From:	Neil Struthers
To:	Jamie Hanson; Eric de Waal
Subject:	FW: [External email] IAF - Draft 02 - IAF Feasibility Report (95%) - 2022-05-16
Date:	Thursday, June 2, 2022 8:27:29 AM
Attachments:	image001.jpg image002.png image003.png

As soon as this comes in, it's getting printed!

Neil

From: Niloufar Nelly Goodarzi <n.goodarzi@hcma.ca>
Sent: Wednesday, June 1, 2022 4:49 PM
To: Neil Struthers <NSTRUTHE@regina.ca>; Michael Henderson <m.henderson@hcma.ca>
Cc: Eric de Waal <EDEWAAL@regina.ca>
Subject: RE: [External email] IAF - Draft 02 - IAF Feasibility Report (95%) - 2022-05-16

Hi Neil,

I will get you a PDF copy tomorrow morning.

Thanks,
Nelly
–

Niloufar Nelly Goodarzi
Intern Architect AIBC
MArch, B.Des.

office 604.732.6620 ext 218

curiosity applied
hcma.ca

From: Neil Struthers <NSTRUTHE@regina.ca>
Sent: June 1, 2022 3:31 PM
To: Michael Henderson <m.henderson@hcma.ca>; Niloufar Nelly Goodarzi <n.goodarzi@hcma.ca>
Cc: Eric de Waal <EDEWAAL@regina.ca>
Subject: RE: [External email] IAF - Draft 02 - IAF Feasibility Report (95%) - 2022-05-16

Hi Michael,

We could meet before the Gensler meeting tomorrow, however, Jamie and Janine are at a meeting tomorrow afternoon where they are sharing and speaking about the IAF feasibility study related to presenting it to Council, location options, etc. Can you send us a printable PDF document tomorrow by 10am Sask time that is the current version of the feasibility study document including:

- A single PDF file that has the feasibility study **and all** appendices with "draft and confidential" stamped on all pages.

Please confirm this is achievable, and we can meet tomorrow afternoon to clarify any minor outstanding questions.

Thanks,

Neil Struthers, P.Eng.
Senior Engineer
Land, Real Estate & Facilities
Financial Strategy & Sustainability
City of Regina

(c) 306-535-9740
nstruthers@regina.ca
Regina.ca

Treaty 4 Territory and homeland of the Métis.

From: Michael Henderson <m.henderson@hcma.ca>
Sent: Wednesday, June 1, 2022 1:19 PM
To: Neil Struthers <NSTRUTHE@regina.ca>; Niloufar Nelly Goodarzi <n.goodarzi@hcma.ca>
Cc: Eric de Waal <EDEWAAL@regina.ca>
Subject: RE: [External email] IAF - Draft 02 - IAF Feasibility Report (95%) - 2022-05-16

I have some questions on the program mark ups and questions from Bobbie vs direction that we have received previously, vs the options matrix, what we show on the plans and what was costed….. Can we meet tomorrow before the Gensler meeting to run through the comments and questions?
I propose that we submit the final document on Friday after that meeting.
That said, the renderings will be placeholders until we have completed the renderings. Given the other work that we have been doing this week on the alternate site, we are behind on that work and it will not be complete.
Can this work?

–

Michael Henderson
Principal
Architect AIBC, MRAIC

office 604.732.6620 ext 252
mobile 778.230.6586

curiosity applied
hcma.ca

From: Neil Struthers <NSTRUTHE@regina.ca>
Sent: Monday, May 30, 2022 1:31 PM
To: Niloufar Nelly Goodarzi <n.goodarzi@hcma.ca>
Cc: Eric de Waal <EDEWAAL@regina.ca>; Michael Henderson <m.henderson@hcma.ca>
Subject: RE: [External email] IAF - Draft 02 - IAF Feasibility Report (95%) - 2022-05-16

Hi Nelly,

The expectation is that all content is in the report and complete. Comments at this point are about final tweaks and we need all the information to do a thorough review. If it means another day to get to that point, we want to wait and get a complete version to review.

Thanks,

Neil Struthers, P.Eng.
Senior Engineer
Land, Real Estate & Facilities
Financial Strategy & Sustainability
City of Regina

(c) 306-535-9740
nstruthers@regina.ca
Regina.ca

Treaty 4 Territory and homeland of the Métis.

From: Niloufar Nelly Goodarzi <n.goodarzi@hcma.ca>
Sent: Monday, May 30, 2022 2:18 PM
To: Neil Struthers <NSTRUTHE@regina.ca>
Cc: Eric de Waal <EDEWAAL@regina.ca>; Michael Henderson <m.henderson@hcma.ca>
Subject: RE: [External email] IAF - Draft 02 - IAF Feasibility Report (95%) - 2022-05-16

Hi Neil,

I was just about to email you for some clarification.

I apologize if we noted this and I missed it, but is this the last revision? If so, are we expecting all option/test-fit layouts, drawings, and perspectives to be finalized?

If we need all these updated/finalized in addition to the comments, it will be too tight to get you a copy on Wednesday.

Thanks,
Nelly
–

Niloufar Nelly Goodarzi
Intern Architect AIBC
MArch, B.Des.

office 604.732.6620 ext 218

curiosity applied
hcma.ca

From: Neil Struthers <NSTRUTHE@regina.ca>
Sent: May 30, 2022 1:12 PM
To: Niloufar Nelly Goodarzi <n.goodarzi@hcma.ca>

Cc: Eric de Waal <EDEWAAL@regina.ca>
Subject: RE: [External email] IAF - Draft 02 - IAF Feasibility Report (95%) - 2022-05-16

Hi Nelly,

I just wanted to follow up on the feasibility study comments and that you're still on track for turning over a new copy to us on Wednesday.

Thanks,

Neil Struthers, P.Eng.
Senior Engineer
Land, Real Estate & Facilities
Financial Strategy & Sustainability
City of Regina

(c) 306-535-9740
nstruthers@regina.ca
Regina.ca

Treaty 4 Territory and homeland of the Métis.

From: Niloufar Nelly Goodarzi <n.goodarzi@hcma.ca>
Sent: Monday, May 16, 2022 9:45 PM
To: Neil Struthers <NSTRUTHE@regina.ca>
Cc: Eric de Waal <EDEWAAL@regina.ca>; Michael Henderson <m.henderson@hcma.ca>; Mike Roma <roma@rcstrategies.ca>; Jamie Hanson <JHANSON@regina.ca>; Janine Daradich <JRDARADI@regina.ca>; jyouck@p3arch.com
Subject: [External email] IAF - Draft 02 - IAF Feasibility Report (95%) - 2022-05-16

Hello Neil,

Please see download link for Draft 02 - IAF Feasibility Report (95%) and a live link to the IAFCAC meeting 07 PowerPoint.

2022-05-16 Draft 02 - IAF Feasibility Report (95%)

2022-05-31 NIAF - IAFCAC Meeting 07.pptx

I have also included below an online/live review link for the report. There are commenting, writing, drawing and striking tools and you can have multiple people in the file reviewing. The link will open in your web browser, and you are able to leave comments with you name as a guest. Please let me know if you have any questions.

https://assets.adobe.com/id/urn:aaid:sc:US:ce7ff681-eaae-48a6-9d54-1f7a971705d9?view=published

Just an alternative I thought of, if it is easier to use Bluebeam or Adobe Acrobat that will also work on our end.

Thank you,
Nelly
–

Niloufar Nelly Goodarzi
Intern Architect AIBC
MArch, B.Des.

office 604.732.6620 ext 218

curiosity applied
hcma.ca

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DISCLAIMER: The information transmitted is intended only for the addressee and may contain confidential, proprietary and/or privileged material. Any unauthorized review, distribution or other use of or the taking of any action in reliance upon this information is prohibited. If you received this in error, please contact the sender and delete or destroy this message and any copies.

New Indoor Aquatic Facility Feasibility Study

City of Regina

Issued:
June 2, 2022

Acknowledgements

Land
The City of Regina acknowledges we are on the traditional lands of the Treaty 4 Territory, a Treaty signed with 35 First Nations across Southern Saskatchewan and parts of Alberta and Manitoba, and the original lands of the Cree, Salteaux, Dakota, Nakota, Lakota and the homeland of the Metis nation.

The City of Regina owes its strength and vibrancy to these lands and the diverse Indigenous Peoples whose ancestors' footsteps have marked this territory as well as settlers from around the world who continue to be welcomed here and call Regina home.

Advisory Committees
The following Feasibility Study could not have been completed without the commitment and dedication of the New Indoor Aquatics Facility Community Advisory Committee, City Council and administration and the multi-disciplinary consulting team.

Community & Stakeholders
It is also important to recognize the residents, stakeholder groups, potential partners and various other stakeholders who took time to share their feedback and insights related to recreation facilities and indoor aquatics through surveys, interviews and meetings throughout the planning process. Community input is integral to recreation facility planning.

The Feasibility Team
This feasibility study has been prepared in collaboration with the City of Regina project team, hcma Architecture + Design, P3A, and RC Strategies. Every effort has been made to address the comments received by the general public & stakeholder groups in preparing the content of this package.

Core Team:
hcma
P3A
RC Strategies

Consultant Team:
Fast & Epp + BBK
AME Group + MacPherson
SMP + ALFA
Scatliff+ Miller + Murray
KGS
Turnbull
Morrison Hershfield
BTY
RWDI
Tricia Heward

hcma designs buildings, brands, and experiences that maximize positive impact. They believe human connections are critical to solving the fundamental problems of our time, creating solutions that ignite conversation and build compassionate communities. hcma projects are the result of several decades of iterative exploration of aquatic
building types, with each successive design informed by the public experience of those that preceded them. As Aquatics and Community Recreation Design Specialists, recognized internationally, hcma's knowledge and technical experience with recreation centres, pools, public buildings, and universal accessibility will assist with defining this project's goals, developing a well-aligned functional programme, and designing a leading-edge facility that reflects the City of Regina's unique values, needs, and aspirations. hcma will lead all phases of work for this new facility.

P3A has planted deep roots in Saskatchewan over their 65+ years, and they are committed to innovative design that makes a meaningful difference to people, the community, the environment, and the practice of architecture. The firm will provide on ground support to the project and as an immediate resource and interface for the City of Regina. P3A's core team combines world-class experience and technical skill with tremendous local knowledge and horsepower. P3A will participate in all phases of the project and will assist with the coordination of the expansive sub-consultant team. The core architectural local team brings a combination of experience on large, complex projects, experience with the City of Regina projects, processes, engagement acumen, and experience with the City and hcma in developing aquatics facilities.

RC Strategies is one of a select few professional consulting practices in Canada that specializes entirely in recreation, parks, trails and culture planning and policy development. Their knowledge gained in creating the 2019 Recreation Masterplan makes them critical advisors of the core team which provides a unique advantage in carrying out key deliverables including: engaging internal and external stakeholders alongside hcma, data collection on program and public needs, Cost benefit analysis, development of aquatic program, research and LC costing. Their involvement as the project moves forward will transition to an advisory role for items as required.

New Indoor Aquatics Facility Feasibility
City of Regina

Issued:
June 2, 2022

REGINA

Executive Summary

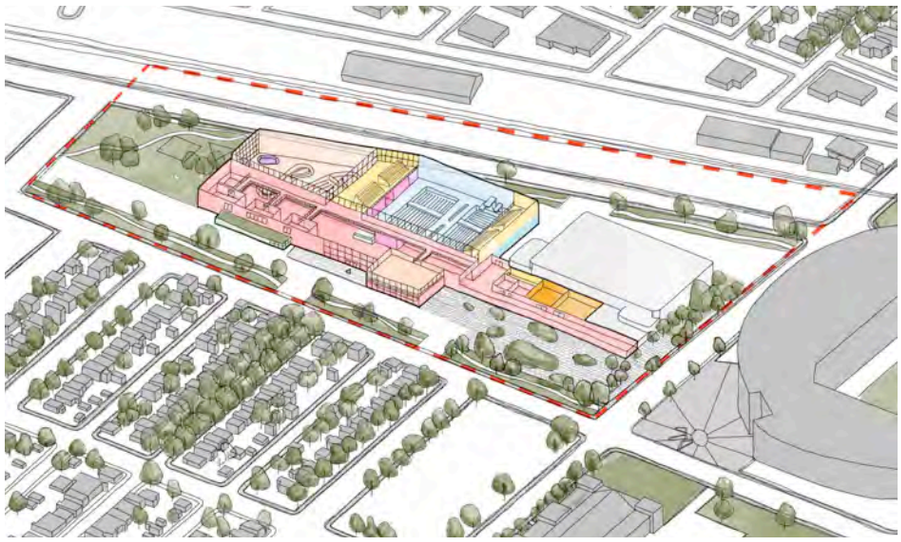
Regina's Indoor Aquatics Facility is an inclusive, accessible and sustainable community hub and tourist destination – that creates vibrancy and improves quality of life for Regina residents and visitors for generations to come.

Introduction & Background

In 2019, the City completed its Recreation Master Plan (Plan), which guides the future of recreation opportunities and services to meet the needs of Regina's growing community. The Plan was developed through meaningful engagement with key partners, stakeholders and the public, along with diligent research and assessment of the state of recreation in Regina. The most important priority in the Plan is the expansion in quality and quantity of indoor pool facilities. In 2021, the City began a feasibility study to explore a new indoor aquatics facility.

The feasibility study focused on the Sportplex site, home of the Lawson Aquatic Centre, the City's only competition facility. The Lawson is aging and in need of investment with significant and increasing costs for maintenance and life-cycle renewal. The Lawson does not meet current inclusivity, accessibility or sustainability targets and does not provide the broad range of programs needed to meet community demand.

This feasibility study report details multiple inputs and outputs, including a range of program options and a recommended solution for enhancing the indoor aquatics capacity in Regina on the Sportplex site.



Concept test fit: New Build

Inputs

In addition to a background review and a city-wide aquatics supply and demand assessment, the feasibility process included:

Community Engagement
Thorough market research and engagement was conducted with the public, user groups and community stakeholders. A Community Advisory Committee was also established to provide ongoing input throughout the project. The engagement findings identified several aquatics, fitness and community priorities including the need to accommodate future demand, competing priorities for competition and recreation elements, the need to provide community spaces, and address inclusivity and accessibility concerns.

Best Practices
The feasibility study considered best practices in three key areas: aquatics trends, accessibility & inclusion, and sustainability. Research was also conducted on five comparable precedent facilities across Canada with important takeaways mentioned in this report.

Existing Site & Facility Assessment
One of the City's strategic priorities is to create vibrancy through recreational and cultural investment in or close to Downtown. The Sportplex site is optimal because of its alignment with this priority, as well as its central and accessible location, size and underutilized land to expand and adjacencies with the sport corridor and the REAL District.

Existing City Planning & Policy Documents
The feasibility study considered key planning and policy documents such as the Recreation Master Plan, Official Community Plan, Energy and Sustainability Framework, Regina Cultural Plan 2016, Transportation Master Plan and others.

Outputs

Vision & Principles

Vision: Regina's New Indoor Aquatics Facility is an inclusive, accessible and sustainable community hub and tourist destination – that creates vibrancy and improves quality of life for Regina residents and visitors for generations to come.

Program
The feasibility study confirmed significant demand for the new facility to meet seven activity elements, with an almost equal demand on the Recreation & Leisure and Competitive Sport & Training aquatic elements. An optimal program has been developed, balancing the various activity elements displayed in the feasibility study, with an overall program capacity increase of 620% compared to the existing site.

The feasibility study provides a program options matrix with a renovation + expansion option and three new build options. The matrix highlights the spectrum of service levels across multiple elements, including Recreation & Leisure and Competitive Sport & Training, associated costs and pros and cons for each option.

Concept Design
Two concept options were developed for the existing site: a renovation + expansion of the Lawson, and a new build (recommended solution). Both concepts offer a functional layout that delivers similar program elements which meets best practice; respond to urban design priorities; demonstrate an approach to siting, massing, site circulation and parking; phase development to allow for uninterrupted user-service and embodies the project vision.

While the report includes an option to renovate + expand the Lawson, this option is not recommended due to a number of challenges and inefficiencies and an overall low return on investment compared to the recommended solution.

Costing
The total cost of the recommended solution has been estimated to potentially fall within the range of $173M based on a 2024 construction start.

This feasibility study report can be used to make key decisions for the future progression of the project. The program and concept options have been carefully analysed to be programmatically, functionally and financially feasible. The feasibility study lays the groundwork for recommended next steps, which would include further technical studies and a schematic design phase involving more public and stakeholder input.

