise Asset Management Initiative opportunities available once implemented.	2019	2021		On hold	Potential interim FDM capabilities
1.5 Explore use of technology to support information sharing for large scale emergency response	Virtual capabilities for offsite meeting and online program coordination utilizing Webex	2020	2023	↑ 100	Completed	
1.6 Develop the capability for residents to access Hamilton Fire Department services online including payment portal	Moneris gateway application for Fire Prevention online and phone payment options	2019	2023	→ 70	In Progress	Go live Q4 2020
	Fire Prevention online service intake and payment	2020	2020	→ 70	In Progress	Go live Q4 2020
	On line burn permit application and payment	2020	2020	↑ 100	Completed	Go live May 14, 2020
<b>2. Revenue generation opportunities</b>						
2.1 Explore the use of Multi Agency Training Academy by external parties	2.1 (a) Establish appropriate user fee within User Fee By-Law during budget process	2020	2020		On hold	Delayed due to COVID
2.2 Investigate and access new funding streams such as grants	Grant application for drone purchase	2020	2020	↑ 100	Completed	2019 Firehouse Grant received
	Annual smoke and carbon monoxide (CO) alarm grant submissions	2019	2020	↑ 100	Completed	2019 Enbridge Project Zero alarms donation
2.3 Explore funding strategies through provision of additional Fire Department services	2.3 (a) Establish appropriate user fee within User Fee By-Law during budget process	2020	2020		On hold	Delayed due to COVID
	Establish new users fees with User Fee By-Law during budget process for existing services	2020	2020	↑ 100	Completed	New fees for Capacity Cards, Pyrotechnics and Alternative Reviews. Full cost recovery on Burn Permit fee



## Hamilton Fire Department (HFD) Service Delivery Plan (2019 - 2028) Action Plan Status - September 30, 2020

3. Existing resources efficiently utilized to maximum potential							
3.1 Investigate opportunities to maximize use of current resources in all Divisions	3.1 (a) Convert/change Engine 5 to a Ladder in the East Mountain and Upper Stoney Creek using existing apparatus	2019	2019	↑	100	Completed	
	3.1 (b) Convert existing Rescue 1 (Hamilton downtown) to a multipurpose apparatus (Urban Pumper) using existing complement and apparatus	2019	2019	↑	100	Completed	
	3.1 (c) Convert existing Rescue 12 (Stoney Creek) to a multipurpose apparatus (Ladder) using existing complement and apparatus	2019	2019	↑	100	Completed	
	3.1 (d) Convert existing Rescue 4 (Hamilton Mountain) to a multipurpose apparatus (Engine) using existing complement and apparatus	2019	2019	↑	100	Completed	
	3.1 (e) Convert existing Volunteer Ladder 15 (Lower Stoney Creek) to a multipurpose apparatus (Pumper) using existing apparatus	2019	2019	↑	100	Completed	
	3.1 (f) Redeploy the three Rescue Units to Volunteer Response Areas	2019	2019	↑	100	Completed	
3.2 Conduct accommodations/facilities review to increase efficiencies and promote community focused and collaborative work environments (Mechanical Division, Fire Prevention, Training Division)	3.2 (a) Relocate Mechanical Operations including reconciling Stores and Parts services to the lands adjacent to the Multi Agency Training Academy	2021	2025			Not started	Deferred
	Fire Prevention community focused mobile office	2020	2020	↑	80	In Progress	Go live Q4 2020
	Multi Agency Training Academy - Training Division learning and resource center facility upgrades	2019	2020	↑	100	Completed	
3.3 Identify opportunities to create a multifunctional resilient workforce within existing organizational structure	3.3 (a) Cross train and expand the role of four existing Safety Officers to include Shift Training Instructor	2019	2020	⇒	75	In Progress	Delayed due to COVID
	3.3 (b) Cross train and utilize front line Fire Operations staff in an expanded Fire Prevention and public safety education role	2019	2022			On hold	Delayed due to COVID
3.4 Complete strategic review of the Emergency Management Program based on Hazard Identification and Risk Assessment (HIRA) and Emergency Management and Civil Protection Act requirements		2020	2020			On hold	Delayed due to COVID
3.5 Review the medical tiered response agreement with the Hamilton Paramedic Service to ensure the appropriate resources are dispatched relative to patient need		2020	2020	↑	100	On hold	Delayed due to COVID
4. Enhanced customer value proposition							
4.1 Continue to measure citizen satisfaction of the services being provided by the HFD	4.1 (a) Conduct citizen survey on a continuing three-year cycle from initial 2018 baseline	2021	2021			Not started	
4.2 Establish forward facing and internal tools to communicate performance results	4.2 (a) Develop performance dashboards to be utilized for evidence-based decision making	2019	2020	↑	100	Completed	
	4.2 (b) Enhance performance metrics for each Division to monitor, evaluate and improve performance using a results-based accountability approach	2019	2020	⇒	50	In Progress	Divisional metrics underway. Go live Q4 2020
4.3 Define the value for money proposition of the services being provided to citizens	Cable 14 production "Strong For You" show to highlight HFD programs and services delivered to residents	2019	2020	↑	100	Completed	Suspended mid season due to COVID. Fall season underway
4.4 Investigate a simultaneous dispatch protocol with the Hamilton Paramedic Service		2020	2022			On hold	Delayed due to COVID