The vision and following principles were developed to guide the feasibility study for a new indoor aquatics facility:

- Improve quality of life for all residents and make Regina an attractive place to live, work and play
- Be multi-faceted destination & community hub for decades to come
- Improve aquatic leisure recreation program opportunities, including swimming lessons
- Support excellence in competitive aquatics with a facility that can host National competitions
- Achieve ambitious sustainability targets in alignment with the City's commitment to be net zero by 2050
- Create a complete civic precinct with enhanced pedestrian, cycling & vehicular connections
- Provide opportunities for four-season outdoor recreation
- Be exemplary in providing enhanced inclusive & accessible environments
- Demonstrate leadership and commitment to reconciliation

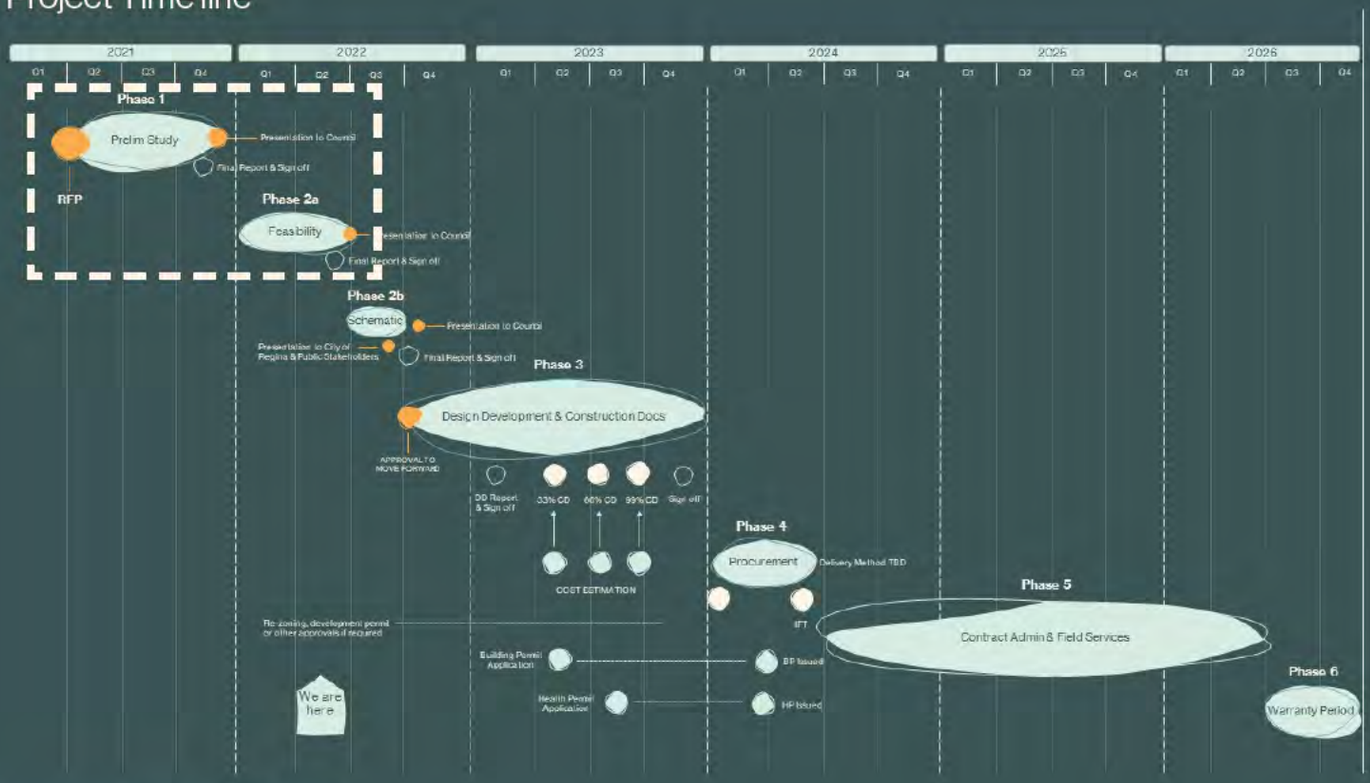
Recommended Program Option:

The recommended option in the feasibility study describes a new build that would consist of: a 10-lane 50-meter competition tank, a 10-lane 50-meter dive tank, a 3,250-3,700m2 (35,000-40,000ft2) waterpark, which could include a wave pool, lazy river, aquatic play structures, water slides; and complimentary community amenities that exceed current and meet future demand. These spaces could include multi-purpose spaces, lease spaces, a fitness centre, gymnasium, café and a cultural space for Indigenous communities' needs.


This sketch will be changed in the
next draft

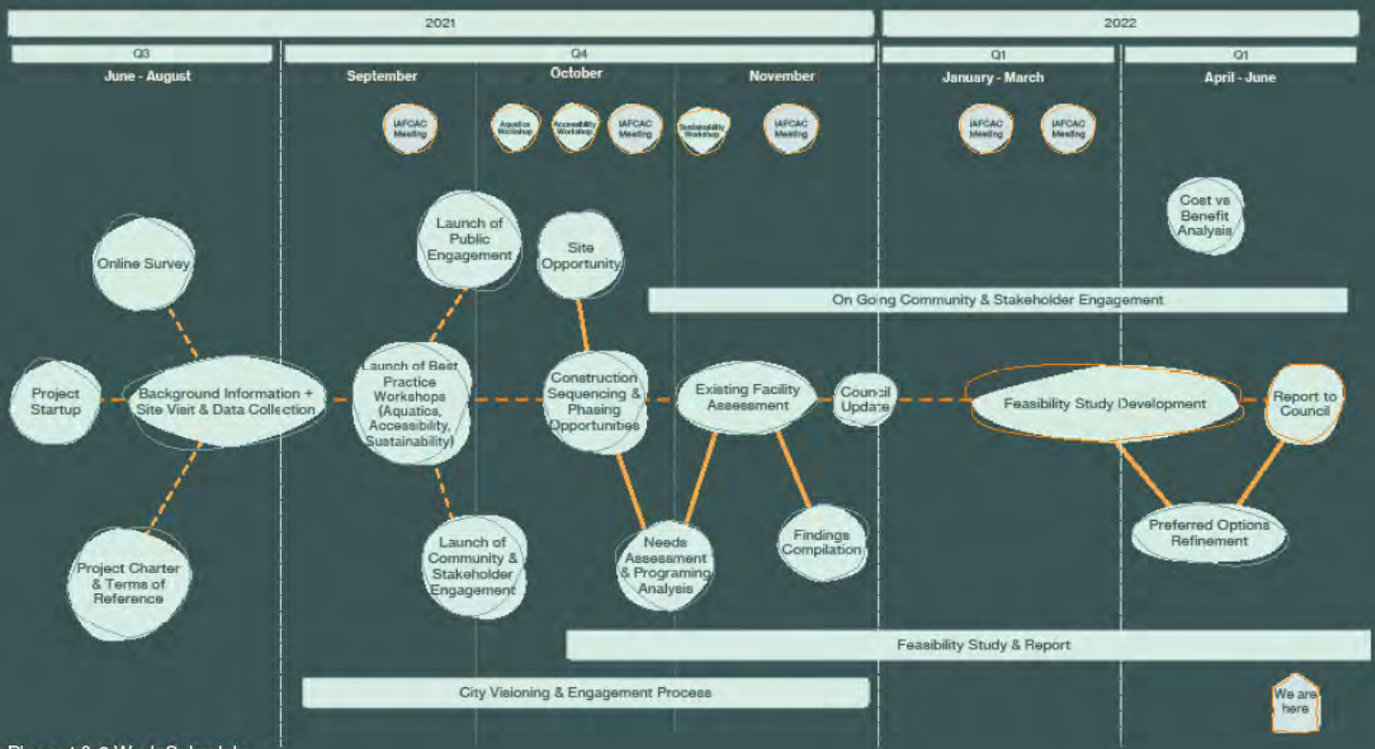
Table of Contents

Project Time line



Approximate Overall Project Schedule
Timeline is representative of a traditional project delivery method.

Feasibility Time line



Phase 1 & 2 Work Schedule

1.0 Introduction

1.1 Overview

Recreation facilities improve quality of life in the Regina region. The City of Regina (the City) invests in public recreation facilities to make life better for residents and visitors of all ages and abilities. This investment is routed in the City's planning fabric, rationalized through key documents such as Design Regina: Official Community Plan and the Recreation Master Plan, and demonstrated through the vast array of indoor and outdoor recreation amenities offered throughout the community.

Indoor aquatics facilities are one of the most important and most significant public investments. These facilities lead to healthier individuals, more connected communities and economic activity by attracting people to the community. The City is the primary provider of publicly accessible indoor aquatics experiences in Regina and the surrounding region.

The City's most recent Recreation Master Plan, completed in 2019, outlined bold recommendations related to the City's provision of indoor aquatics facilities. It called for investment to increase both the quantity and quality of indoor aquatics facilities, which currently is comprised of three indoor pools: the Lawson Aquatics Centre, the Sandra Schmirler Leisure Centre, and the Northwest Leisure Centre. Of note is that there are also publicly available indoor pools offered by the University of Regina and the YMCA.

In response to the recommendations in the Recreation Master Plan, in June 2021 the City commissioned a team lead by hcma Architecture + Design to undertake a feasibility study to further explore how enhancements to both quantity and quality of indoor aquatics could develop in the City, focusing on revitalizing or replacing the Lawson Aquatics Centre and enhancing service levels while doing so.

To guide this effort and ensure the voices of the indoor aquatics community in Regina were heard, the City invited aquatics and other community minded stakeholders to be part of the New Indoor Aquatics Facility Community Advisory Committee (CAC). The CAC provided integral and timely input throughout the planning process and has been key to the progress that has been made to date in determining need and articulating the kinds of facilities and spaces that would meet said need both now and into the future.

To complement the involvement of the CAC, the consulting team conducted a comprehensive public engagement process that included surveys and community meetings, supplemented by research into trends, best practices and thorough analyses of current indoor aquatics participation in Regina. The information from this process is captured within this Feasibility Study to help City Council decide on how to move forward with this significant and important investment for the community.

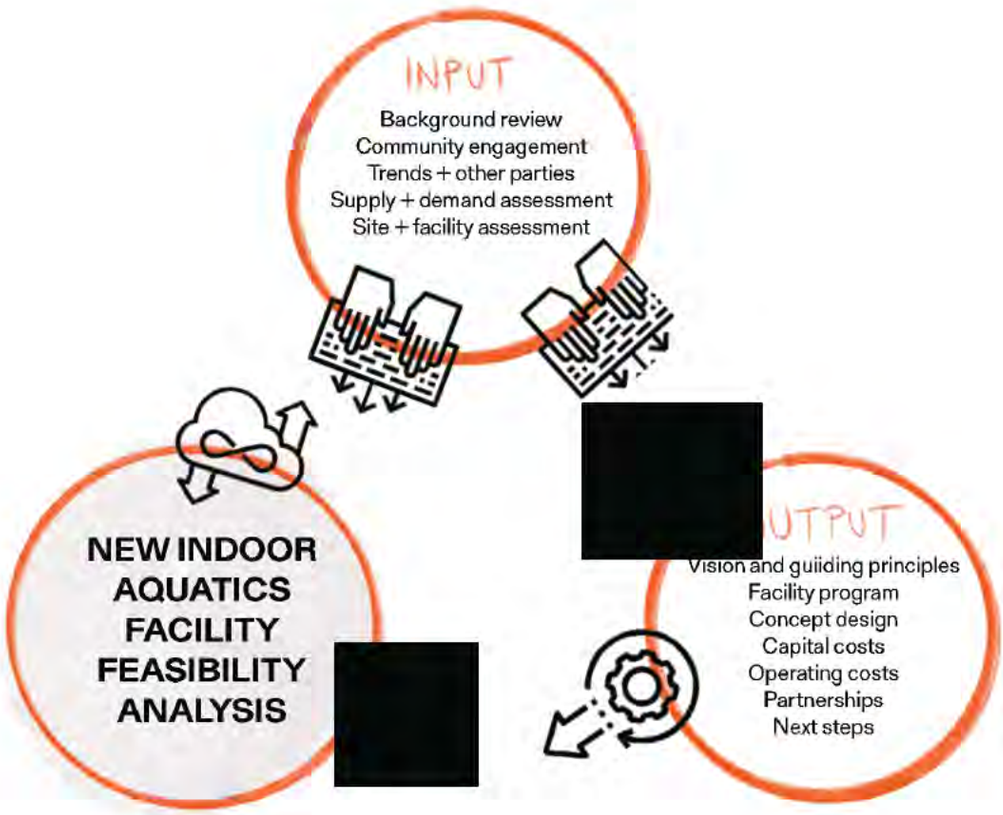
The body of the Feasibility Study includes summaries of large pieces of work for each section. For more detail, se the appendices.

Historical Regina Community Presence

Situated in the middle of the Prairie Provinces, the capital of Saskatchewan, Regina is in the south-central area of the province on Treaty 4 land and within the traditional territory of the Metis. Today, this diverse and vibrant community is one of Canada's fastest growing major cities that hopes to improve the quality of life for its growing population through the development of community recreational facilities.

Regina has deep seeded sporting roots; it was a recruiting ground for the All-American Girls' Professional Baseball League, as well ashome to the Regina Pats - the oldest major junior hockey franchise in the world – and is proudly represented by the four-time Grey Cup-winning Canadian Football League franchise, the Saskatchewan Roughriders.

The city is also home to a variety of aquatic sports athletes who currently predominantly occupy the Sportplex as their daily training grounds. This facility is comprised of the Lawson Aquatic Center and the Fieldhouse, and is one of the City's oldest recreation facilities, providing a variety of popular aquatic, fitness, and sport programs to residents of Regina.



The CAC

The Indoor Aquatic Facility Community Advisory Committee (CAC), played an influential role, as expert stakeholders to safeguard objective representation on the project teams' process, progress, and findings throughout phase 1 and 1b.

The committee was asked to support the consultation process, based on consensus, with independence & respect in providing key perspective on community needs, financial impact, timing, options, and other project considerations. The IAFCAC also became advocates for the project as representatives of varied sports and community groups.

**Findings of a detailed assessment, on the existing facility and the site, are included in later sections of this study.

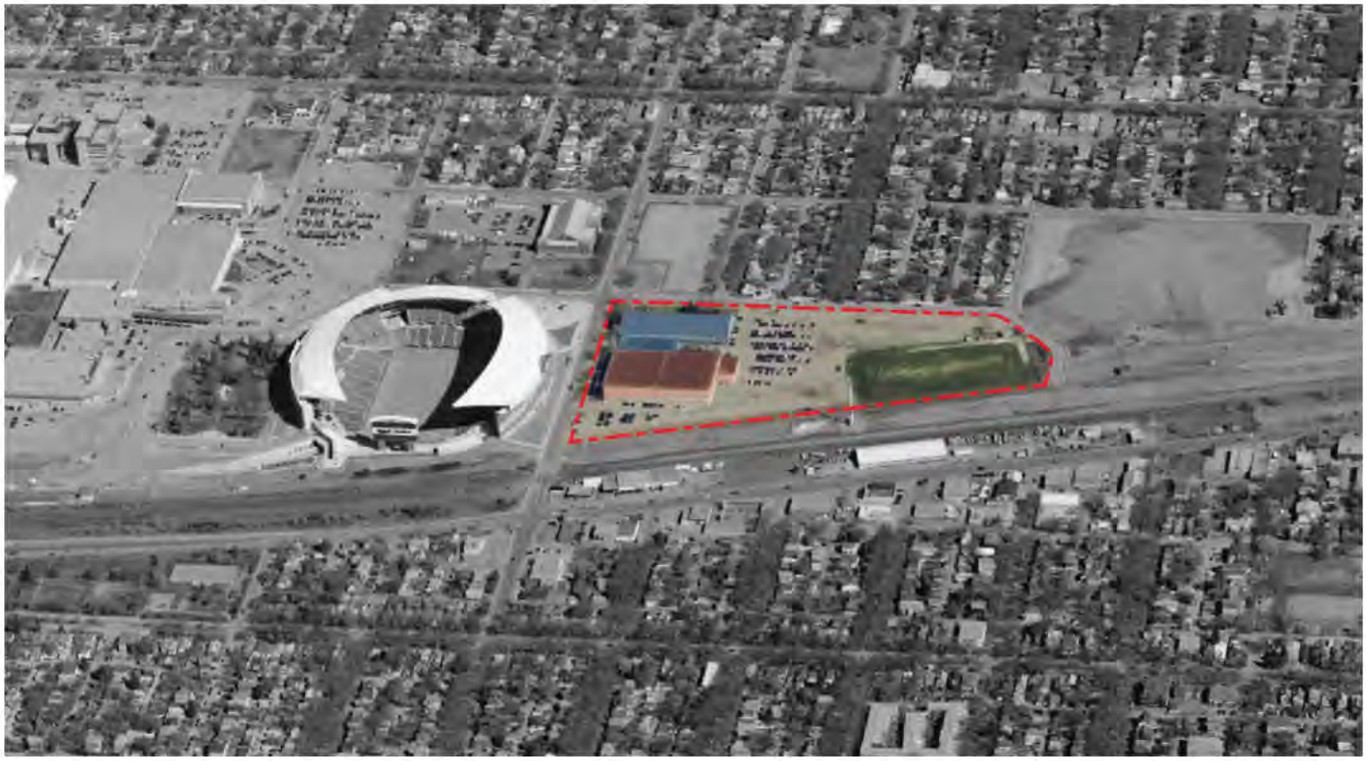
1.2 Supply & Demand Analysis

The analysis used to understand supply and demand for indoor aquatics, and ultimately inform a program for what amenities should be included in a new facility, is based on a framework that looks at enabling seven different types of activities:

- Recreation and leisure
- Skill development
- Fitness
- Sport training
- Special events
- Therapy and rehabilitation
- Leadership training

More information on these activity types and the supply and demand analysis can be found under Appendix B - Engagement.

This feasibility study culminates in two conceptual design options, developed for consideration and evaluation, that meet varying levels of community need and feature various combinations of amenities. This report puts forth a recommendation regarding the optimal scale of the proposed programmatic elements that will best serve Regina and region moving forward, with the realization that more investment in other city facilities will be required to support future growth. It is critical that a new municipal project of this scale provides not only enhanced aquatic experiences that address the gap in current City amenities but also leverages this opportunity and investment to satisfy its non-aquatic user needs.



Site Context

The Sportplex, which includes the Lawson Aquatic Centre is a well used facility that serves a significant portion of the Regina Aquatic Sports Groups. Despite its prominent role, the aquatic centre faces significant challenges due to age.

1.3 Project Background

The Recreation Master Plan recommended that the City increase the provision, both in quantity and quality, of indoor aquatics facilities in the short term to enhance both indoor program/competition and recreation/leisure capacity at the City-wide level. This recommendation was based on thorough community engagement and extensive research in the current state of recreation facilities and services in Regina and region in 2019.

Beyond the bold recommendations outlined in the Recreation Master Plan, a review of City planning as well as initiatives and aquatics related regulations at the provincial and national levels strengthened the justification for development and enhancement of indoor aquatics at the Lawson Aquatics Centre. **Appendix A - Lawson Condition Assessment, articulates key findings from a review of 39 relevant documents and initiatives and how they relate to aquatics facility** development in the City. Namely, it highlights the need for new facilities to be multi-purpose and flexible, able to host events and competitions, and built and operated in alignment with the City's energy and sustainability policies. The literature also highlights the opportunity for new facilities to further reconciliation and

Why the need for a new Aquatic and supporting community space?

The City of Regina is at a critical moment in the life span of the existing Lawson Aquatic Centre, which was originally built in 1974 and later expanded in 1986, when the adjoining Fieldhouse was constructed. This facility is no longer meeting needs or standards for programming, accessibility and inclusivity or sustainability. To address present deficiencies, an extensive renovation and addition or alternatively a replacement, has been assessed in this feasibility study as a viable solution for resolving & easing the challenges listed below.

- **Aging and failing** infrastructure
- **Overcrowding** of aquatic spaces
- **Inadequate** change room and multi-purpose **spaces**
- Rising **operational costs**
- **Accessibility** challenges
- Inability to meet evolving **programming needs**

2.0 Engagement Summary

Public engagement helps ensure **multiple voices** are heard.

2.1 Background

Gathering the perspectives of the public, user groups, community organizations, and other stakeholders is integral to understanding the importance of and need for a public investment in recreation facilities. This is especially important for investment in indoor aquatics facilities as these types of facilities accommodate a variety of activities, including but not limited to competitive and programmed uses, recreation and leisure swimming, fitness, therapeutic purposes and more. Each person and organization in the community has a slightly different perspective on an indoor aquatics facility, particularly as it relates to its ability to meet their needs across the varied types of aquatic activities.

To understand these varying perspectives, a detailed and robust program of engagement was designed and implemented. The engagement activities gathered information from diverse audiences; this information served as an important input into the planning for a new indoor aquatics facility. Through the engagement activities information was gathered related to current levels of service, desired amenities and uses, willingness to travel and pay, and other values related to the City's investment in aquatics.

In addition to the program of public engagement described previously, an Indoor Aquatics Facility Community Advisory Committee (CAC) was formed. The CAC includes representatives from many different aquatic interests as well as broader community champions and leaders; it has influenced the planning process significantly through various meetings and interactions with the study team. The formation of the CAC is an important step to ensuring ongoing public and stakeholder involvement in the development of this Feasibility Study.

What we asked of the Community Advisory Committee

As part of the engagement process, to facilitate and outline the project parameters, to compile the necessary information needed for the project team to make informed decisions, the CAC was engaged to gather advisement from representatives of sports and community groups who bring specialized expertise and can be advocates in their respective communities.

The CAC was asked to support the boarder consultation process, based on consensus, with independence & respect in:

- **Acting as an advocate** for the project
- **Providing key perspective on:** community needs, financial impact, timing, options, other project considerations.

2.2 Public Engagement

The feasibility team facilitated both a coded access (statistically representative) household online survey, an open access public online questionnaire, a stakeholder and group questionnaire, and a number of consultant-lead interviews and meetings with user group representatives and key community stakeholders. The details related to engagement tactics and information gathered is presented under a separate "What We Heard Report" document which can be found in the Appendix (Appendix B - Engagement).

As well, there were numerous City-led discussions throughout the planning process with community stakeholders as well as internal subject matter experts, Administration, and City Council. All engagement efforts were conducted in alignment with the City's policies and practices related to community engagement and were influenced by leading practices from the International Association of Public Participation (IAP2) and A projects Ethics Community Consensus Initiative (ARECCI). A summary of the consultant led engagement (from the What We Heard Report) is presented below along with a summary of the City led meetings. It is important to note that further community engagement will occur as the design process evolves.

What We Heard Report

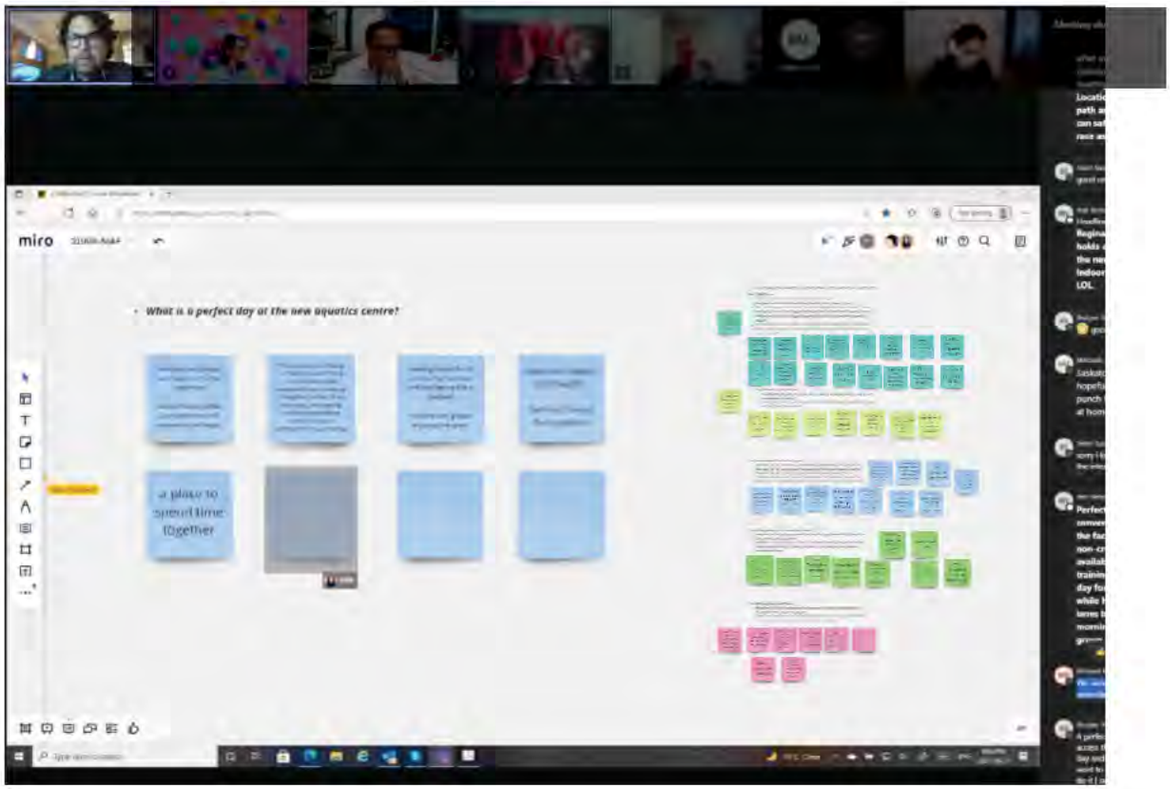
- Strong need for a new indoor aquatics facility that accommodates future demands
- A new indoor aquatics facility should accommodate recreation and leisure aquatics, swimming lessons, fitness activities
- Training and competitive aquatic needs should be accommodated in a new indoor aquatics facility
- Aside from the range of aquatics activities, this new facility development needs to provide space for community organizations as well as members of the neighbouring community
- The new facility should address all issues as it relates to inclusivity and accessibility considering culture and heritage, as well as physical accessibility concerns

2.3 City Led Engagement

The City led over thirty meetings with stakeholders in the community. Stakeholders offered a diversity of perspectives and ranged from the University of Regina, YMCA, Regina Exhibition Association Ltd., Saskatchewan Roughriders, Economic Development Regina, Regina Police Services, Fire and Protective Services, Regional Municipalities, the Accessibility Advisory Committee, Business Improvement Districts, the Public Library, internal City subject matter experts, Indigenous stakeholders and others.

Themes gathered from these meetings included the following:

- Accessibility, inclusivity, and affordability are important considerations to ensure the new facility will truly be a community facility.
- The outdoor amenities and outward facing elements of the building have significant impact on the integration of the facility into the local area.
- Separation of the competitive and training elements from the leisure and recreational amenities of the aquatics facility is desirable.
- The facility has the potential to provide a significant draw for residents and visitors.
- Active transportation east and west from the final site to the Taylor Field site and to the city centre and Warehouse District is an important consideration in planning for the movement of large crowds safely.
- Access to site and those nearby destinations need to consider spectators and visitors, as well as, emergency vehicle access
- The impacts of the development on existing parking should be taken into consideration
- The new facility will have a sizeable environmental footprint
- The new facility presents a unique opportunity to partner with the Ingedenous community in the creation of a Cultural space



2.4 City Staff & CAC Visioning Sessions

In September of 2021, a series of virtual visioning sessions were conducted and used Microsoft Teams and Miro to actively ask members several key questions about the new facility. This feedback helped to determine the needs and aspirations of the City Project team and the Community Advisory Committee for the new facility.

The following questions were used as prompts for the group to start a conversation:

Big Picture
What does success on the New Indoor Aquatics Facility mean to you?
What do you think are the biggest challenges with the New Indoor Aquatics Facility?
What do you think are the biggest opportunities with the New Indoor Aquatics Facility?

Headlines of Tomorrow
Fast forward five years from now - what headline would you want to read on the New Indoor Aquatics Facility?

A Perfect Day
What is a perfect day at the new aquatics centre?

A summary of the responses from the sessions can be found on the following pages.


meets the needs of a variety of user groups
(competitive, leisure, kids)
a welcoming and safe environment
(gender neutral change)
meets needs of competitive sports groups
(diving, artistic, speed)
a pool that is accessible for swimmers
(a pool that has the room for all kinds of lane swimmers)
a longer swim
additional dryland, deck, and storage space
an accessible pool that is safe for users of all abilities
(set time for older adults to use the facility)
inclusivity for all
bringing the community together
additional pool space
(not just replacement)
welcoming
Accessible
meets needs of user groups
access to more pool time
access at reasonable times of the day
meeting national competitive levels
At this early stage, I don't know that I want to define success because if we don't see that, we may look upon it as failure. I'd rather describe a vision of the grand outcome that we would like to see.
Location - Near a bike path and road where we can safely run, cycle, and race as part of a triathlon.
Separated spectator area
we cannot replace we have to have additional/more.
separation of public and competitive use
Capacity - We'd like to get many people training or racing at one time.
Features - An indoor/outdoor pool would be welcome. 50 metres is better for endurance swim training. Hot tub. Swim buoys and kickboards available. Attached to an indoor/outdoor track (additional, new fieldhouse?) so we can run after swimming. Non-chlorine pool for a more healthy environment
think bigger
no lack of space
acknowledge the land it was built on
Regina Aquatic center wins Gold and not just in the water!
Regina new facility leads in cutting edge standards for aquatic facilities
Regina's new facility is a swim-tastic experience
Regina's new aquatic center is a place for all to enjoy
Regina Multisport Club holds annual triathlon at the new "Rob Nelson" Indoor Aquatics Facility
Saskatoon remains jealous of Regina's new aquatic facility
Saskatchewan Olympic hopefuls compete for punch their Olympic tickets at home.
Regina's new aquatic center is LEED certified!
multiple user groups are happy with what they have
Seniors having coffee, young families playing and competitors training; all happy
The convenience of going to the facility and finding non-crowded lanes available for swim training throughout the day for an individual, while having multiple lanes booked some mornings or evenings for group training.
public and competitive user groups can be together and be happy utilizing the space effectively, and efficiently.
School in the morning - ride bike to the pool --> training
meeting rooms full of community members with kids having fun in the pool
multiple user groups enjoying the space
a place to spend time together
an accessible waterslide
Eat lunch while connecting over wifi to finish school work remotely
Access office space to prep for evening coaching with young athletes coming up.
facility being used at all hours of the day
every guest wanted to come back

2.5 Tactic Consideration & Conclusions

- There is a strong need for a new indoor aquatics facility. As it relates to the current use of the Lawson, a new facility should not simply replicate the amenities but should address the current deficit of space as well as accommodate future demands.

- The Lawson Aquatic Centre is one of the most used indoor aquatics facility in Regina.

- A new indoor aquatics facility should accommodate the strong need for recreation and leisure aquatics, swimming lessons, and fitness activities.

- Specific needs include:
  - Warm water pool
  - Beach entry
  - Water park amenities: spray / splash park; water slides
  - Social gathering / seating areas
  - Respite / quiet areas (to escape the highly stimulating environment)

- A new indoor aquatics facility needs to accommodate the needs of organizations for their training and competitive needs. The facility should meet the requirements and standards as described by national and international bodies for speed swimming, diving, artistic swimming, and water polo.

- Specific needs in the natatorium include:
  - 50m 10 lane pool
  - Secondary Tank
  - Separate dive tank
  - Cold and warm tubs / pools
  - Spectator seating (off the deck)
  - Separate gym / dryland training area (including trampolines)
  - Sufficient deck space to accommodate officials and athletes
  - Equipment storage for the City and clubs
  - Multi-purpose rooms for classrooms, officials rooms, hospitality rooms

- Other amenities to include in a new facility:
  - Change rooms: universal change rooms, separate change rooms for officials and coaches; consider a separate group change room
  - Café and social gathering space
  - Gymnasium and weight room
  - Public bathrooms with showers for people otherwise not using the facility
  - Several program rooms that could be used by community organizations and agencies
  - Consider culturally specific rooms to accommodate prayer, washing, smudging

- The facility should be designed to recognize the community and the heritage of the residents, particularly the Indigenous community.

- The transportation needs of people with mobility challenges needs to be addressed through appropriate parking near the entrances but also with suitable drop off and pick up area (that could be covered or inside.

- All aspects of the new facility should accommodate people with physical disabilities including pool deck and access, change rooms, entrances, etc.

3.0 Aquatic Trends + Best Practices

"Swimmers have been found to be more **socially connected**, have higher levels of **community trust** & volunteer more."

- Swim England 2021

Research into participation at indoor aquatics facilities in other cities has been conducted to better understand how contemporary user expectations might influence the design and operations of a new facility. The following trends have emerged to aquatics in the areas of service delivery and programming that should be considered for a new indoor aquatics facility in Regina:

- Recreational swimmers are increasingly looking for exciting aquatic experiences such as aquatic playgrounds for those of all ages and abilities, lazy rivers, wave pools, waterslides, etc.
- Swimming and all activity types are regaining popularity as people are looking for more spontaneous physical activities that fit into busy work/life schedules; working from home and gig work has also shifted when people look for recreational opportunities rather than there being a pre- or post-work rush.
- Swimming lessons are also growing in popularity, resulting in greater demand for lessons for those of all ages, particularly as such lessons are viewed as integral to physical literacy, skill development, and preventing injury/drowning. Some municipalities are experimenting with offering swimming lessons for children jointly with adult programming such as aquacise.

- Providing opportunities for all family members to take part in different activities simultaneously at the same location can increase participation levels, as well as a sense of convenience and satisfaction for residents. For example, while children participate in swim lessons, guardians may wish to grab a coffee and visit in social areas in sight of pool tanks.
- Wellness and therapy pool users are one of the fastest growing user segments for aquatic services, particularly in communities with aging populations. These users tend to require warmer water, but can also benefit from access to cold water plunge tanks as well.
- Competitive swimmers have high expectations for facility design and governing bodies, too, have certain standards for tank configurations, spectator seating areas, timing systems, and so forth. Modern training facilities should include amenities such as dive tanks, warm up pools, starting blocks, advanced timing systems, and scoreboards.

- Aquatic exercise, including swimming, water-based resistance training, or water aerobics, are increasingly popular activities among those looking for a low impact workout in a fun environment. Accessible community pools and therapeutic tanks are necessary amenities to support these types of activities.
- Pools are being designed to have multiple tanks and 'zones', such as quiet areas for rehabilitation and therapy, as well as for users with sensitivities to sound and/or light, training areas with one or more 50 m tanks, separate 25 m warm up tanks, 25 m leisure and recreation pools, hot tubs, and saunas. Increasingly, users expect multiuse spaces as the norm and service providers need to quickly adapt to meet community needs.
- Many aquatic facilities in Canadian municipalities are nearing end-of-life and significant reinvestment is required to meet changing user expectations and provide quality environments for aquatic activities, preferring to go to newer or more feature-equipped facilities. Municipalities must compete with the private sector in the form of hotels or resorts that may have newer or more attractive amenities.

3.1 Trends Influencing Recreation

- A general ageing of the population; longer periods of retirement
- Flexibility in the times when people seek out recreation opportunities; changing employment structures and work hours
  Increased variety in leisure options
- User demand for quality facilities and services
- Multi-use spaces that are community hubs and allow for multiple activities and user groups
- Growing popularity of unstructured activities.
- Growing recognition of the important role of physical wellness activity in managing chronic disease and support mental health
- More sustainable and eco-friendly infrastructure
- Multi-sector partnerships to leverage funding and expertise

3.2 Recreation, Rehabilitation and Therapy

- Participation for fun, relaxation, socialization and fitness
- Spontaneous recreation opportunities
- Inter-generational participation
- Desire for warmer water, aquatic playgrounds

3.3 Innovative Programming occurring in aquatic facilities include:

- Movie nights
- Beach parties
- Water mat aerobics
- Paddle board yoga
- Deep water hydro
- Scuba diving

3.3 Precedents Studies

We strive to learn from past projects, both our own and those of others. We learn from what has worked well and from what could be better. Learning is a crucial component of design and building. The following pages include references of completed aquatic centre projects from municipalities across Canada. Each building has its unique aquatic and community programing allowing for a range of leisure and competitive sport activities. Key takeaways have been outlined for each precedent to inform programmatic options for the design of the new community aquatic centre.