## Hamilton Fire Department (HFD) Service Delivery Plan (2019 - 2028) Action Plan Status - September 30, 2020

5. Skilled and diverse workforce							
5.1 Identify strategies using an equity, diversity, and inclusion (EDI) lens to build a diverse workforce that reflects the community	5.1 (a) Expand the Camp FFIT (Female Firefighters in Training) concept to broader community groups	2019	2022	↑	100	On hold	Spring launch of Firefighters in Training Camp suspended due to COVID
	Implement diverse workforce recruitment initiatives utilizing Equity and Diversity strategies in partnership with HR	2020	2021			In Progress	
5.2 Explore strategies to enhance the hiring process to better meet the needs of the HFD and the community	5.2 (a) Implement pre-hire component of recruit training program as a condition of employment	2019	2021			On hold	Delayed due to COVID
	Implement continuous improvements in recruitment process to enhance candidate resiliency and reduce hiring timelines	2019	2020	↑	80	In Progress	Career recruitment Q4 2020; Volunteer process in progress
5.3 Develop a plan for Leadership Team succession planning	Revolving portfolio assignments for Assistant Deputy Chief positions to ensure HFD wide operational knowledge	2019	2021	↑	100	Completed	
	Implement Fire College training program certification for Assistant Deputy Chief positions	2020	2022			On hold	Delayed due to COVID
	Review and update all HFD job descriptions to ensure reflective of duties and qualifications	2020	2021	↓	20	In Progress	
6. Healthy, inclusive and engaged workplace culture							
6.1 Continue to update and enhance the Health & Wellness Program based on staff needs	6.1 (a) Complete Road To Mental Readiness training	2019	2020	↓	40	In Progress	Delayed due to COVID
6.2 Identify opportunities to create a more inclusive workplace culture	Development of communication portal to allow timely communication flow and connectivity for staffing, stations and committees	2019	2023	↑	80	In Progress	Go live Q1 2021
	Mandatory training sessions for all personnel facilitated by HR (It Starts With You, Creating and Maintaining a Respectful and Supportive Workplace, Transgender Protocol)	2020	2021	⇒	50	In Progress	
6.3 Leverage Our People Survey results to enhance employee engagement	6.3 (a) Further develop and enhance formal recognition program	2019	2020	↑	100	Completed	Intranet and social media recognition, recognition wall
7. Professional development opportunities							
7.1 Investigate strategies to encourage, support and promote ongoing growth and development of all personnel	7.1 (a) Create Department-wide mentoring programs to expose staff to all facets of the fire service and enhance skill development	2019	2023			On hold	Delayed due to COVID
	7.1 (b) Implement a Department-wide foundational core competency training program for all personnel in all divisions	2019	2020	⇒	50	In Progress	Delayed due to COVID
	Learning platform technology in-station to facilitate individual training opportunities	2020	2021	↓	40	In Progress	
8. Coordination with City Departments/Divisions/HFD							
8.1 Conduct a feasibility study for a centralized model in training for all divisions to ensure consistency and continually improve competencies		2021	2022			Not started	
8.2 Implement strategies to ensure the continuity of core City services during emergencies	8.2 (a) Collaborate with all City Departments to implement, test, maintain and expand the Corporate Business Continuity Program	2019	2023			On hold	Delayed due to COVID
	Implementation of New Generation 911 (NG911) in collaboration with IT, Finance and Hamilton Police Service	2021	2024			Not started	
8.3 Increase the level of involvement with City Departments to ensure the collaborative planning for growth in the City		2019	2024			On hold	Delayed due to COVID



## Hamilton Fire Department (HFD) Service Delivery Plan (2019 - 2028) Action Plan Status - September 30, 2020

8.4 Support and participate in Healthy and Safe Communities Department integration and departmental/corporate continuous improvement initiatives	Department wide policies and procedures review	2020	2022	↓	10	In Progress	
	Transition of resources and systems per IT Centralization	2019	2019	↑	100	Completed	
	Corporate Trunked Radio contract negotiation and transition of ongoing oversight to IT Services	2019	2020	↑	100	Completed	
<b>9. Collaboration with external partners</b>							
9.1 Identify strategies to promote emergency preparedness with community partners	9.1 (a) Work with targeted local businesses to develop individualized Business Continuity Plans	2019	2023	↓	20	In Progress	Long term care facilities completed. Delayed due to COVID
9.2 Investigate the merits of a co-locating dispatch centre with the Hamilton Paramedic Service and the Hamilton Police Service	City Lab initiatives through McMaster University to investigate Internet of Things (IoT) and firefighter safety technologies	2019	2022	⇒	50	In Progress	Two student groups in midst of researching identified projects. Ongoing through school terms
<b>10. Community Risk Assessment response</b>							
10.1 Develop and implement a collaborative, strategic and targeted approach to public safety education that addresses community risk (First Line of Defence)	10.1 (a) Expand partnerships with City Departments, educational institutions, community agencies, cultural organizations, businesses and industries to develop and disseminate public safety information	2019	ongoing	⇒	50	In Progress	Various initiatives completed with internal partners and external agencies
	10.1 (b) Continue to partner with local school boards to expand public safety curriculum, including the arson education program	2020	ongoing	⇒	50	In Progress	Delayed due to COVID
	10.1 (c) Expand public safety information produced in multiple languages reflective of the community	2020	2021	↓	20	In Progress	Delayed due to COVID
	10.1 (d) Expand the public safety program in collaboration with agencies to address the needs of the vulnerable residents	2020	ongoing	⇒	50	In Progress	Various initiatives completed with internal partners and external agencies
	10.1 (e) Increase presence on Twitter and consider expanding to other social media platforms to deliver public safety messaging	2019	ongoing	↑	100	Completed	Increased Twitter engagement
	10.1 (f) Analyze public education efforts to evaluate effectiveness in improving outcomes in community public safety	2019	2025			On hold	Delayed due to COVID
	10.1 (g) Expand/Increase opportunities to utilize front line Fire Operations personnel in the delivery of public education initiatives	2019	2023			On hold	Delayed due to COVID
	10.1 (h) Formalize an 'After the Fire' educational program that utilizes Fire Prevention and Fire Operations personnel to deliver information to residents in a neighbourhood recently affected by fire	2019	2020			On hold	Delayed due to COVID
	10.1 (i) Increase public awareness of services offered by the Fire Prevention Division	2019	2020	↑	80	In Progress	Social media public education
10.2 Identify safety standards and code enforcement strategies to address risks (Second Line of Defence)	10.2 (a) Work with the Planning and Economic Development Department to educate homebuilders (and homeowners) on the benefits of sprinkler systems and encourage builders to offer sprinkler systems as an option for new home construction	2020	ongoing			On hold	Delayed due to COVID
	10.2 (b) Develop an objective inspection program that includes a self-assessment component utilizing resources from both Operations and Fire Prevention Divisions	2021	2021			Not started	Delayed due to COVID
	10.2 (c) Conduct pre-fire tactical surveys of all risk occupancies and log information to a common database within FDM accessible to all Divisions	2019	ongoing			On hold	Delayed due to COVID