1

2

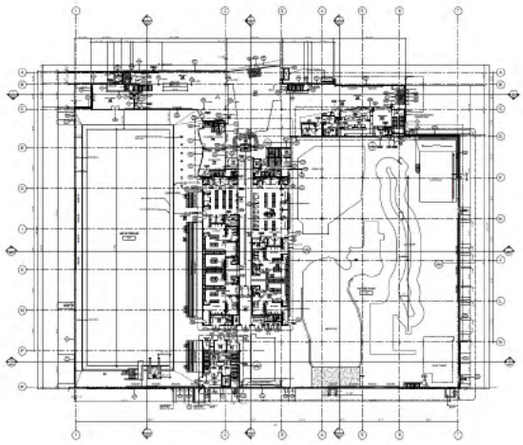
3

2

4

1. Increased focus on wellness 2. Ongoing Evolution of Changerooms 3. Social role evolving 4. Pop-up culture

3.4.1 Windsor International Aquatic & Training Centre



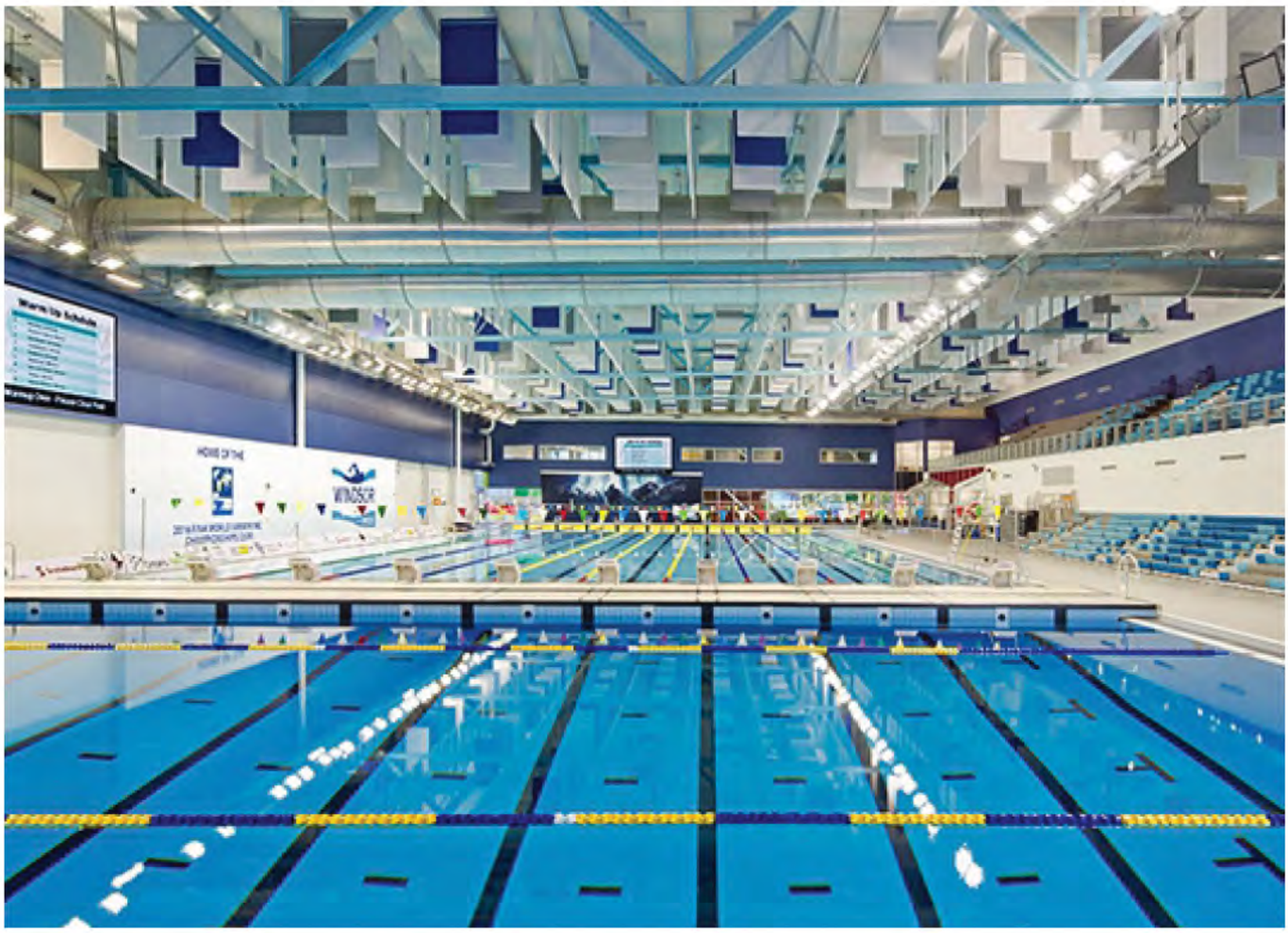
Opened: 2014

Location: Windsor, Ontario

Climate: Warm humid climate with cold winters

Windsor International Aquatic and Training Centre (WIATC) is City of Windsor's new state-of-the-art aquatics facility. This 71m x 25m, 10-lane pool features two moveable bulkheads that allow for multiple configurations to fit the ideal length for any competition or community use. The pool varies in depth from 2m to 5.2m in depth, but also features a moveable floor at the north end of the facility, which allows for shallower depths and greater accommodation for community programming.

The Family Aquatic Complex is also home to Adventure Bay Family Water Park, southwestern Ontario's newest and wildest attraction.



Amenities & Features:

1. 71m x 25m 10-lane lap tank
2. 2 moveable bulkheads
3. Dive tower 1m, 3m, 5m, 7m and 10m
4. 25m x 17m moveable floor
5. 900 spectator seats
6. Wave pool, lazy river, activity pool, splash pad
7. 3 high slides
8. Space for groups of up to 100 depending on set-up style
9. 3 rooms have built in data projector and screen (Whale/ Jellyfish/Seahorse)
10. 4 rooms offer refrigerator, sink, cabinets and counter with views of the water park. (Jellyfish/Octopus/Seahorse/ Starfish)
11. 1 room offers view of Detroit River & Skyline (Whale Room)
12. 1 room overlooks the 71 metre, state-of-the-art Olympic style pool (Media Room)

Key Takeaways:

- Key Take away 1
- Key Take away 2
- Key Take away 3

3.4.2 H2O Adventure & Fitness Centre

Opened: 2009

Location: Kelowna, Britich Columbia

Climate:

H2O Adventure + Fitness centre is Kelowna's world-class destination for family fun in the water. The facility is owned by the City of Kelowna and operated by the YMCA of Okanagan. The facility is the largest municipal water park in Canada including; Olympic length pool, wave pool, river run, water slides, a kid's spray park and a surf wave simulator. The building aslo includes 12,000 sq ft of fitness and cardio space.

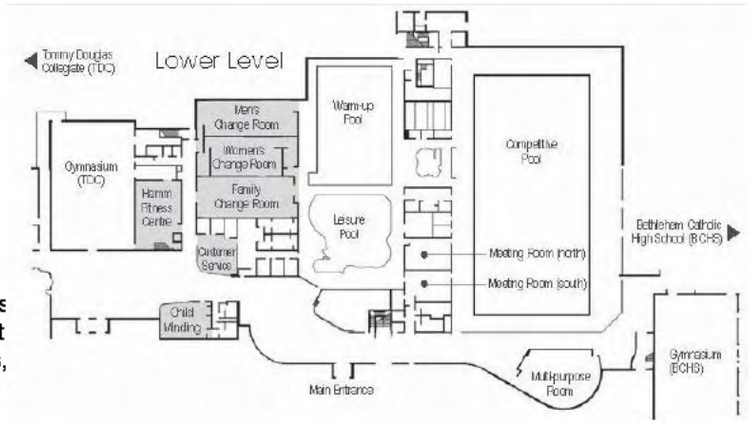
Amenities & Features:

1. 50m- 8 lane competative pool featuring 2 bulkheads
2. Leisure pool, wave pool, lazy river and splash park
3. Universally accessible family whirlpool & adult whirlpool
4. Children's water park
5. 4 Water slides
6. Hot tub, sauna, steam room
7. Waverider surfing facility
8. Fitness center including aerobics studio, cycle studio, indoor walking track, gymnasium, cardio and conditioning areas, and low-impact fitness equipment
9. Childcare, Multi-purpose rooms, Café

Key Takeaways:

- Key Take away 1
- Key Take away 2
- Key Take away 3

3.4.3 The Shaw Centre



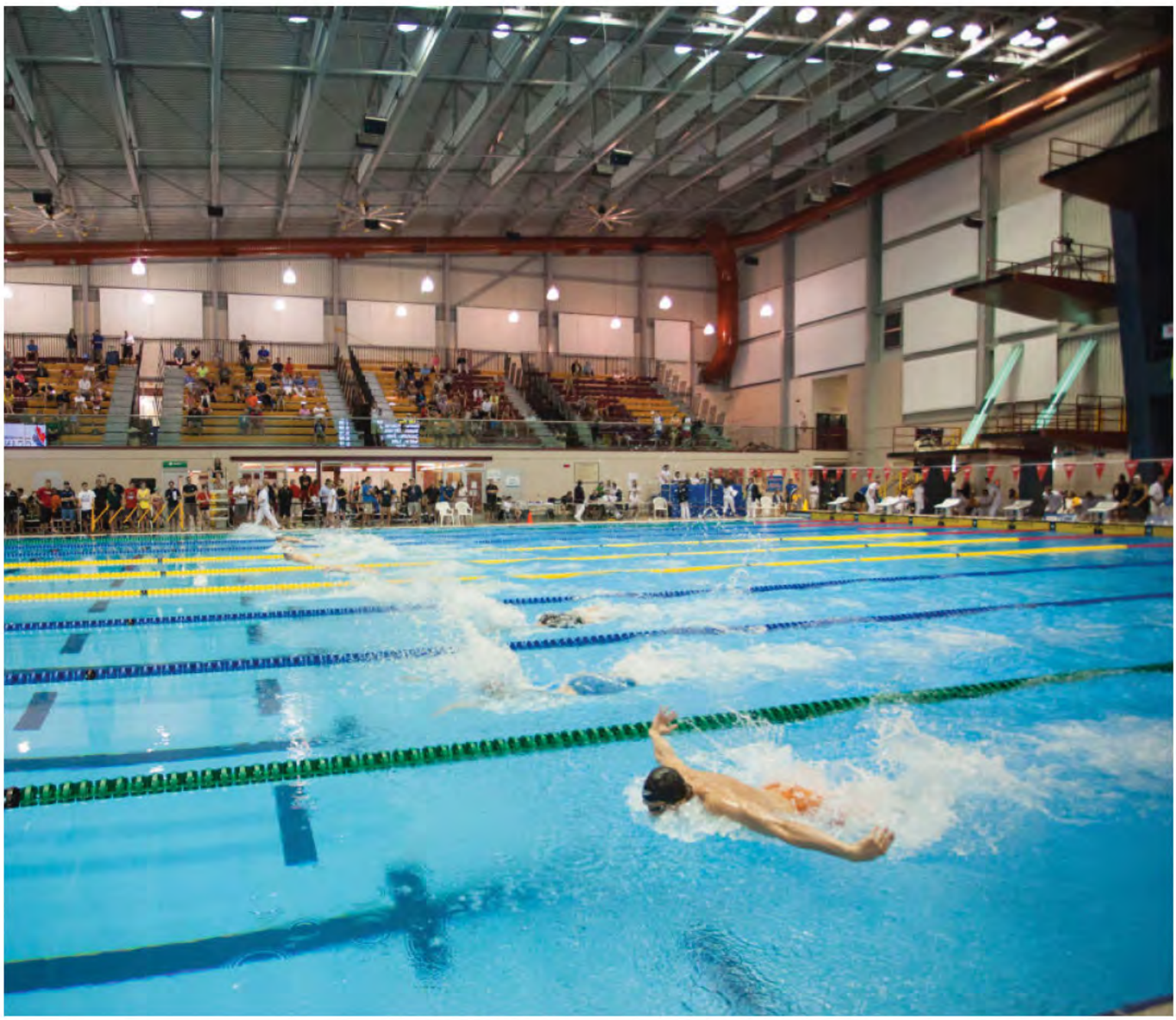
Opened: 2017

Location: Saskatoon, Saskatchewan

Climate: Warm humid climate with cold winters

Shaw Centre, Saskatoon's newest Leisure Centre, includes 10 lane high performance competitive pool, spectator seat 6 lane warm-up pool, leisure pool with waterslide, hot tubs, Hamm Fitness Centre & Walking Track, two community gymnasiums, meeting rooms, multi-purpose fitness room, cafeteria and corridor connecting the centre of two schools.

https://www.tourismsaskatoon.com/listing/shaw-centre/394/



Amenities & Features:

1. 50m 10-lane competition pool, Diving Boards & Platforms
2. 6-lane Warm-up Pool
3. 25m recreational pool with accessible ramp
4. Leisure pool and lazy river with accessible ramp
5. 34-person hot tub with accessibility lift
6. Fitness Centre, Walking Track, Community Gymnasiums
7. Child Minding, Multi-Purpose &Meeting Rooms
8. Outdoor Playground, Sport Fields

Key Takeaways:

- Leisure component is small. Less attractive as a desitination compared to the H20 Centre
- Small facility .

Key Takeaways:

- Key Take away 1
- Key Take away 2
- Key Take away 3

3.4.4 Toronto Pan Am Sports Centre

Opened: 2017

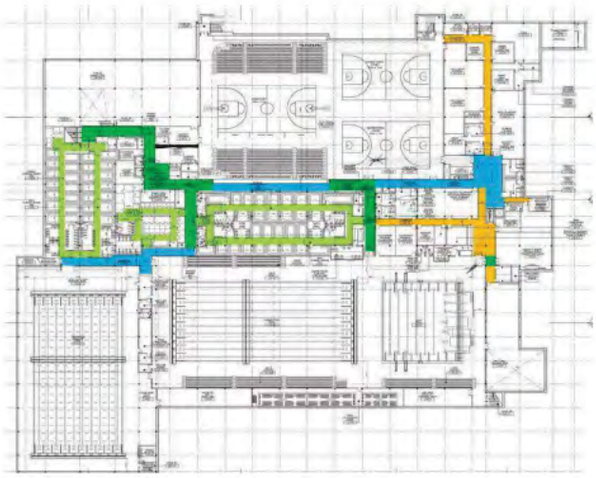
Location: Toronto, Ontario

Climate: Warm humid climate with cold winters

The world-class facility was the largest sport new-build for the Games and the largest infrastructure investment in Canadian amateur sport history. Toronto Pan Am Sports Centre delivers extensive programming that serves recreational and community groups, high-performance athletes, as well as fitness centre clientele.

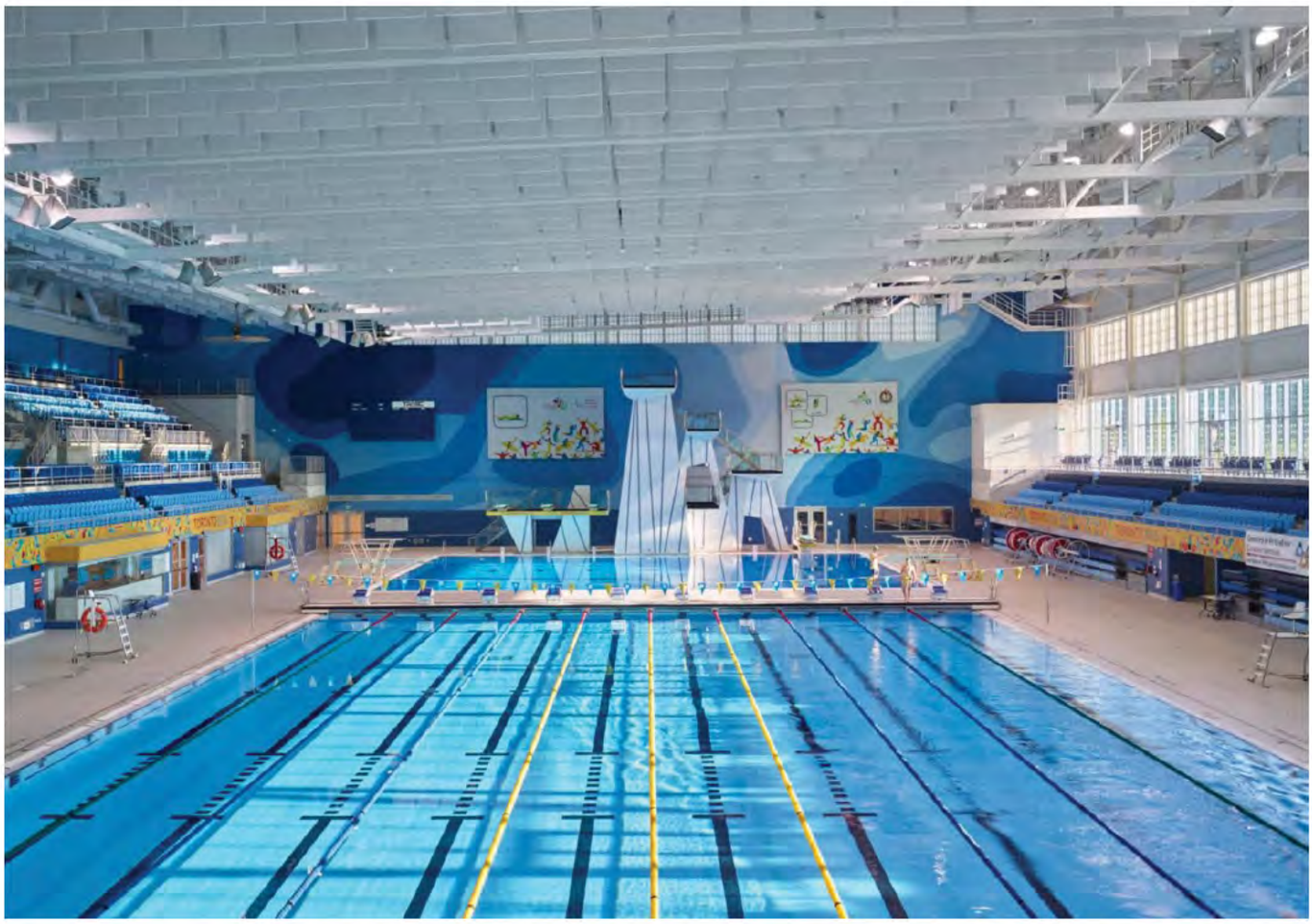
The 312,000 square-foot Centre includes two internationally sanctioned 10-lane 50-metre pools, a world-class dive pool and dryland dive training facilities, a four court gymnasium, an indoor running track, a high-performance testing centre, studio spaces, and a state of the art fitness centre for members

Built to international standards for competition, the Competition pool can be separated from the Dive Pool Activites via a curtain and plug-ins allow for an underwater sound system.