## Hamilton Fire Department (HFD) Service Delivery Plan (2019 - 2028) Action Plan Status - September 30, 2020

10.3 Identify opportunities to lessen the impact of risks through effective emergency response (Third Line of Defence)	10.3 (a) Continue to assess and determine appropriate changes to service delivery that aligns with the City's new Transportation Master Plan	2019	ongoing			On hold	Delayed due to COVID
	10.3 (b) Update emergency response procedures for the higher risk occupancies based on the HIRA and the Community Risk Assessment	2019	2025	↑	100	Completed	Revised response plans go live August 26, 2020
	10.3 (c) Update dispatch protocol to ensure deployment of resources is based on risk and closest unit	2019	2021	↑	100	Completed	Go live August 26, 2020
	10.3 (d) Develop a Tri-Service Water Rescue Unit in collaboration with the Hamilton Police Service and Hamilton Beach Rescue Unit to service inland waters as extension of the ice rescue unit	2020	2021	↓	10	In Progress	Go live Q1 2022
	10.3 (e) Acquire response apparatus to transport and supply firefighting foam to respond to hazardous materials incidents	2020	2021	↓	30	In Progress	Delayed due to COVID
	10.3 (f) Acquire nature trail response vehicle and a vehicle to transport it to be able to more effectively and efficiently responds to incidents	2020	2020	↓	30	In Progress	Delayed due to COVID
	10.3 (g) Enhance partnerships between HFD divisions and external partners (such as hospitals, industries, and learning institutions) regarding sharing information, training and exercise programs	2019	2025			On hold	Delayed due to COVID
	Water Tanker Shuttle Service accreditation for rural commercial and residential properties with fire insurance grading through Fire Underwriters Survey (FUS)	2019	2020	↑	100	Completed	
<b>11. Resourcing community growth demands</b>							
11.1 Identify enhancements to current resources required to mitigate risks to be integrated into the City's capital budget process	11.1 (a) Secure a long-term lease or purchase the land and property for existing Station 14 (Chapel Hill and Hwy. 20)	2021	2021			Not started	
	11.1 (b) Explore an expansion of the training facility to accommodate additional classroom space and outdoor training	2020	2022			On hold	Under review
11.2 Identify opportunities to leverage and implement composite service delivery model to maintain service levels in areas with increased risk profile	11.2 (a) Change the level of response from Volunteer to Composite within the following boundaries and assess the impact to area rating: • Greens Road (lower Stoney Creek) easterly to Fruitland Road, from the escarpment to the lake will be maintained as a composite response area. Fruitland Road easterly to the Grimsby border from the lake to the escarpment will be changed from a volunteer response area to a composite response area • Rymal Road East to Golf Club Road between Regional Rd 56 and Trinity Church Road • Twenty Road southward to Dickenson Road between Glover Road and Glanaster Road • Airport Industrial Park and the Hamilton International Airport property	2020	2020	↑	100	Completed	Go live August 26, 2020





## Hamilton Fire Department (HFD) Service Delivery Plan (2019 - 2028) Action Plan Status - September 30, 2020

11.3 Identify resource gaps needed to mitigate increased risk to be integrated into the City's operating and capital budget process	11.3 (a) Create a multi-functional Firefighter Safety/Accountability Officer position, one per platoon, to ensure on-scene safety of Operations staff and provide shift training	2020	2020	↑	80	In Progress	Operational Q4 2020
	11.3 (b) Continue transition of composite delivery model by increasing full time firefighting staff at Station 17 (Upper Stoney Creek) to support EFRF through implementation of 5-person Monday to Friday day crew (8:00 am – 4:00 pm)	2020	2020	↑	80	In Progress	Operational January 2021
	11.3 (c) Continue transition of composite delivery model by increasing full time firefighting staff at Station 24 (Waterdown) to support Effective Firefighting and Rescue Force (EFRF) through implementation of 5-person Monday to Friday day crew (8:00 am – 4:00 pm)	2020	2020	↑	80	In Progress	Operational January 2021
	11.3 (d) Construct a new station in Waterdown and relocate fulltime HFD resources from existing Parkside location	2019	2022	↓	10	In Progress	Joint initiative with Hamilton Police Service
	11.3 (e) Maintain a viable and sustainable Volunteer Division by increasing the number of volunteer firefighters at the following stations from 25 to 40: • Station 18 – Binbrook • Station 19 – Mount Hope • Station 21 – Ancaster • Station 24 – Waterdown • Station 25 – Greensville • Station 26 – Lynden • Station 27 – Rockton • Station 28 – Freelton	2021	2027			Not started	
	11.3 (f) Begin the transition to a composite delivery model by introducing full time staff at Station 16 (Winona) to support EFRF through implementation of 5-person Monday to Friday day crew (8:00 am – 4:00 pm)	2021	2021			Not started	Deferred
	11.3 (g) Begin the transition to a composite delivery model by introducing full time staff at Station 18 (Binbrook) to support EFRF through implementation of 5-person Monday to Friday day crew (8:00 am – 4:00 pm)	2021	2021			Not started	Deferred
	11.3 (h) Construct a new composite station in Upper Stoney Creek	2023	2025			Not started	Deferred
	11.3 (i) Renovate Station 16 (Winona) to a composite station to accommodate the addition of a full time 24/7 crew	2023	2024			Not started	Deferred
	11.3 (j) Renovate Station 18 (Binbrook) to a composite station to accommodate the addition of a full time 24/7 crew	2025	2026			Not started	Deferred
	11.3 (k) Add an additional fulltime multi- purpose firefighting apparatus (Urban Pumper) in west Hamilton/Dundas into an existing station	2026	2027			Not started	Deferred
11.4 Investigate additional resource gaps in all Divisions including Leadership Team due to the increased workload and growth. To be integrated into the City's operating budget process		2020	ongoing			On hold	Delayed due to COVID