The Canadian Sport Institute of Ontario (CSIO), located at Toronto Pan Am Sports Centre, provides world-leading sport science and sport performance services to identified high-performance athletes.

https://www.tpasc.ca/facility/legacy



Amenities & Features:

1. 52m x 25m 10-lane competition pool
2. 52m x 25m 10-lane training pool
3. 25m x 25m dive pool, Dive tower 1m, 3m, 5m, 7m and 10m,
4. 2277 spectator seats + 24 accessible seats
5. Dry land dive training centre, with trampolines, dive pit, harness rig and cushioned flooring
6. 4 full-sized courts, 200m walking track, indoor climbing, fitness center & studios
7. Food court, retail, multi-purpose & meeting rooms
8. Outdoor sports field

Key Takeaways:

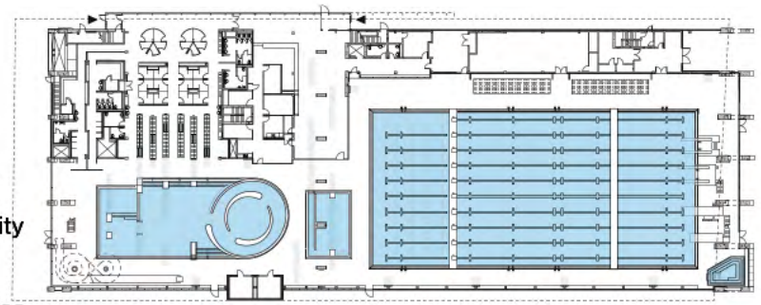
- Key Take away 1
- Key Take away 2
- Key Take away 3

3.4.5 Grandview Heights Aquatic Centre

Opened: 2016

Location: Surrey, British Columbia

Climate: Warm and temperate climate, heavy rainfall



The project vision was to design and build a world-class aquatic centre to attract people from everywhere, while expressing the community's ambition for Surrey. Inclusivity and universal access help to support a diverse culture. Intended to accommodate the needs of its growing community, the aquatic centre plays a vital role as the area develops.

It meets stringent FINA standards to host regional, provincial, national and international sporting events in its 10-lane, 50m Olympic size competition pool and dive platform. With seating for up to 900 spectators, it is poised to act as a premier destination for competitive diving and swimming, synchronized swimming and water polo events. Yet its pro-athlete capabilities are carefully balanced with the needs of recreational users – without compromising the unique needs of either group.

Amenities & Features:

1. 50m -10 lane FINA-standard Olympic size competition pool
2. Dive tower 1m, 3m, 5m, 7m and 10m,
3. Spectator seating for 800 people
4. Hot tubs for families (with ramp access) and adults
5. A 500 square metre leisure pool
6. Waterslide, Lazy river, spray features, tot's area with access ramp & accessible steam room and dry sauna
7. Fitness and weight room facilities
8. Exterior terrace

Key Takeaways:

Key Takeaways:

- Key Take away 1
- Key Take away 2
- Key Take away 3

3.4.6 təməsewtxʷ Aquatic and Community Centre

Opened: 2024

Location: New Westminister, British Columbia

Climate: Warm and temperate climate, heavy rainfall

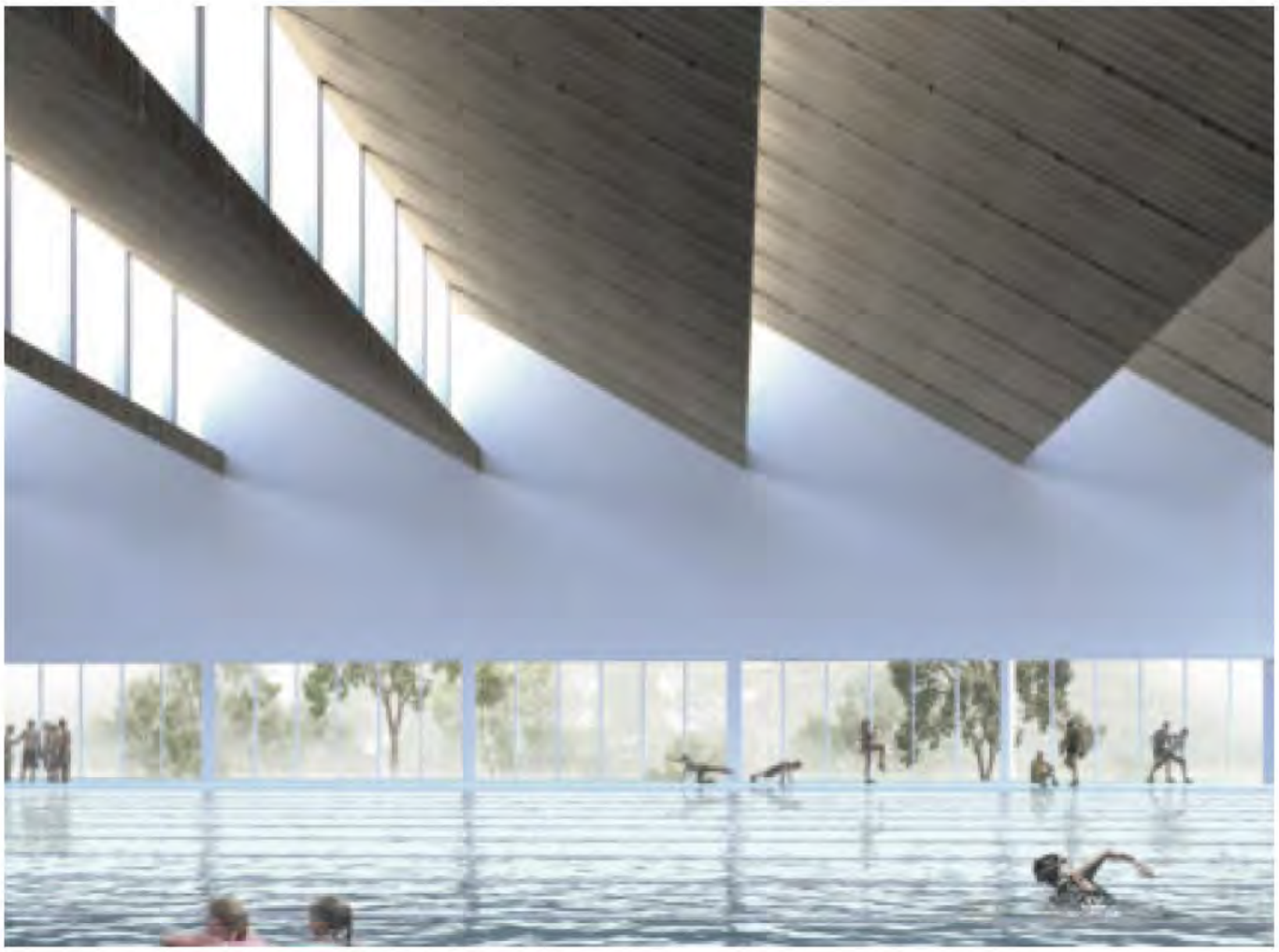
The City of New Westminster is pleased to announce that the name of the new aquatic and community centre in New Westminster will be təməsewtxʷ Aquatic and Community Centre. The name is the hən̓q̓əmin̓əm̓ word for “sea otter house.”

The design was driven by a two-year community engagement process, prioritizing accessibility for people of all ages and abilities, as well as the flexibility to future-proof the facility. The centre includes a four-pool aquatic centre with sauna and steam rooms, universal washrooms and change rooms, a fitness centre, gymnasia, community rooms, licensed childcare, administrative offices, as well as significant new plazas and greenspaces.

Expected to open to the public in 2024, the future təməsewtxʷ Aquatic and Community Centre is set to be Canada’s first Zero Carbon-certified aquatic centre, aiming for a 90% reduction in GHG emissions and eliminating fossil fuels emissions completely.

https://www.surrey.ca/parks-recreation/recreation-facilities/grandview-heights-aquatic-centre

https://www.hcma.ca



Amenities & Features:

1. 50m- 8 lane pool featuring 2 bulkheads and a movable floor
2. Leisure pool featuring 25m-3 lane, lazy river, spray toys and tot zone
3. 2 hot pools (adult and family), Steam & Sauna
4. Fitness area, spin, aerobic & yoga classes, 2 gymnasiums,
5. Health and Wellness space; physio, massage & chiropractic
6. Childcare, Multi-purpose rooms, Café
7. Landscaping for additional outdoor programming, lounging and play

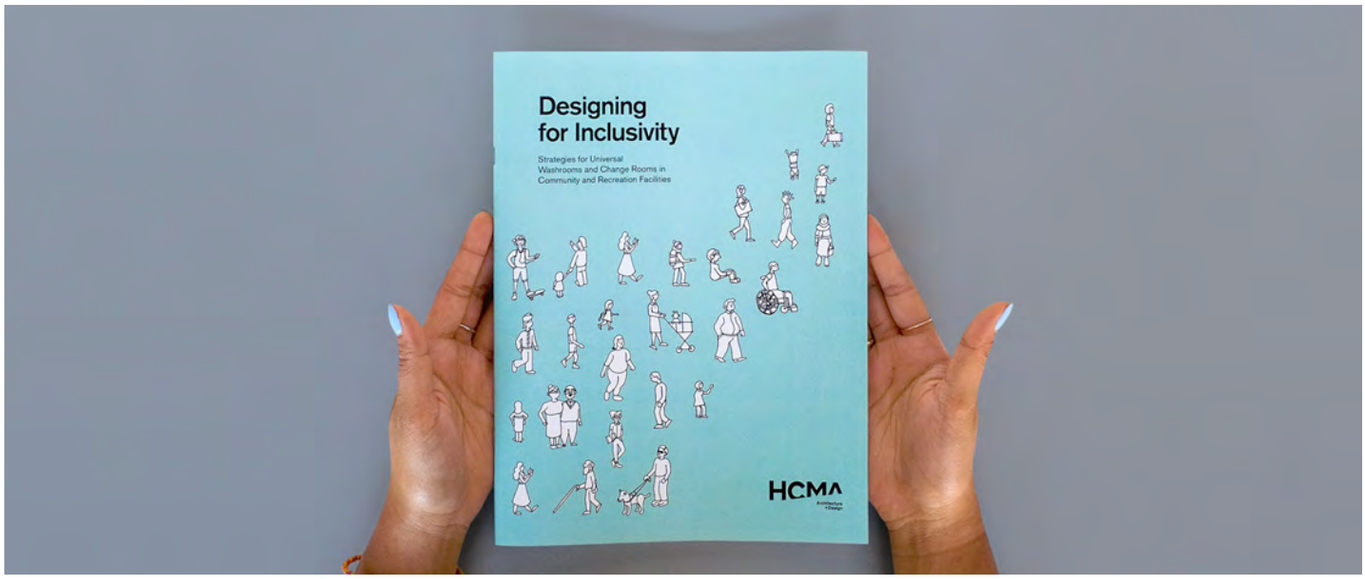
Key Takeaways:

- Key Take away 1
- Key Take away 2
- Key Take away 3

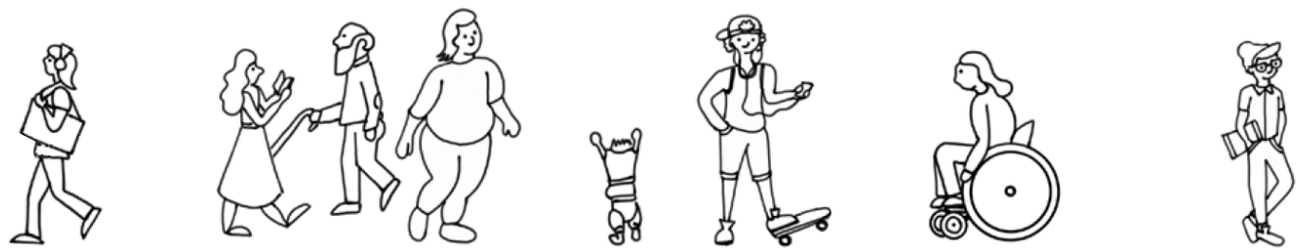
4.0 Accessibility + Inclusion Best Practices

"Every choice we make as designers determines who can use an environment or product. The mismatches that we create in the process are the building blocks of exclusion."

- Kat Holmes
UX Designer & Author



Inclusion and accessibility are critical priorities for the City of Regina and many policies and plans reflect the importance of providing programs, spaces, and opportunities that are accessible for everyone.



4.1 Inclusion and Accessibility

- Accessibility means looking at a facility holistically from the moment a potential user considers going to a facility to their experience arriving at and entering the facility, to how change rooms are configured, and finally, getting into the pool itself. There are numerous guidelines available that provide direction on how to design spaces to be universally accessible and municipalities are increasingly requiring universal accessibility as standard practice.

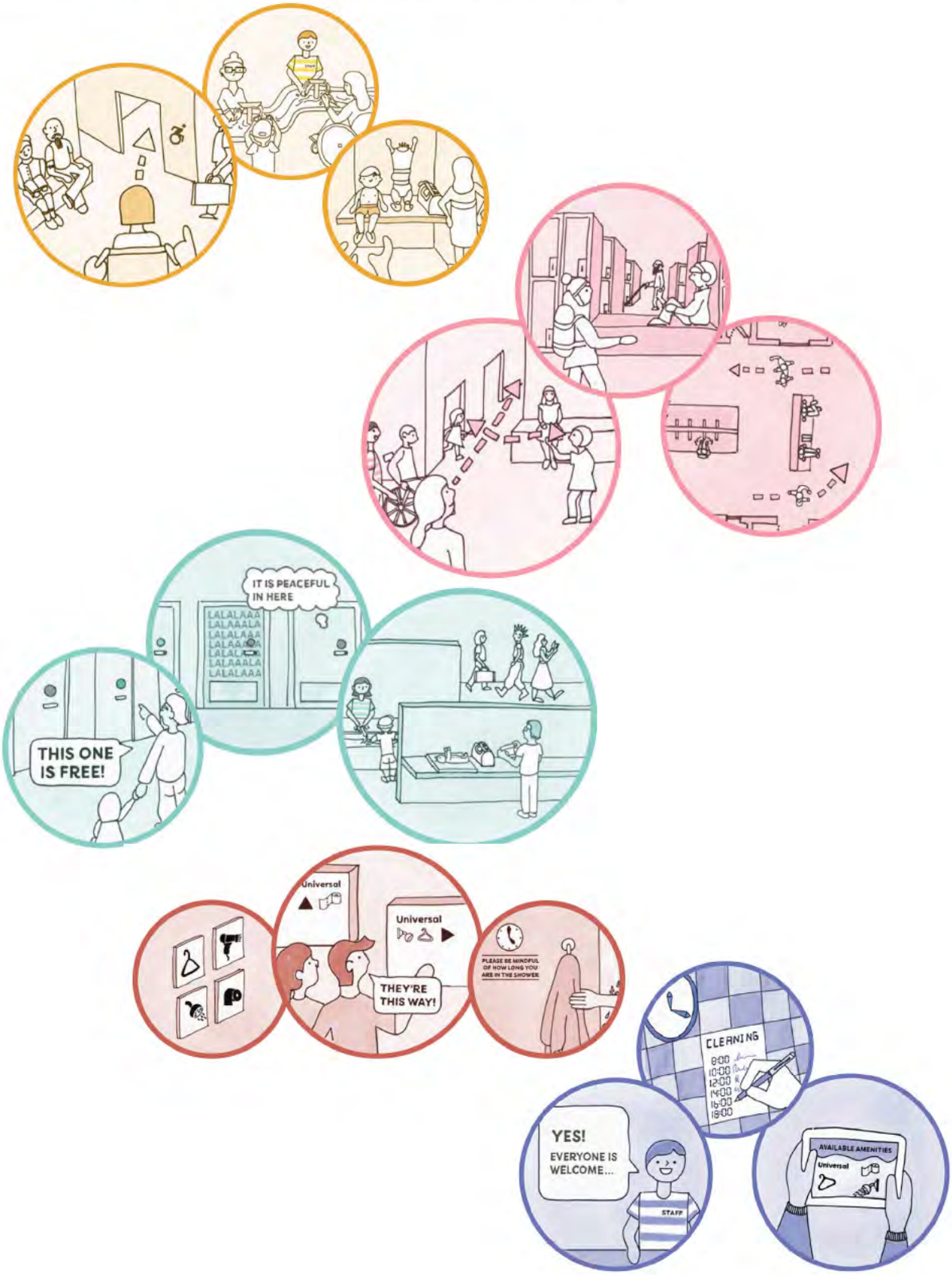
- Ensuring inclusion and accessibility means the physical, financial, and social needs of all individuals, including those with physical and cognitive disabilities, those experiencing social and/or cultural barriers, and those from all socioeconomic backgrounds.