## Hamilton Fire Department (HFD) Service Delivery Plan (2019 - 2028) Action Plan Status - September 30, 2020

### 12. Code Red Response

12.1 Explore opportunities for involvement and collaboration with key civic stakeholders to address Code Red to affect positive change in the health and well-being of the citizens of Hamilton through use of Fire Department resources and programs		2020	ongoing		On hold	Delayed due to COVID
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**CITY OF HAMILTON**  
**HEALTHY AND SAFE COMMUNITIES DEPARTMENT**  
**Recreation Division**

<b>TO:</b>	Chair and Members Community and Emergency Services Committee
<b>COMMITTEE DATE:</b>	November 5, 2020
<b>SUBJECT/REPORT NO:</b>	YWCA Seniors Program Annual Operating Grant (HSC20018) (Ward 2 and 4)
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Katrusia Marunchak (905) 546-2424 Ext. 1714 Dawn Walton (905) 546-2424 Ext. 4755
<b>SUBMITTED BY:</b>	Chris Herstek Director, Recreation Division Healthy and Safe Communities Department
<b>SIGNATURE:</b>	

**RECOMMENDATION(S)**

- (a) That the City of Hamilton be authorized to enter into a new five year Older Adult Program Operating Agreement with the Young Women's Christian Association (YWCA) effective April 1, 2020 for the operation of two Senior Recreation Centres in lower Hamilton on terms and conditions satisfactory to the City Solicitor and the Director of the Recreation Division (the "Operating Agreement");
- (b) That the Older Adult Program Operating Agreement include a clause permitting up to two extensions, each up to five additional years on the same terms and conditions as the Operating Agreement each at the discretion of the General Manager of the Healthy and Safe Communities Department or his designate;
- (c) That the City of Hamilton be authorized to enter into an extension of the Lease Agreement with the YWCA for the premises located at 1715 Main Street East, Hamilton, for a period of up to one year commencing on January 1, 2021 and expiring not later than December 31, 2021 on the same terms and conditions as the existing Lease Agreement except rent which shall be prorated, at the discretion of the General Manager of the Healthy and Safe Communities Department or his designate;

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**SUBJECT: YWCA Seniors Program Annual Operating Grant (HSC20018) (Ward 2 and 4) - Page 2 of 4**

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- (d) That the City provide an annual operating grant, the amount of which will be determined annually as part of the City budget process and confirmed with the YWCA once operating budgets have been approved by City Council, over the term of the agreement; and,
- (e) That the General Manager of the Healthy and Safe Communities Department, or his designate, be authorized to execute the Older Adult Program Operating Agreement, Lease Extension as well as any ancillary and extension agreements, in a form satisfactory to the City Solicitor.

### **EXECUTIVE SUMMARY**

The relationship between the City of Hamilton and the YWCA has spanned over four decades. Both the City and the YWCA have been committed to working together to ensure the emotional and physical wellbeing of older adults in our city. The YWCA has been a substantial presence in the community and with the support of the City, will continue to advocate for older adults.

The Recreation Division would like to continue the arrangement with the YWCA for programming and operating two Senior Recreation Centres. Recreation staff will continue to be involved as part of the Seniors' Advisory Committee and to provide programming support to the YWCA. This arrangement has greatly benefited the older adult community in the City of Hamilton.

### **Alternatives for Consideration – Not Applicable**

### **FINANCIAL – STAFFING – LEGAL IMPLICATIONS**

**Financial:** The YWCA year one base funding will be established at the current funding level of \$286,507 to support the implementation of this agreement. As part of the tax supported budget process, an increase in operational funding consistent with the Recreation Division operating budget guideline, will be submitted for review and approval annually over the term of the agreement.

**Staffing:** N/A

**Legal:** Legal Services will prepare an Older Adult Program Operating Agreement, Lease Extension Agreement, as well as any ancillary and extension agreements, in a form satisfactory to the City Solicitor.

### **HISTORICAL BACKGROUND**

The Hamilton YWCA has worked in partnership with the City of Hamilton since 1975 to ensure that quality and affordable programming and services for older adults are

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**SUBJECT: YWCA Seniors Program Annual Operating Grant (HSC20018) (Ward 2 and 4) - Page 3 of 4**

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offered. Programming is normally offered from 75 MacNab Street and 52 Ottawa Street North in lower Hamilton, however while the Ottawa Street North location has been under construction, the YWCA has been operating that centre from Sir Winston Churchill Recreation Centre pursuant to a Lease Agreement with the City which is set to expire on December 31, 2020. It is anticipated that the YWCA programming will again return to the Ottawa Street North location in early 2021 when construction at that location is complete.

The Older Adult Program Operating Agreement between the City and the YWCA expired on March 31, 2020. Continued support of senior's programming by the City and the YWCA will benefit all Hamilton residents and is supported by the Recreation Division.

**POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS**

Not Applicable

**RELEVANT CONSULTATION**

Staff consulted with the YWCA Senior's Program team and Director of Finance who are supportive of entering a new Older Adult Program Operating Agreement. YWCA staff are committed to providing quality programs for the older adult community with financial support from the City of Hamilton.

**ANALYSIS AND RATIONALE FOR RECOMMENDATION**

The City of Hamilton has enjoyed a long-standing partnership with the Hamilton YWCA and City staff recognize the benefits provided for the community. Entering a new Operating Agreement will allow the YWCA to continue their programming without interruption to participants in a vulnerable and growing demographic.

Both organizations are committed to the physical and emotional wellbeing of older adults in the City of Hamilton and have a shared goal to enrich and support independent and active living. The YWCA offers reduced rates to older adults for their FITpass and AQUApass, provide programming specific to this demographic and offer a volunteer senior to senior program to provide in-home social support to older adults isolated in the community. The City provides an annual grant to help fund these older adult programs and Recreation staff continue to represent the City's interests as part of the Senior Advisory Committee.

If the Operating Agreement is not extended, the City would be responsible for any operating costs associated with running older adult programming. In addition, relocating

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**SUBJECT: YWCA Seniors Program Annual Operating Grant (HSC20018) (Ward 2 and 4) - Page 4 of 4**

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the current YWCA program would cause significant disruption to community members who are enrolled in the programs and rely on these services in the lower Hamilton area.

Given that the Lease between the YWCA and the City with respect to the Sir Winston Churchill Recreation Centre is set to expire on December 31, 2020 and that the Ottawa Street North centre may not be available for programming until 2021, staff are requesting an extension of the Lease.

**ALTERNATIVES FOR CONSIDERATION**

Not Applicable

**ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN****Economic Prosperity and Growth**

Hamilton has a prosperous and diverse local economy where people have opportunities to grow and develop.

**Healthy and Safe Communities**

Hamilton is a safe and supportive City where people are active, healthy, and have a high quality of life.

**APPENDICES AND SCHEDULES ATTACHED**

None

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**10.3**

**CITY OF HAMILTON**  
**HEALTHY AND SAFE COMMUNITIES DEPARTMENT**  
**Housing Services Division**

<b>TO:</b>	Chair and Members Emergency and Community Services Committee
<b>COMMITTEE DATE:</b>	November 5, 2020
<b>SUBJECT/REPORT NO:</b>	Hamilton East Kiwanis Non-Profit Homes Inc. Subsidy Transfer (HSC20032) (Ward 3)
<b>WARD(S) AFFECTED:</b>	Ward 3
<b>PREPARED BY:</b>	Brian Kreps (905) 546-2424 Ext. 1782
<b>SUBMITTED BY:</b>	Edward John Director, Housing Services Healthy and Safe Communities Department
<b>SIGNATURE:</b>	

**RECOMMENDATIONS**

- (a) That the General Manager of the Healthy and Safe Communities Department be authorized and directed to enter into, execute and administer a rent subsidy agreement with Hamilton East Kiwanis Non-Profit Homes Inc. to transfer up to \$267,780 of social housing operating subsidy from the sale of up to 32 existing scattered units to rent supplements in newly constructed units located at 6 – 14 Acorn Street for a duration of 20 years in accordance with the terms and conditions contained in the Rent Supplement Term Sheet attached as Appendix “A” to Report HSC20032, in a form satisfactory to the City Solicitor;
- (b) That the value of the subsidy paid on the units at 6 – 14 Acorn Street be increased annually by the allowable rent increase guideline set by the Ministry of Municipal Affairs and Housing; and,
- (c) That during the period between the sale of the up to 32 scattered units and the rent up of the new units at 6 – 14 Acorn Street, the subsidy paid by the City of Hamilton to Hamilton East Kiwanis Non-profit Homes Inc. be applied to the development costs of 6 – 14 Acorn Street.

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**SUBJECT: Hamilton East Kiwanis Non-Profit Homes Inc. Subsidy Transfer  
(HSC20032) (Ward 3) - Page 2 of 6**

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**EXECUTIVE SUMMARY**

Hamilton East Kiwanis Non-Profit Homes (Kiwanis) operates 202 units of single detached housing. These units were built and funded under the federal section 95 programs. By request of Kiwanis' Board, the City of Hamilton began funding them as a provincial program which means that the subsidy has no end date.

Kiwanis is developing 60 new units of affordable housing at 6 – 14 Acorn. To generate equity for the new project, they are selling approximately 32 of their single detached units. The first two units have already been sold and the balance will be sold in 2021.

Staff recommend transferring up to \$267,780 of the subsidy attached to the units being sold by Kiwanis to be used as rent supplements in the new development at 6 – 14 Acorn. The transfer would take effect in the 2021 budget year.

Without the subsidy, the new units will be offered at 80% and 100% of Average Market Rent and the community would lose up to 32 Rent-Geared-to-Income units. Creating rent supplements in the new project would allow the City of Hamilton to count them toward their provincially mandated Service Level Standard.

It is recommended that the subsidy be increased by the rate of the Rent Increase Guideline set each year by the Province of Ontario to allow the number of households served to remain constant, otherwise the value would decrease each year as rents increase and eventually fewer households would be served.

**Alternatives for Consideration – Not Applicable**

**FINANCIAL – STAFFING – LEGAL IMPLICATIONS**

Financial: The budgeted operating subsidy in 2020 for Hamilton East Kiwanis Non-profit Homes benchmarked former federal portfolio is \$962,862 (Dept ID 625026) the portion associated with 32 units is \$267,780.

The subsidy for 2021 for Hamilton East Kiwanis Non-profit Homes' benchmarked former federal portfolio is projected to be \$878,187 and the subsidy associated with 32 units is calculated to be \$133,589. The subsidy for 2021 will be substantially lower due to some mortgages being paid off and lower indices for benchmarking.

It is recommended that the transfer be based on the 2020 level because it will provide sufficient subsidy to replace all the units sold.



**SUBJECT: Hamilton East Kiwanis Non-Profit Homes Inc. Subsidy Transfer  
(HSC20032) (Ward 3) - Page 3 of 6**

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The recommendation recommends that up to \$267,780 be transferred. The final dollar figure will depend on how many units Kiwanis ultimately sells. Kiwanis must provide an equity contribution of \$10.5 M to the development and is planning to sell up to 32 units to generate sufficient equity.

Staffing: N/A

Legal: N/A

**HISTORICAL BACKGROUND**

Kiwanis operates 202 units of housing projects which were funded initially by the Canada Mortgage and Housing Corporation (CMHC). These housing projects were included in the 1999 Social Housing Agreement between the CMHC and the Province of Ontario and subsequently included as part of the devolution of social housing to municipalities in 2001. As part of the transfer, these federally funded housing projects became administered by the City, as Service Manager, pursuant to the *Housing Services Act, 2011* (the “Act”) for the remaining duration of the original operating agreements. These are commonly referred to as “section 95 projects”.

The section 95 federal program assumed that after the mortgage debt is retired, a housing project should be able to generate sufficient revenue to continue to provide rent-geared-to-income housing, without receiving further subsidies. However, some of these projects struggle to provide rents that meet deep affordability even with the existing subsidy, especially when compounded by capital repair pressures, high costs of unit turnover and the lack of adequate reserves and resources.

In 2007, at the direction of its Board of Directors, Kiwanis formally asked the City of Hamilton to replace the section 95 federal operating agreements for Kiwanis with the indexed funding model set out in the Act for provincial projects. This request was honoured and has resulted in increased subsidy year over year for Kiwanis, funded through the property tax levy.