- Strategies for reducing barriers to participating in aquatic programs include allowing caregivers or support workers free access to facilities, providing 'quiet' times in the pool for those with sensory sensitivities, providing training to staff on how to assist swimmers with special needs, offering 'free' days, and so forth.

- Inclusion is the conscious practice of actively engaging people of different backgrounds in a way that everyone feels respected, heard, encouraged, and valued. Inclusion involves bringing people together to share experiences and to build a shared understanding of different perspectives. Strategies for promoting inclusion include incorporating multiple languages into facility signage and written materials, providing culturally sensitive programming such as women only times for women practicing Islam or LGBTQ+ dedicated swim times, and even designing admission counters to be offset from main entries to create a more open and inviting first impression.

- Specific efforts should be made through design and programming to address social isolation and challenges faced by vulnerable populations such as seniors, those with disabilities, those experiencing homelessness, newcomers, and Indigenous communities.

1. Strive for **inclusivity** and **access for all**
2. Use **openness** to **enhance safety** through activity and shared monitoring
3. Create **privacy** where most needed to **enhance comfort**
4. Welcome everyone with **signage** that **emphasizes function** and is clear, inclusive, and positive
5. Ensure **supportive** staff **operations** and communications



4.2 Reconciliation

Reconciliation challenges the recreation sector to more than just acknowledge territorial lands or the Truth and Reconciliation Commission's Calls to Action. Reconciliation provides an opportunity to learn more about the land and traditions of Indigenous peoples and cultures, as well as to foster new relationships that will lead to healthier individuals, communities, and partnerships. A renewed cultural awareness of the systemic nature of racism, inequity, and exclusion has emerged in recent years, revealing that municipalities have a key role to play in working to combat racism and foster inclusion/reconciliation in their operations. Advocacy groups have brought attention to the persistence of racism within Canadian communities and the need to create safe, inclusive spaces for all.

- The City of Regina has demonstrated its leadership and commitment to reconciliation in the design of mâmawêyatitân centre that brings together many public and community services aimed at building trust and strengthening relationships with Indigenous communities.

- Providing dedicated spaces and amenities for Indigenous place-making, ceremonies, and community gatherings is becoming more common within municipal facilities across Canada. Opportunities to advance reconciliation should be explored through facility design and programming.

- Incorporating Indigenous language and names, artwork, and storytelling can both broaden understanding and appreciation of Indigenous cultures, as well as demonstrate respect for the long histories and traditions of Regina's Indigenous communities.

The purpose of the Integrated Accessibility and Inclusion Strategy is to outline the vision, principles, social sustainability goals and strategies specific to the New Regina Indoor Aquatic Facility.

The project hopes to set specific accessibility and inclusivity targets for meeting the goals under the following categories:

- Reducing Barriers
- Green Transportation
- Connection to Nature
- Social Capital
- Health & Wellness

Public community spaces face three categories of barriers. The following amenities, spaces & finishes help create more inclusive and accessible environments.

Physical Barriers

Barrier free:
- Entrances & paths, Lifts, ramps & transfer edges, Rest points
- Decision points, Visual contrasting, Tactile surfacing
- Gender neutral change & WC spaces

Socio-Economical Barriers

Public amenities:
- Social and wellness opportunities
- Sports courts, Gathering spaces, Community garden
- Walking paths, Cycling paths & parking
- Playground, Spray pad

Truth & Reconciliation

- Cultural Amenities:
- Co-creation
- Indigenous art incorporation
- Indoor/outdoor ceremonial space

5.0 Sustainability Best Practices

Sustainability is embedded in the mission of many municipalities in Canada, as we plan in service of our communities to and their future generations. Designing to manage environmental, social, and economic impact areas is imperative for the health and wellbeing of people and the planet.

This Chapter will be reduced in the next draft

5.1 Introduction

Climate change has and will continue to impact the provision of recreation services in Canada. Pools have high energy and water use profiles and are especially intense to operate in northern climates. As well, community recreation infrastructure is considered generational; the new aquatic centre will have a long service life that must consider both the immediate impact of new construction, the impact of evolving operational conditions, and the changing needs of the community is as it grows and changes in a new climate.

Municipalities are also grappling with shifting economic landscapes and ongoing impacts of the COVID-19 pandemic that have challenged revenues and placed expenditures under greater scrutiny. Sustainable building strategies and technologies can help to reduce the ongoing operating costs of pools and better support social needs in the long term. Regularly reviewing user fees can also help to balance the importance of affordable, accessible services with revenues needed to maintain high service standards.

As of June 2021, from the feasibility commencement, the project team has been actively engaged with City staff, community, and stakeholders to facilitate a sustainability strategy for the New Regina Indoor Aquatic Facility. The project team members have made sustainability recommendations that align with the city, province, and Canadian 2030 and 2050 climate targets. These recommendations also consider the current trends and best practices for sustainable design of community and natatorium spaces. The initial phase of work included two best practices workshops, first with city staff and then with the IAFCAC to determine preliminary strategies and goals that align with the policy. The emphasis of the workshops was on energy and emissions, recognizing that more detail and analysis for other impact areas will be required when the project progresses to schematic design. During this time, the City of Regina launched the Energy & Sustainability Framework with which this work supports and aligns.

5.2 Background

The work to date has been future focused; planning for climate resilience, energy and GHG reduction, and overall resource conservation, has been central at this early stage, with the goal of supporting a holistic approach to sustainability and tailored targets for energy efficiency, emissions reduction, social impact measures, water conservation, ecosystems and site development, sustainable materials, and indoor environmental quality. The project hopes to set specific sustainability targets for meeting the goals under the following categories to align with the forthcoming City of Regina Aquatics Framework as the project progresses into schematic design:

- Ecosystems, Watershed + Site
- Water Conservation
- Energy Efficiency and GHG Reduction
- Climate Resilience
- Sustainable Materials
- Solid Waste
- Food

The content of this chapter builds upon a review of:

1. City of Regina's existing environmental, social, and economic development strategies.
2. Sustainability workshops held with City of Regina staff.
3. Existing best practices, certification schemes, and frameworks.

5.3 Current and Future Policy + Regulatory Contexts

The regulatory context for energy and emissions is evolving quickly in response to global climate commitments. It is important to evaluate the project within the current and expected future regulatory context, to plan for the future burden of risk, environmental impact, and potential opportunities. The new aquatics centre can support the city's Energy and Sustainability Framework seven "Big Moves" through thoughtful design and operations, ensuring that the project contributes to the goal of reducing greenhouse gas emissions and energy consumption.

Canada

Canada's response to the Paris Agreement is the Pan-Canadian Framework on Clean Growth and Climate Change (the Pan-Canadian Framework), which sets out the national strategy to meet the Paris Agreement targets. Within the built environment section of the Pan-Canadian Framework, Canada aims to improve energy efficiency for both new and existing buildings. This includes a net-zero ready energy code to be adopted by the provinces and territories by 2030, energy labelling, and an existing building energy code. Equipment performance, including that used in typical building mechanical and electrical applications in buildings, will also face new energy efficiency targets. To support the Pan-Canadian Framework, emissions pricing has been introduced to incentivize greenhouse gas reductions. In provinces that do not have their own carbon tax scheme, this will be mandated by the federal government. In 2022 emissions pricing is $50/tonne, rising by $15/year, to $170/tonne by 2030, assuming no rate increases. Considering the future cost of operating a building through its greenhouse gas intensity (GHGI), is something that all building owners must consider at the time of major infrastructure projects.

Saskatchewan

Saskatchewan has taken steps to reduce greenhouse gas emissions throughout all sectors and is focused on climate resilience. In 2017, the province launched Prairie Resilience: A Made-in-Saskatchewan Climate Change Strategy (Prairie Resilience) which outlines climate resilience and mitigation strategies specific to Saskatchewan. The energy grid will continue to decarbonize and utilize carbon capture and storage technology, with a goal of reducing the carbon intensity of the grid by 40% by 2030. Currently in Saskatchewan, buildings account for 4% of provincial greenhouse gas emissions and as part of the strategy outlined in Prairie Resilience, Saskatchewan was the first province to adopt the 2017 version of the National Energy Code for Buildings (NECB) on January 1, 2018. We expect the trajectory of the NECB to reflect the urgency of energy emissions reduction in the 2020 revision and beyond.

Regina

In 2022, after several years of analysis and public consultation, the City of Regina launched the Energy & Sustainability Framework (the Framework). The Framework contains 31 actions across seven "Big Moves" to reduce the city's greenhouse gas emissions by 52% by 2030 and energy use by 24% by 2030. The seven big moves are as follows:

1. Building retrofits
2. Clean heating
3. Net-zero new construction
4. Renewable energy generation
5. Low-emissions vehicles
6. Increase active transportation and transit use
7. Clean and re-energize industry

5.4 Resilience + Future Climate Planning

Resilience strategies and planning for future climate conditions is critical for all new infrastructure as we navigate climate impacts in the immediate, medium, and long term. Impacts already being experienced in Regina include hotter days and more forest fire smoke events. Immediate and long-term climate risks for the most optimistic climate change scenario for Regina include:

- Heat: Increased number of very hot days (above 30°C), increasing from a recent average of 18 days/year to 31 to 54 days/year between 2021 and 2100 (see image X for the low carbon scenario).
- Water: Increased precipitation in the winter, drought in the summer.
- Air: Forest fire risk and smoke

The new aquatics centre and surrounding community will benefit from both reducing emissions from built infrastructure to mitigate the impacts of climate change, but also by considering the health and infrastructure related shocks and stressors associated with these and other climate risks and designing the building to adapt to these future climate conditions.
A comprehensive climate risk analysis as part of the schematic design phase is recommended to guide design decisions accordingly.

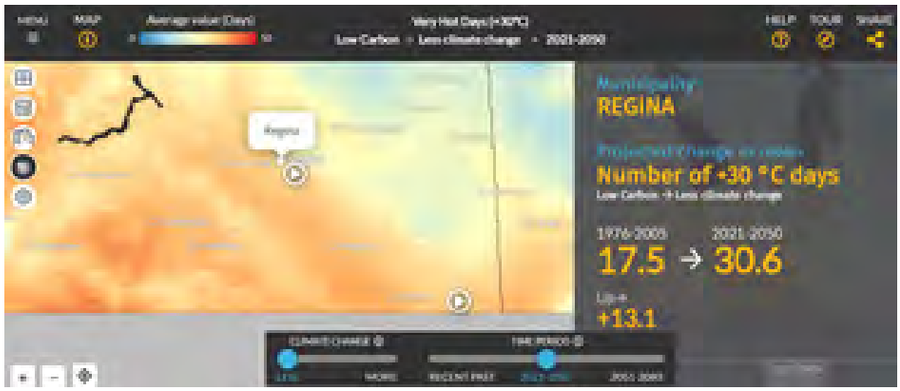


Figure 1 - Anticipated very hot days (+30° C), less climate change, 2021 - 2050

5.5 The Grid Transition + Emissions Pricing

As we move away from fossil fuels to mitigate the impact of emissions, electricity grids around the world are transitioning away from coal and natural gas to renewable energy sources. In Saskatchewan, this transition is already underway; in 2017, the province launched Prairie Resilience: A Made-in-Saskatchewan Climate Change Strategy (Prairie Resilience) which sets out climate resilience and mitigation strategies specific to Saskatchewan. The energy grid will continue to decarbonize and utilize carbon capture and storage technology, with a goal of reducing the carbon intensity of the grid by 40% by 2030. At this time, we are less than ten years from a majority renewable energy fueled grid, so it is critical that new infrastructure evaluate service life of building systems relative to the grid transition timelines to understand the impact of both emissions and cost for both capital and operational time horizons. Moreover, we expect the existing buildings energy code to be in place within the decade, further encouraging adoption of high-performance passive strategies and optimized, electric-based building systems.

In 2021, according to the Canadian Energy Regulator, 67% of the Saskatchewan electricity grid was fuelled by coal, 9% natural gas and 24% renewables. But in 2035, the same source forecasts coal will represent only 3%, natural gas 41% and renewables 56%, drastically improving the proposition for electrification relative to emissions. Furthermore, renewables are expected to contribute 77% to the grid by 2050. For the new aquatic facility, it will be essential to consider this grid transition time horizon,

coupled with the federal emissions pricing scheme, when evaluating building system options for both first cost capital investment and system replacement at the end of service life. To set this in context, the chart below plots the cost of electricity and natural gas against the grid transition, accounting for the incremental federal emissions pricing over time. The chart helps to illustrate the case for electrifying now, to benefit from the lowest emissions and operational cost in the long term.

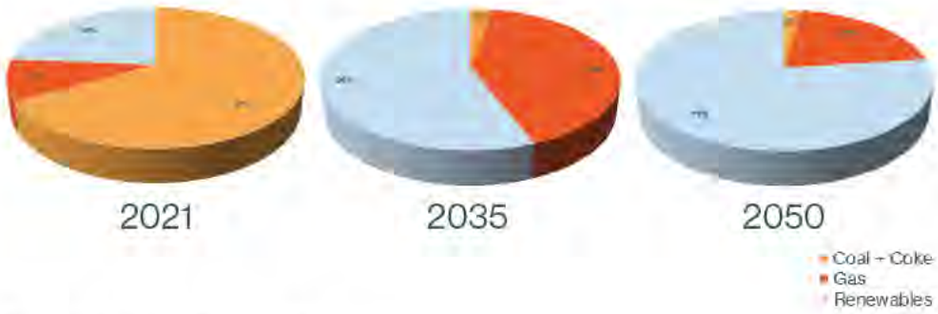


Figure 2 - Saskatoon Electricity Mix

5.6 Future Cost of Emissions Pricing for Electric + Gas-based Systems

As we move away from fossil fuels to mitigate the impact of emissions, electricity grids around the world are transitioning away from coal and natural gas to renewable energy sources. In Saskatchewan, this transition is already underway; in 2017, the province launched Prairie Resilience: A Made-in-Saskatchewan Climate Change Strategy (Prairie Resilience) which sets out climate resilience and mitigation strategies specific to Saskatchewan. The energy grid will continue to decarbonize and utilize carbon capture and storage technology, with a goal of reducing the carbon intensity of the grid by 40% by 2030. Currently, we are less than ten years from a majority renewable energy fueled grid, so it is critical that new infrastructure evaluate service life of building systems relative to the grid transition timelines to understand the impact of both emissions and cost for both capital and operational time horizons. Moreover, we expect the existing buildings energy code to be in place within the decade, further encouraging adoption of high-performance passive strategies and optimized, electric-based building systems.

Chart 1: Expected emissions cost of natural gas and electricity in Saskatchewan, accounting for electrical grid transition from 2023-2050.

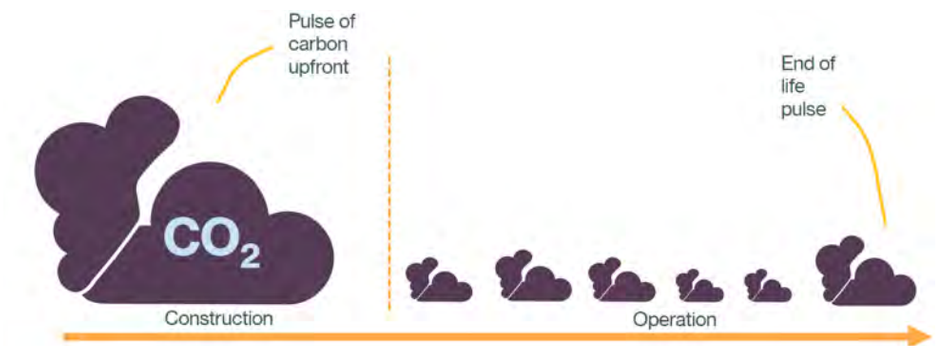
In 2021, according to the Canadian Energy Regulator, 67% of the Saskatchewan electricity grid was fuelled by coal, 9% natural gas and 24% renewables. But in 2035, the same source forecasts coal will represent only 3%, natural gas 41% and renewables 56%, drastically improving the proposition for electrification relative to emissions. Furthermore, renewables are expected to contribute 77% to the grid by 2050. For the new aquatic facility, it will be essential to consider this grid transition time horizon, coupled with the federal emissions pricing scheme, when evaluating building system options for both first cost capital investment and system replacement at the end of service life. To set this in context, the chart below plots the emissions cost of electricity and natural gas against the grid transition, accounting for the incremental federal emissions pricing over time. The chart helps to illustrate the case for electrifying now, to benefit from the lowest emissions and operational cost in the long term.

This example illustrates the cost of emissions pricing for electricity using an air-source heat pump system (ASHP) and natural gas-based system, using energy demand data from a recreation and aquatic centre in a similar climate. Dollar values do not reflect the expected costs for this facility, they are provided to illustrate the trend of emissions pricing and relative impact over time. Grid emissions factors for Saskatchewan were applied using NRCAN data available to 2035. Beyond 2035 we applied applicable emissions factors using representative provincial grid data from other provinces.

Emissions pricing in 2023 will be $65/tonne and will continue to rise annually by $15/tonne to a maximum of $170/tonne by 2030. We have assumed a similar incremental emissions price increase beyond 2030 to level off at $260/tonne in 2036. Currently, gas boilers have the lowest carbon price. However, as the grid decarbonizes over time we expect to see comparable costs for electricity and natural gas as soon as 2030. By 2036, electricity drops significantly in cost compared to natural gas, as the grid further decarbonizes, per the Canadian Energy Regulator's projected fuel mix for the provincial energy grid. Further support for this scenario is documented by the recent Canada Green Building Council Report A Roadmap for Retrofits in Canada that carbon intensive grids such as Saskatchewan and Alberta will decarbonize enough in the next ten years to make electrifying in the near term cost competitive with natural gas systems, when considering emissions pricing.