The agreement to replace Kiwanis’ section 95 project operating agreements with the benchmarked funding model was not subsequently formalized in a written agreement between the City and Kiwanis. However, both parties have honoured the terms of the unwritten agreement since 2007.

In 2019, Kiwanis developed a new strategic plan which included the ambitious target of creating 1,000 new units by 2028. A key part of their strategy is selling single family homes and using the equity to partially fund development of new units.

**SUBJECT: Hamilton East Kiwanis Non-Profit Homes Inc. Subsidy Transfer  
(HSC20032) (Ward 3) - Page 4 of 6**

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In September 2019, Kiwanis approached Housing Services Division staff with a proposal to sell up 32 units and use the proceeds towards the development of their new project at 6 – 14 Acorn Street.

In November 2019, Council approved Report HSC19060 which included a recommendation to provide \$2,790,000 in funding from the Ontario Priority Housing Initiative (OPHI) for the Hamilton East Kiwanis Non-Profit Homes Inc. project at 6 -14 Acorn Street. That funding is dedicated to 20 of the project's 60 units and will bring rents down to 80% of Average Market Rent (AMR). The Report also approved approximately \$1.24 M through development charge relief and relief from parkland dedication fees. The scheduled completion date is March 2022. The current projected budget is \$23,198,015.

**POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS**

The *Housing Services Act, 2011* ("Act") requires that Service Managers pay subsidy calculated based on set formulas. This obligation continues for provincial projects even once their mortgage has been paid. There is no end date currently associated with this obligation.

The Act further requires that housing providers to obtain the written consent of the City, as Service Manager, prior to selling or mortgaging social housing units. As part of this consent, the City of Hamilton requests replacing each unit on a 1:1 basis, at a minimum so that service levels are maintained. In addition, the consent must be conditional upon a tenant relocation plan, satisfactory to the Service Manager, and the proceeds of sale must be reinvested towards the development of new housing.

**RELEVANT CONSULTATION**

Staff from Finance and Administration noted that while this approach does not allow the City to realize its full savings associated with the mortgages being paid off, they acknowledge that without the subsidy transfer at the 2020 level, the community would see a reduction in the number of RGI units available.

Staff from Legal Services confirmed that since the properties in question have reached the end of their operating agreement, the City of Hamilton is not required to provide funding. It was also confirmed that it is allowable for a new agreement to be created with Hamilton Kiwanis Non-profit Homes regarding the operation of the existing or new units.

**ANALYSIS AND RATIONALE FOR RECOMMENDATION(S)**

An agreement was never signed between the City of Hamilton and Hamilton East Kiwanis Non-profit Homes (Kiwanis) officially bringing their federal units under the

**SUBJECT: Hamilton East Kiwanis Non-Profit Homes Inc. Subsidy Transfer  
(HSC20032) (Ward 3) - Page 5 of 6**

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*Housing Services Act*. Therefore, Service Manager Consent is not required for the sale of the units. Council approval is required, however, to transfer the subsidy attached to the up to 32 units being sold up to the amount of \$267,780 to their new project. 6 – 14 Acorn is designed with 60 units, 20 units of which will be offered at 80% of Average Market Rent (AMR) and 40 units offered at 100% of AMR. Applying the rent supplements beginning in 2021 will create rent-gear-to-Income (RGI) level affordability in up to 32 of the units. Without the subsidy, these units would not be affordable to many low-income households. Table 1 below shows the increase in affordability achieved through the subsidy transfer.

Table 1

Rents without Subsidy Transfer		Rents with Subsidy Transfer	
20 units	80% AMR	32* units	RGI
40 units	100 % AMR	28 units	100% AMR
60 units total		60 units total	

\*the exact number of units sold could be lower, depending on the price paid by purchasers

If the subsidy is not transferred, Kiwanis' subsidy would be reduced by up to \$133,859 to reflect the reduction in service associated with the sale of units. The City of Hamilton is required to meet service level standards which stipulate the number of Rent-Gear-to-Income units it must maintain. The units have been counted toward the City's targets. If the units are sold and not replaced, the City's performance would be reduced by up to 32 units. Kiwanis has also been using the Access to Housing Waitlist to fill its former federal units. Without the subsidy, there would be no incentive or obligation for Kiwanis to continue that practice which could result in even longer times on the waitlist.

It is recommended that the subsidy be transferred at the 2020 level as the 2021 subsidy value is more than \$100,000 lower than the current level. If the lower value were transferred, it would purchase fewer rent supplements which would result in a net reduction of the number of RGI units.

It is further recommended that the transferred subsidy be indexed by the annual rent increase guidelines set by the province of Ontario to keep pace with rent increases, otherwise the value of the rent supplements will diminish year over year.

Notwithstanding that the unwritten agreement is in good standing, the Housing Services Division is currently working with Kiwanis to develop a new formalized operating agreement for the former federal section 95 units. This updated agreement will set out the requirements for considering and evaluating options to leverage the equity in these properties.

**SUBJECT: Hamilton East Kiwanis Non-Profit Homes Inc. Subsidy Transfer  
(HSC20032) (Ward 3) - Page 6 of 6**

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A time lag will exist between the time that Kiwanis sells the units and the completion of the new project at 6 – 14 Acorn. It is recommended that Kiwanis retain the subsidy associated with any units sold in the interim and apply it to development costs.

**ALTERNATIVES FOR CONSIDERATION**

None

**ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN**

**Healthy and Safe Communities**

Hamilton is a safe and supportive City where people are active, healthy, and have a high quality of life.