5.7 Embodied Carbon

Embodied emissions in buildings are now understood to represent significant contributions to their full carbon impact. Most of the embodied carbon emitted from a building occurs before it is occupied, generated from the extraction, manufacturing and transportation of materials used to construct it. Also referred to as upfront carbon, it represents emissions we can only address before a project is built. This is especially significant as we try to eliminate emissions in the near term, to improve our chances of mitigating the impacts of significant climate change in the long term. We know the most significant materials contributing to embodied carbon profiles of buildings are the heaviest, typically structural materials. Impact varies significantly by project context and location, so evaluating a range of structural and other material options early in the design process can significantly reduce the impact of upfront carbon.



Building Re-use versus New Construction

Renovating and reusing building materials is strong strategy typically employed to reduce the impact of embodied carbon in buildings. In the case of the two options evaluated for the New Indoor Aquatic Facility, while no detailed life cycle assessment has been done, we expect the impact to be relatively similar for both the new construction and renovation options, simply because so much of the existing building components would require replacement in the renovation scenario. The carbon impact of demolition waste is expected to be slightly higher in the new construction scenario, but overall, would represent a negligible amount.

Moreover, any small, embodied carbon benefit that might be realized in the renovation scenario, the limitations on program and operational efficiency may, in the long-term, diminish these benefits. If the space is not optimal operationally due to re-use constraints and a new addition or new facility is needed sooner than anticipated to address program limitations, more upfront carbon emissions will be generated, and the relatively small benefit of material reuse lost.
We know from industry analysis and many Life Cycle Assessments on similar buildings, that a comprehensive effort to address the embodied emissions of new construction in the early design stages can reduce embodied emissions significantly.

We recommend an aggressive but realistic target of 20% reduction of CO2e from baseline, by eliminating by replacing structural concrete systems with lighter materials such as wood, and specifying low carbon concrete for foundations and other strategic uses. Further reductions can be realized by assessing envelope systems, glass, and insulation.

5.8 Funding Opportunities

The evolving regulatory context to manage and reduce emissions is supported by a range of funding and grants to encourage low energy and low carbon buildings and infrastructure. The Pan Canadian Framework commits funding from the federal government in support, and the 2022 federal budget included $2.2 billion over seven years starting in 2022-23 to expand the Low Carbon Community Fund. One hundred million dollars of that allocation is set aside to support green building. Accessing these funds typically requires consideration of future climate conditions, demonstrated reduction of greenhouse gas emissions and aggressive energy reductions, along with leading inclusive and accessible design strategies, determined through engagement with community members and local Indigenous groups.

We recommend identifying funding sources early, and aligning design process, performance targets, and rating systems accordingly. Select grant funding and financing opportunities that support reduction in greenhouse gas emissions and energy currently available or anticipated to reopen in the coming months include but are not limited to:

Green and Inclusive Community Buildings Program:
This incentive program supports projects that reduce greenhouse gas emissions, conduct climate risk assessments, and focus on inclusive and accessible design. The Canada Green Building Council's Zero Carbon Buildings design certification is required for successful projects. This program is anticipated to re-open in the coming months.

Federation of Canadian Municipalities (FCM) :
FCM has various grants and loan programs that support reducing energy consumption and greenhouse gas emissions.

Anticipated federal funding:
In March 2022, the federal government announced the 2030 Emissions Reduction Plan, which creates a roadmap to achieving net zero emissions by 2050. The plan includes anticipated funding for existing building retrofits and high-performance new construction projects that significantly reduce greenhouse gas emissions and energy use.

5.9 Building Rating Systems

Green building rating systems are useful tools to advance project performance goals. Rating systems such as LEED and Passive House are often associated with sustainable design outcomes, and how successful a project may be relative to a perceived or desired threshold of performance. While rating systems offer many benefits, the main value is a framework for accountability. Formal, third party verified rating systems, ensure performance, and keep stakeholders accountable from project start to finish.

Rating systems are most effective if used as tools and methods to advance a project's vision rather than to set or define the vision. Rating systems are not contextual; some have mechanisms to respond to site and social context, but in general, they are composed of a set of universal performance metrics with defined methods of measurement. This aspect is a strength, it makes for clear and tested methods of assessment and offers tools that contribute to the rigour we need to understand impacts of buildings but applying them without understanding the nuance of local context and performance priorities of a project, can lead to weaker outcomes. Successful projects set aggressive performance goals and targets, then apply the assessment methods, tools, and process within rating systems to advance them strategically.

Rating systems offer a range of tools and methods; many address only one impact category such as Passive House and the Zero Carbon Building Program (ZCB), others are more comprehensive such as LEED. Passive House offers strong process, methods, and tools to guide design toward very low energy, highly comfortable, durable buildings, but does not address location impacts, site conditions, ecological systems, or health. LEED offers more comprehensive approach but is less focused with more options, and stepped thresholds for evaluating performance. There are also systems that focus exclusively on human health and accessibility, including the Rick Hanson Foundation Accessibility and Certification (RHFAC ®) program and the WELL Building Standard (WELL ®). Successful high performing projects are pursuing multiple certifications to ensure comprehensive performance and benefit from the strong recognition and market traction. Many aquatics centres across Canada are pursuing one or more of these rating systems to track performance, verify outcomes and benefit from recognition. Moreover, many grant and funding opportunities are tied to green building rating systems, to demonstrate greenhouse gas emissions reduction, energy efficiency, high quality accessible and inclusive design.

Relative to the cost of implementation and certification, rating systems offer exceptional value. As code requirements become more stringent and local commitments to performance more aggressive, the cost gap to meet and exceed the minimum requirements of voluntary rating systems closes. Saskatchewan's minimum energy code and Regina's climate commitments are already aligned with strong performance against the most applicable voluntary rating systems including ZCB, LEED, and RHFAC, meaning the cost impact of pursuing them are likely to be relatively insignificant for the benefit gained.

Rating system	Additional Capital cost to pursue
Passive House	~10%
LEED	~0-5%
RHFAC	0-1%
ZCB	<1%

While actual costs vary by location, market, typology, performance level, ranges are provided here for select third party rating systems, for reference and planning purposes only:

5.10 Recommendations

Regina's Energy and Sustainability Framework demands new infrastructure be future focused. Below are the recommendations we have for the City of Regina's New Indoor Aquatics Facility:

Design for the Future

- Conduct a climate risk assessment early in Schematic Design to identify anticipated shocks and stresses. Anticipated resilience considerations include planning for use as a cooling centre during extreme heat, optimized air filtration systems including minimum MERV 13 on outdoor and recirculated air to manage forest fire smoke events, and water re-use strategies to serve landscape irrigation in the driest months, to support the cooling effects of healthy vegetation around the building.
- Evaluate design strategies against acute and chronic climate stressors, in the short, medium, and long term.
- Require energy modelling to account for future climate conditions of 2050 and 2080.
- Consider community needs during acute climate events such as extreme heat/cold/smoke, including multiple, overlapping conditions, such as Covid-19, a smoke event and extreme heat.
- Evaluate cost over the short, medium and long term, considering the value of investment over the life of the building, community benefit. Require life cycle costing to account for results of predictive energy and emissions modelling, future energy costs and pricing.
- Go beyond the code (Supports Big Move #2): Saskatchewan has adopted and enforced the National Energy Code for Buildings (NECB) 2017 and we recommend exceeding this code by at least 25%. This will support a grant application to the Green and Inclusive Community Buildings program once it reopens and pursuit of the Zero Carbon Building Standard. Depending on timing, the new NECB 2020 may be enforced by the time of building permit. Exceeding the current code will likely facilitate meeting a new energy code.
- Require an all-electric system (Supports Big Move #3): Grid decarbonization is expected to reach a point where electrification is economically beneficial when considering emissions pricing (<10 years). Additionally, mechanical equipment that is available to the market today will continue to change as emissions standards from the Pan-Canadian Framework are enforced, potentially limiting availability of fossil fuel-based systems in the future. We recommend a heat pump-based system for this project.

Set Performance Targets

- Set aggressive but attainable performance targets for TEDI, TEUI, GHGI and air tightness and require reporting on them at major design milestones.
- Require water reuse. Aquatic infrastructure has high and constant potable water use. Reusing water from both process and fixtures can eliminate significant demand for irrigation and toilet flushing, as well as offer heat recovery opportunities.
- Set aggressive but attainable performance targets for all impact categories per the City of Regina Aquatics Framework including Ecosystems, Watershed + Site, Water Conservation, Energy Efficiency and GHG reduction, Climate Resilience, Sustainable Materials, Solid Waste, Food. Align the requirements with a verification strategy.
- Verify performance with Green Building Certification (Supports Big Move #2): Purse the Zero Carbon Building Standard - Design certification at a minimum, along with LEED and RHFAC to maximize the benefit of third-party verification and opportunities to align with grant and funding opportunities.

Passive First

- Apply a passive first approach for design decision-making (Supports Big Move #2): Optimize the architecture for best performance (orientation, window-wall ratio, shading, heat gain, natural ventilation) to minimize the intensity of active systems to meet energy demands and manage comfort.
- Maximize and optimize use of available natural resources. Use building performance analysis direct design strategies. For example, model the impact of solar heat gain to optimize the benefit and manage comfort. Understand the potential to benefit from solar exposure throughout the year to optimize the benefit of on-site renewable energy generation through PV or solar thermal systems.

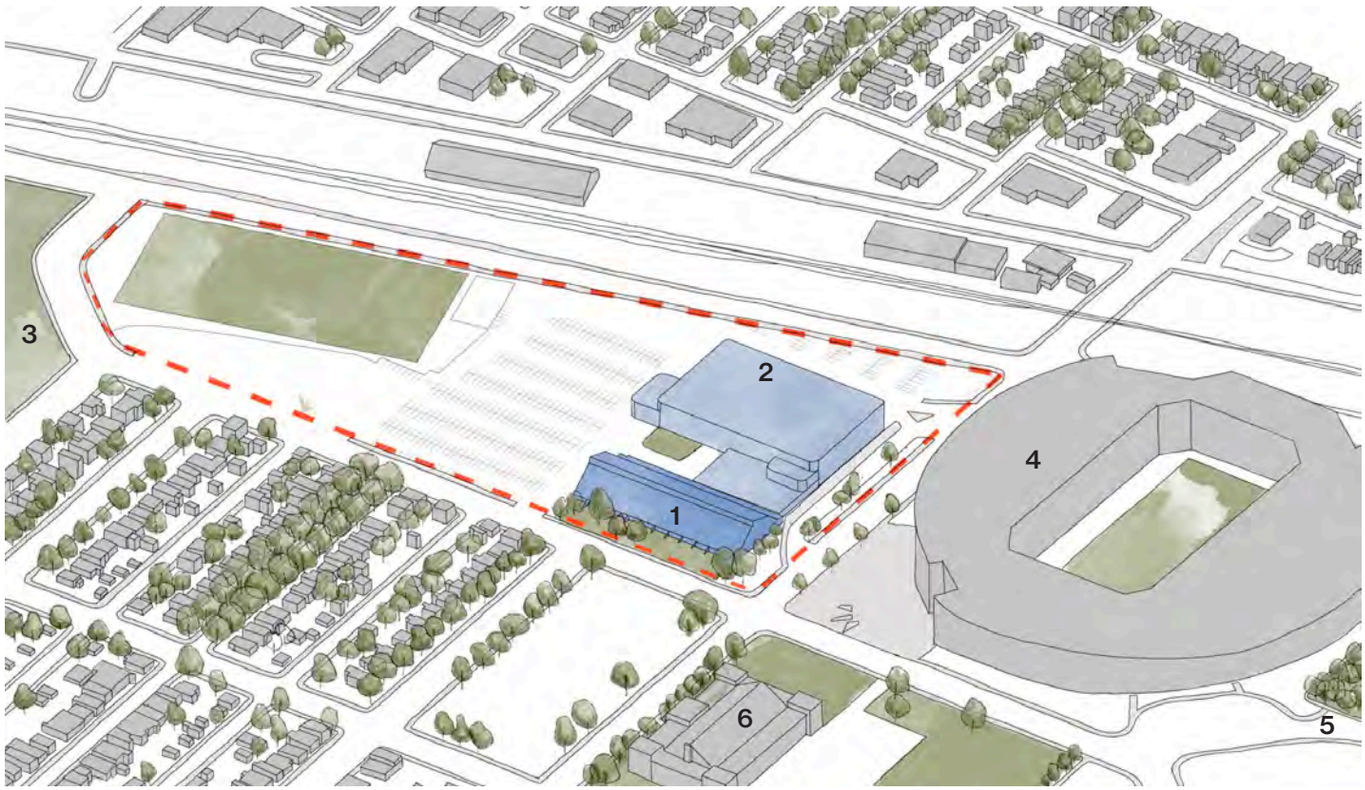
Optimize active systems

- Use a heat-pump based system, and eliminate fossil fuels completely.
- Install on-site renewable energy generation (Supports Big Move #4): Regina has some of the best solar photovoltaic potential in Canada and we recommend investigating a solar-PV integrated roof or parking structure system or a solar-ready system for both the roof and potential sturctured parking canopie.
- Consider InBlue pool filtration technology (Supports Big move #2): InBlue pool filtration is relatively new to North America (used at the City of New Westminster's təməsewtx Aquatic and Community Centre). InBlue uses regenerative media pool filters, which have a lower water consumption than traditional filtration system. Lower water consumption means less energy is needed to heat the pool.

6.0 Context, Site, Existing

6.1 Context

The green space around the immediate site serves a variety of functions in the community. Confederation park to the West of The Mosaic Stadium has cultural and historical significance acting as a place for gathering and displaying First Nations art around the perimeter. Urban green space exists both around the Regina Armoury and Lawson Aquatic Centre, and an athletics field on the East side of site acts as a place for community outdoor recreation.



Surrounding Buildings and Green Space

The Regina Indoor Aquatics Centre is to be located on the current Sportplex site in Regina, North-West of the city centre and North of the Wascana Lake and River.

1 **Lawson Aquatic Centre**
Existing aquatics centre on the North side of the site.

2 **Fieldhouse**
Existing recreation centre on the South side of the site.

3 **Taylor Field**
Old site of Mosaic Stadium located East of the site to be developed.

4 **Mosaic Stadium**
33 000 capacity football stadium

5 **Confederation Park**
Culturally and historically significant. Space for community gathering with First Nations art and historical displays

6 **The Regina Armoury**
Federal Heritage Building located North West of the site.