**APPENDICES AND SCHEDULES ATTACHED**

Appendix “A” to Report HSC20032: Term Sheet: Rent Supplement Agreement 6 – 14  
Acorn Street

## Term Sheet for Rent Supplement Agreement

6 – 14 Acorn Street

Landlord: Hamilton East Kiwanis Non-Profit Homes ("Kiwanis")

### Rent Supplement Conditions

1. The Rent Supplements will be subject to the recipient entering into the City of Hamilton's standard rent supplement agreement ("RSA") containing such terms and conditions as set out within this term sheet.
2. The agreement shall have a duration of 20 years.
3. The rent supplement assistance shall be provided to households selected from the centralized waiting list (Access to Housing) maintained by the City of Hamilton.
4. The rent supplements shall only be used at 6 – 14 Acorn Street unless written permission is given by the City of Hamilton for them to be applied elsewhere.
5. The level of financial assistance provided to tenants by Kiwanis through the Rent Supplement will be sufficient to meet the provincial service level standards as described in the *Housing Services Act, 2001* and associated regulations and will use Rent-Geared-to-income calculations or portable housing benefit calculations as determined by the City of Hamilton.
6. Kiwanis will be responsible for determining eligibility for assistance of prospective tenants, calculating rent and collecting the tenant portion in the manner outlined in the City of Hamilton's standard RSA.
7. Kiwanis will provide reports to the City of Hamilton in a manner outlined by the City of Hamilton in its standard RSA.
8. The agreement can only be transferred if the General Manager of the Health and Safe Communities Department ("GM") in his sole discretion and only in the following circumstances:
  - (a) the property is sold to another provider of "non-profit housing" who enters into an assignment agreement with the City and Kiwanis agreeing to be subject to all of the terms and conditions of the RSA for the remainder of the term of those agreements and such other terms and conditions as the GM and City Solicitor in their sole discretion deem appropriate.
9. Units subject to the RSA may increase rents annually within a tenancy by the

**Appendix "A" to Report HSC20032**

**Page 2 of 2**

Provincial Guideline amount as specified annually by the Ontario Ministry of Municipal Affairs and Housing. Higher increases may be permitted at the sole discretion of the GM following submission of a business case justifying the increase.

10. Such additional terms and conditions as negotiated by the GM and required by the City Solicitor.



**CITY OF HAMILTON**  
**HEALTHY & SAFE COMMUNITIES**  
 Ontario Works

<b>TO:</b>	Chair and Members Emergency and Community Services Committee
<b>COMMITTEE DATE:</b>	November 5, 2020
<b>SUBJECT/REPORT NO:</b>	System Replacement for Discretionary Benefits for Ontario Works, Ontario Disability Support Program and Special Supports Low Income Program (HSC20039) (City Wide)
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Erica Brimley (905) 546-2424 Ext. 4815 Terry Quinn (905) 546-2424 Ext. 3080
<b>SUBMITTED BY:</b>	Bonnie Elder Director, Ontario Works Division Healthy and Safe Communities Department
<b>SIGNATURE:</b>	

### RECOMMENDATION

- (a) That the single source procurement, pursuant to Procurement Policy #11 – Non-competitive Procurements, with Clark Marketing Communications (Clark) for the replacement of the Discretionary Benefits systems used for Ontario Works (OW), Ontario Disability Support Program (ODSP) and Special Supports Low Income Program, be approved and funded as follows:
- i) That the estimated one-time cost of \$171,410 be funded from Tax Stabilization Reserve (110046) generated from the Ontario Works forecasted 2020 Net Levy savings;
  - ii) That the annual Discretionary Benefits System monthly maintenance cost estimate of \$49,000 annually, (\$29,400 Net Levy, \$19,600 Provincial funding), with the Net Levy portion to be funded from annual savings derived from permanent efficiencies within the Ontario Works Program to be included and approved by Council through the 2021 Budget process;

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- (b) That Council approve opening a Capital Project Budget in 2020 for the Discretionary Benefit System estimated at \$171,410 as described in recommendation (a) of Report HSC20039; and,
- (c) That the General Manager, Healthy and Safe Communities Department be authorized to negotiate, enter into and execute a Contract and any ancillary documents required to give effect thereto with Clark Marketing Communications, in a form satisfactory to the City Solicitor.

### **EXECUTIVE SUMMARY**

City of Hamilton Ontario Works (OW) and Information Technology (IT) staff have identified that the current Benefit Administration Management system (BAM) is at the end of life, not sustainable and at risk of failure.

A review of systems used by other municipalities has not identified any systems solutions that meet all of Hamilton's business needs, however a recently developed system in use by the Niagara Region's Social Assistance and Employment Opportunities division (Niagara) does provide some of the required functionality. Niagara's system does not meet the needs of the Low-Income Special Supports Program as this low-income program is not offered in Niagara. The Niagara system was developed and is maintained by Clark.

OW staff consulted with Procurement staff and were advised that a Policy #11 Non-Competitive Procurement was required to engage in discussions with Clark to get cost estimates for the enhancements required to the system used by Niagara. After engaging in discussions with Clark, OW staff are confident that this vendor is familiar with the needs of an Ontario Works Administrator and can build the required enhancements for the Low-Income Special Supports Program.

If the Recommendations in this Report are approved, the City of Hamilton Discretionary Benefits system would be implemented in phases:

- Phase 1: Adoption of the current functionality in use by Niagara;
- Phase 2: New functionality to meet business needs of the Low-Income Special Supports Program, Funerals Services, Affordable Transit Pass and Approval letters; and,
- Phase 3: Dental Benefits and Financial Tracking.

The target implementation date of all phases would be summer of 2021.



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Other divisions within the City have expressed an interest in the proposed discretionary benefits system. Recreation Division, Housing Services and Public Health all operate low-income programs and believe the proposed system will also benefit operation of their programs. Staff will meet with each division to discuss their business requirements and needs once Council approves the recommendations to Report HSC20039.

**Alternatives for Consideration – See Page 6**

**FINANCIAL – STAFFING – LEGAL IMPLICATIONS**

**Financial:**

The development cost for all three phases of the Discretionary Benefits system is estimated to be \$171,410. Table 1 identifies the 3 phases of the project which is anticipated to begin before December 31, 2020 with anticipated completion in 2021.

Report HSC20039 requests that the 2020 year end projected surplus be utilized to fund the Tax Stabilization reserve which in turn will fund the new Capital Project, “Discretionary Benefit System” in 2020.

Table 1

<b>Project Development Costs</b>	
<b>Project Phases</b>	<u>TOTAL</u>
<b>Phase 1</b> - Adoption of the current functionality in use by Niagara;	\$32,410
<b>Phase 2</b> - New functionality to meet business needs of the Special Supports Low Income and Seniors Program;	\$78,000
<b>Phase 3</b> - Linking the enhanced Discretionary Benefits system to Hamilton’s Peoplesoft financial system to automate vendor payments.	\$61,000
<b>Total Project</b>	<b>\$171,410</b>

In addition to the one-time project costs, there will be ongoing maintenance and support estimated at \$49,000 annually (\$29,400 Net Levy and \$19,600 Provincial funding). The ongoing maintenance costs will be shared with the Province on a cost share basis. The net levy portion will be funded from annual savings due to permanent efficiencies within the Ontario Works Program to be included and approved by Council through the 2021 Budget.

**Staffing:**

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N/A

Legal:  
N/A

## **HISTORICAL BACKGROUND**

The current Benefit Administration Management (BAM) system was created by the City's Corporate Information Technology Division (IT) in 2013 to assist Ontario Works in administering various benefits provided to Hamilton residents as part of the OW, ODSP and Low-Income programs.

In addition to BAM, other tools such as the Low-Income System and Funeral Delivery System (FDS) are used to administer these benefits. New business and functional requirements along with end of life of the BAM system have resulted in the joint decision by IT and OW to replace these systems. The scope of the redeveloped system will also include the functionality of the Low-Income System and FDS to allow for their retirement as well.

In the Fall of 2018, a survey was sent to other municipalities to review their delivery of service for discretionary benefits for OW, ODSP and Low Income. The survey found that of four comparable municipalities that use alternative discretionary benefit tracking tools, only Niagara required a tool that supported some of Hamilton's business requirements. Niagara was working with Clark to develop a Discretionary Benefits Portal. This tool provided the online application requirements but none of the other requirements related to Hamilton's Low-Income Program or efficient management of OW Discretionary Benefits.

Niagara successfully launched their new system in April 2020. Analysis by OW and IT staff confirmed that the Niagara system lacks functionality required for our Low-Income Special Supports Program, however, staff are confident that this vendor can leverage their experience and the work done in Niagara to build enhancements for the Low-Income Special Supports Program as well as other City programs offering low-income subsidy.

## **POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS**

By-law 20-205, City Procurement Policy, Policy #11 Non-Competitive Procurement.

## **RELEVANT CONSULTATION**

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City Information Technology Division: City IT staff have reviewed Niagara's system and confirmed that it meets City requirements for security and infrastructure compatibility. IT recommends proceeding to development with Clark. IT will participate with Legal to review and negotiate a "Software as a Service" contract with the vendor if Report HSC20039 is approved.

Clerks: The City Clerk will review data privacy methods with vendor's input prior to completion of any contract.

Procurement: Procurement staff was consulted with respect to adherence to the City's Procurement Policy. In the discussions with Procurement staff, OW was advised to complete a Policy #11 form and receive the approval of the General Manager of Healthy and Safe Communities Department prior to engaging the vendor.

Finance and Administration: Finance and Administration were consulted regarding the net levy impact.

## **ANALYSIS AND RATIONALE FOR RECOMMENDATION**

The Special Supports Program has made online accessibility and digitization a key element in their modernization strategy. This direction provides opportunities to improve client service, realize administrative efficiencies and save file management and storage costs.

Niagara worked with Clark to develop the Niagara Discretionary Benefits Portal for online requests. This system has been in operation since April 2020. It allows clients to apply on-line and receive a decision and notification of their request for benefit(s).

The benefits of leveraging the Niagara Benefits Portal with Clark include:

- The approach would use the same proven tools and procedures used by Niagara to automate client requests;
- Ministry of Children, Community and Social Services (MCCSS) has discussed the Niagara Benefits Portal with other municipalities. Some are now inquiring with Clark Marketing Communications to consider its use or for other enhancements; and,
- Contracting with a vendor other than Clark could result in the City incurring significant additional costs to redevelop functionality already in use and demonstrated by Niagara.

The proposed project would bring the following benefits:

- Improved client experience

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- Faster, easier and more convenient method for residents to request a service or benefit. OW, ODSP and low-income clients will be able to submit online applications for Discretionary Benefits 24/7 from a smart phone, laptop, tablet or computer through a guided step-by step online application.
- Clients will be able to determine potential eligibility before completing the application.
- Clients could submit supporting documentation online, track the status of their application, receive automatic email updates, receive details about missing information or eligibility decisions, and identify and view the contact information for the staff assigned to the request.
- Improved client outcomes
  - A decrease in phone calls and paper handling will allow staff to have more time for higher impact activities and eligibility decisions.
- Increase service efficiency and sustainability
  - Reduced mail and paper handling.
  - Access to real time data and improved automated metrics to identify trends, inform policy decisions, manage capped budget amounts and monitor customer service timelines.
  - Improved administrative efficiency by having simplified workflow and reduction in the number of paper applications and forms.
  - Long term supported software system.

## **ALTERNATIVES FOR CONSIDERATION**

Hamilton could choose to pursue discretionary benefits system with another vendor selected through the City's Request for Proposal (RFP) process. The risks of pursuing this alternative include:

- Significant time required for a new vendor to develop the functionality already available in the system used by Niagara;
- Significant time required for a new vendor to gain understanding of the needs of a discretionary benefits administrator;
- Staff time and effort to explain the test similar functionality to what is currently working well for Niagara; and,
- Reduced chance of other municipalities choosing to use the same technology, thereby reducing potential for shared future cost or enhancement benefits.

Clark Marketing Communications has demonstrated much of the required functionality and successfully provide these services to Niagara. For these reasons, the alternative of not directly entering a contract with Clark that leverages the Niagara Ontario Works technical solution is not recommended by staff.

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In addition, funding available from the Province for cost-sharing is time limited and will expire on December 31, 2020.

**ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN**

**Healthy and Safe Communities**

Hamilton is a safe and supportive City where people are active, healthy, and have a high quality of life.

**Our People and Performance**

Hamiltonians have a high level of trust and confidence in their City government.

**APPENDICES AND SCHEDULES ATTACHED**

None