6.1.1 City Aquatic Facilities

Indoor Pools

Lawson Aquatic Centre

University of Regina Swimming Pool
6.6 km

Sandra Schmirler Leisure Centre
8.5 km

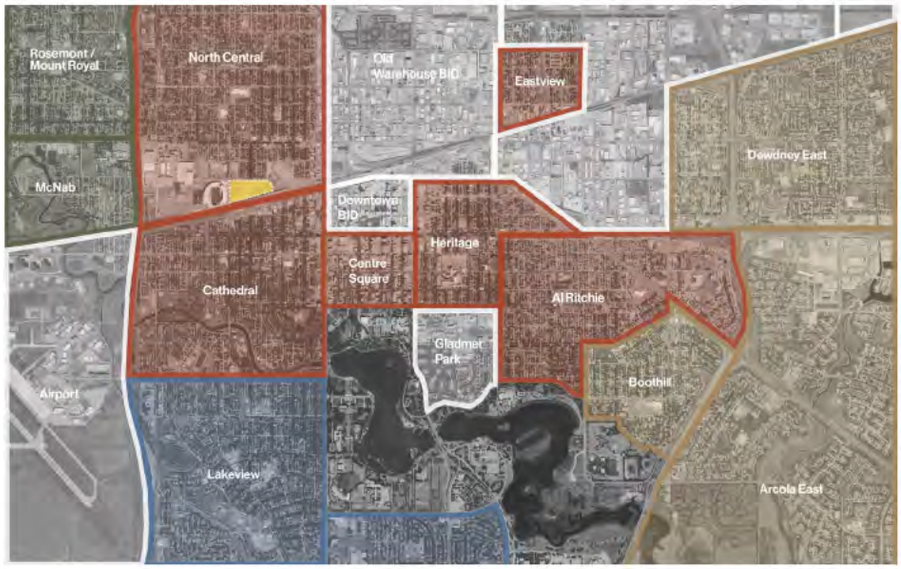
6.1.2 Neighbourhoods

Central Zone

West Zone

South Zone

East Zone



6.1.3 Zoning

Low Density Residential

Recreation

Commercial

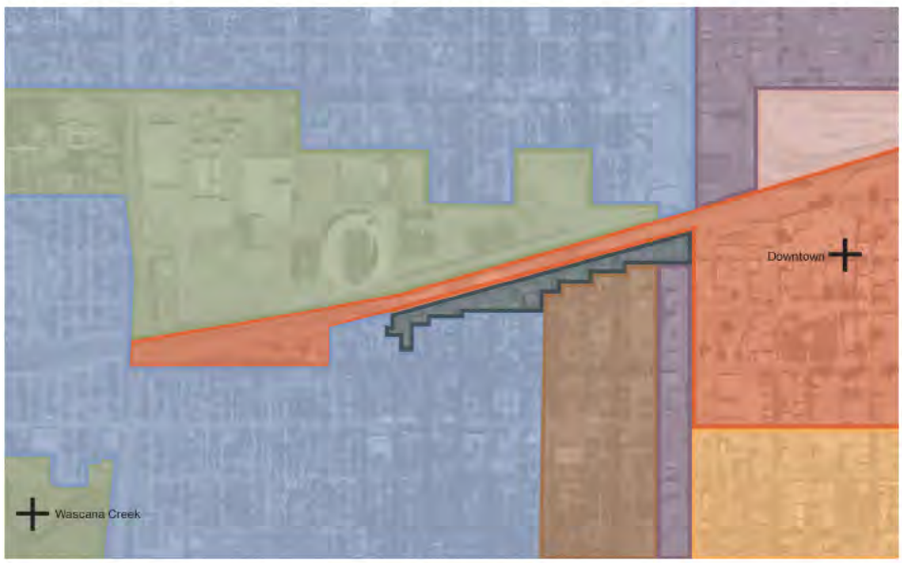
Mixed Commercial

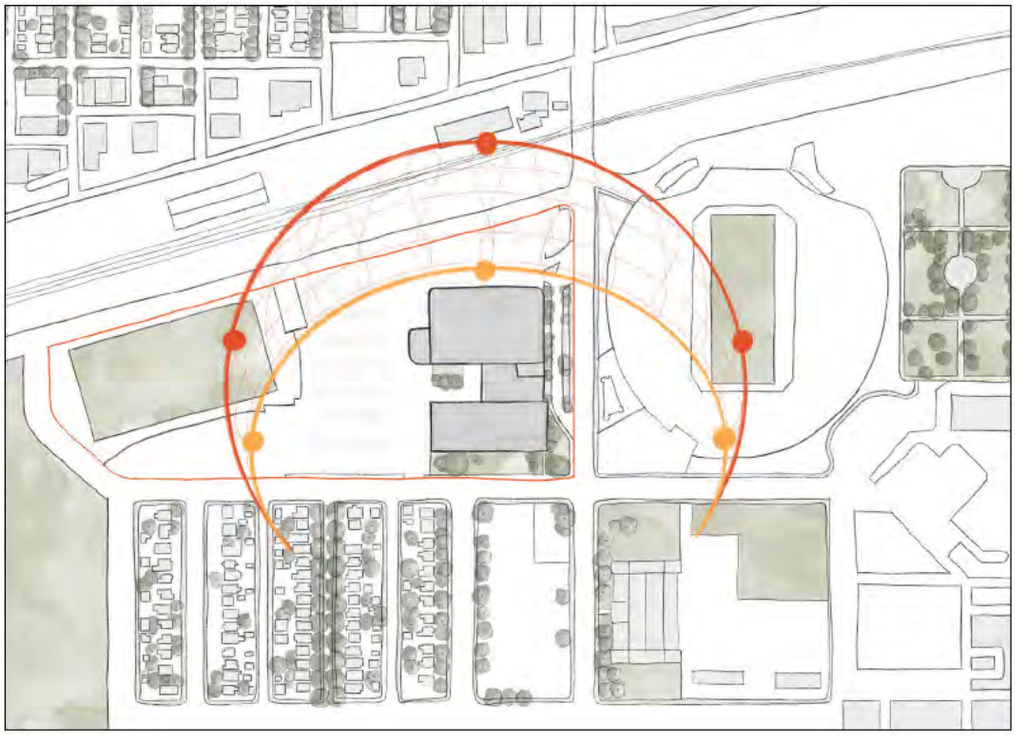
Medium Density Residential

Large Format Commercial

High Density Residential

Light Industrial





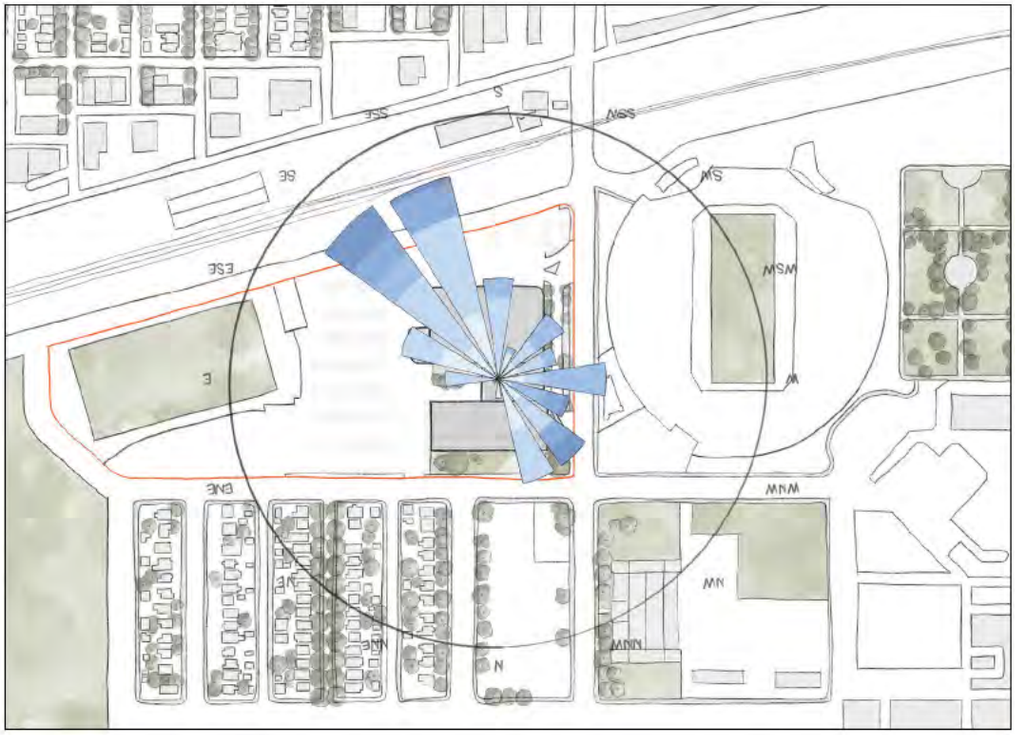
6.2.1 Solar Study

The site receives significant solar exposure in both the winter and summer due to its orientation and low-lying urban fabric.

The current massing provide for limited opportunities of solar exposure to the exterior deck making it less desirable most months of the year.

The new facility will priorities the south half of the site for exterior amenities and spaces that can benefit from longer solar exposure.

Summer Solstice
Winter Solstice



6.2.2 Wind Study

The site receives strong S-E & N-W winds creating a significant wind tunnel with the current massing. This renders the outdoors spaces East of the concourse less pleasant.

The future design will attempt to address the current wind tunnel and harness it for cross ventilation or and funnel is away from the outdoors and ground plane to create a more conducive exterior experience.

Mean speed: 10.9 mi/hr
30 km/h - Peak Frequency
SE - Peak Direction

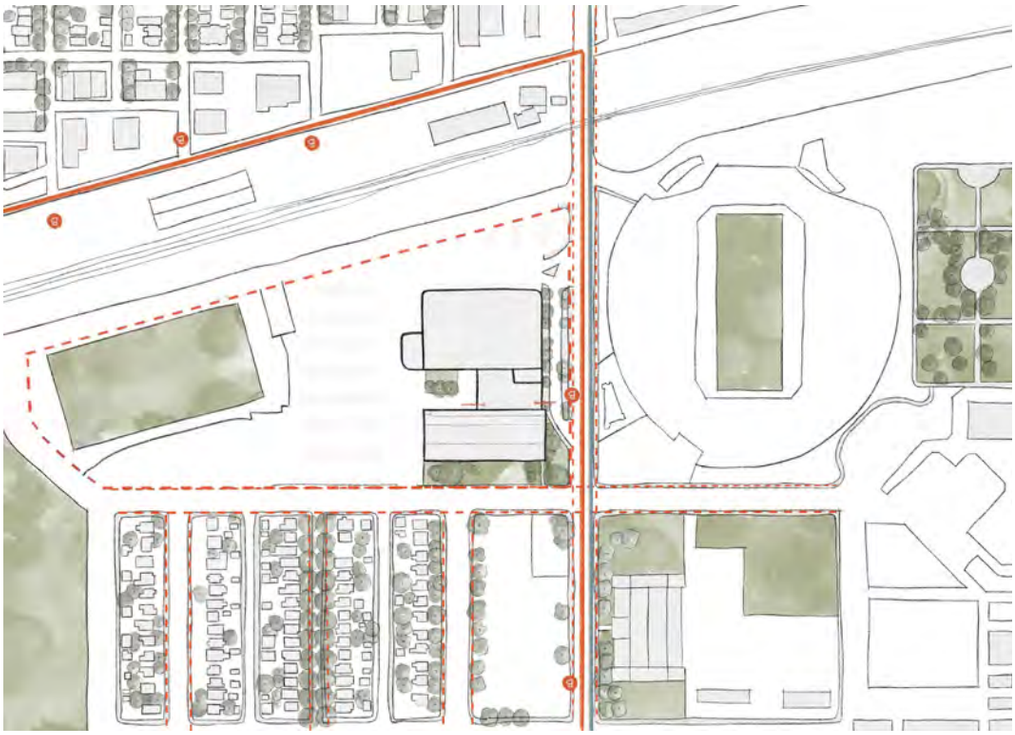
25-30 20-25 15-20 10-15 5-10 km/h

6.3 Access

6.3.1 Transit & Pedestrian Access

Bus routes run down Elphinstone St as well as Saskatchewan Dr. creating a strong pedestrian presence from the South side of the site.

The North side also has a strong pedestrian presence due to its adjacent residential neighborhood and the Mosaic Stadium Plaza. Currently no bicycle lanes or friendly roads exists around the site.



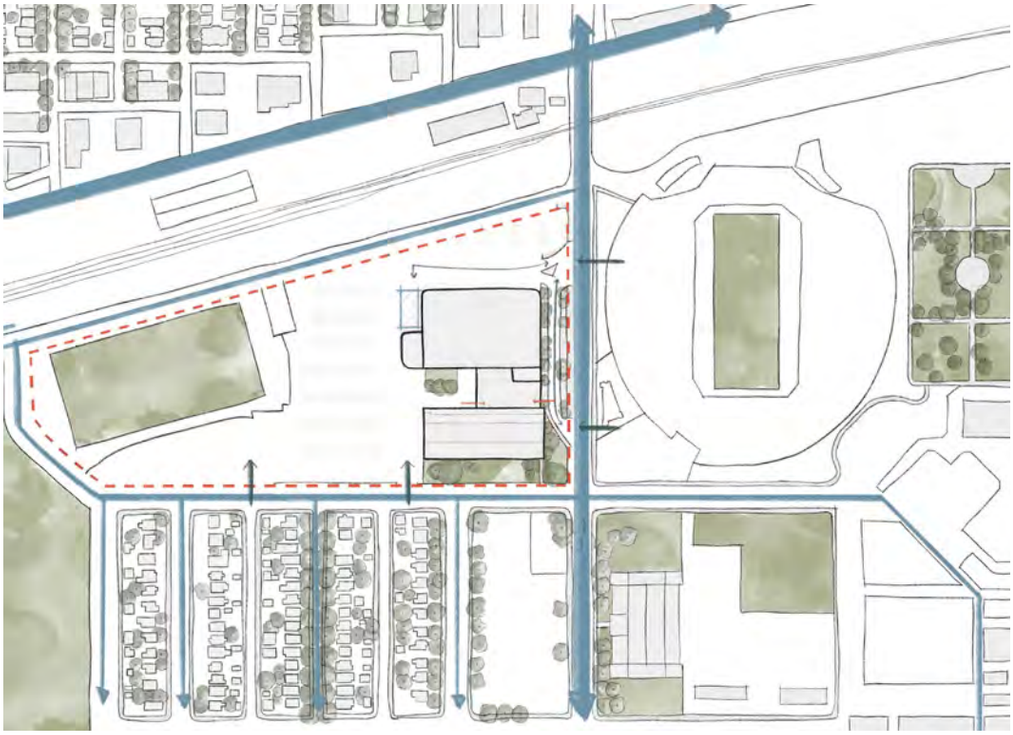
- Bus Route
- Bus Stop
- Bikeway
- Pedestrian Route
- Pedestrian Access Points

6.3.2 Vehicular Access

The site is flanked by a major artery on the East ,Elphinstone St., where the primary vehicular access and drop off are located Secondary entrances and parking access are situated to the North, along 10th Ave.

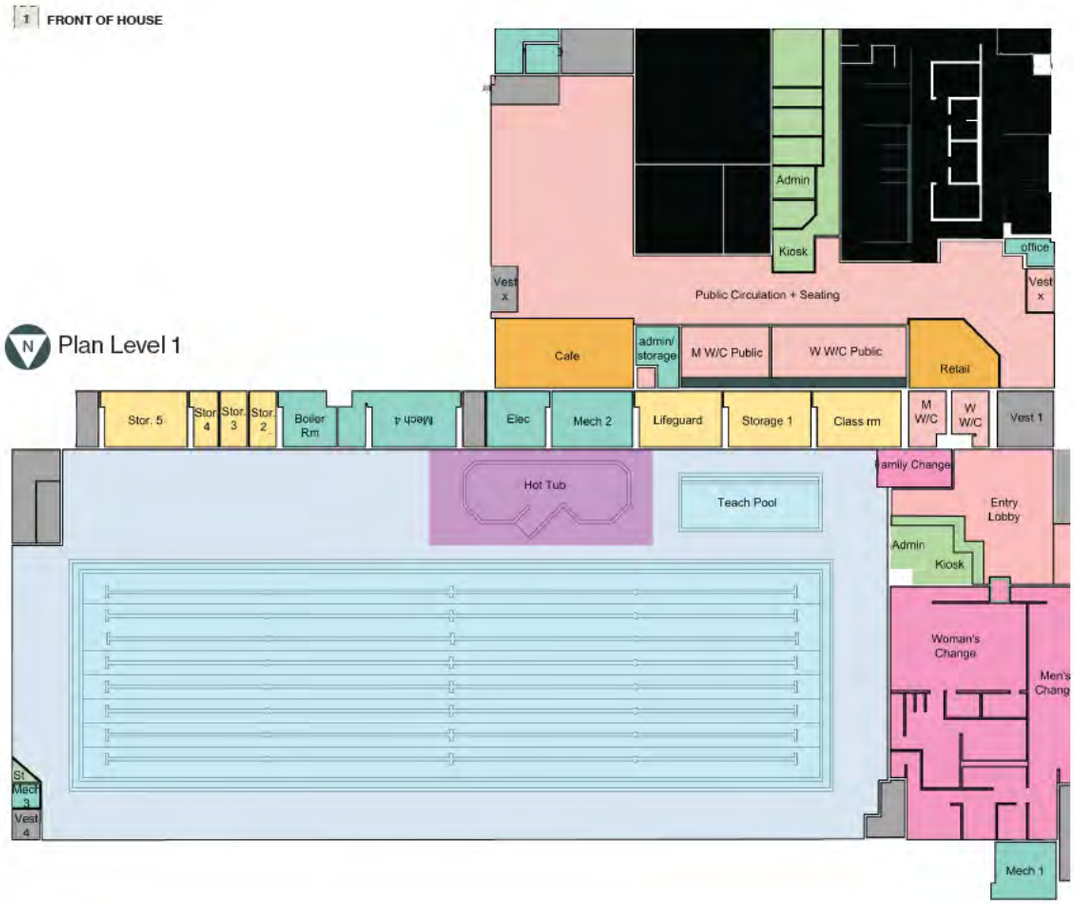
Smaller residential roads connect to the North boundary of the site.

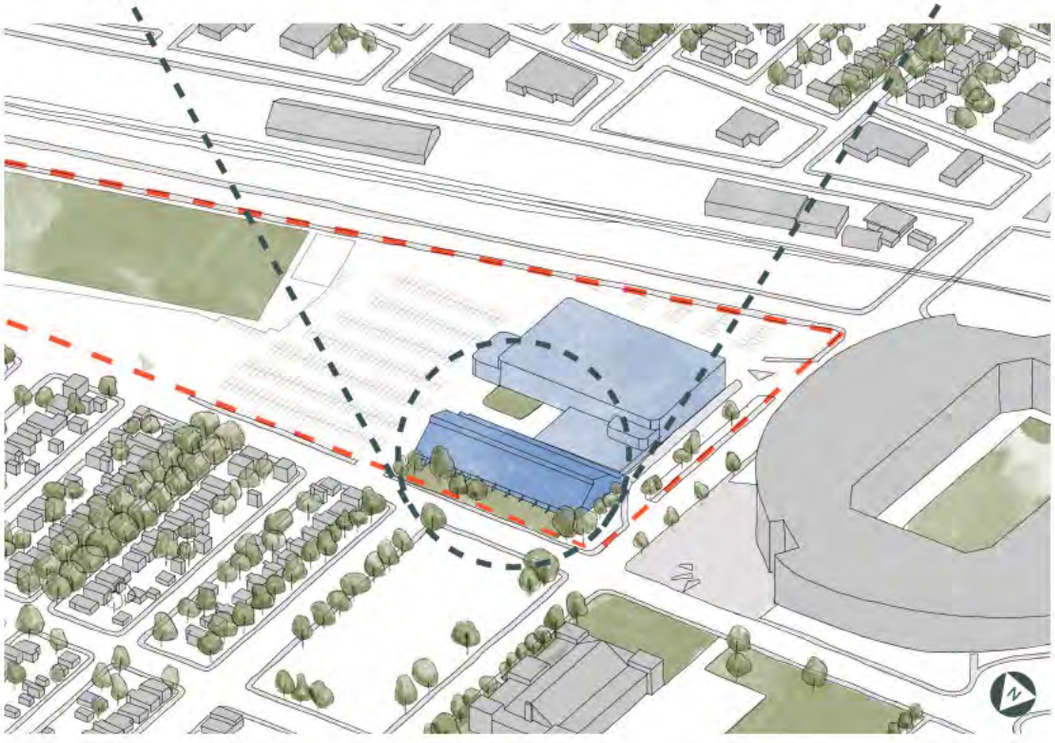
North Railways flanks the south edge separating the tracks and connecting back to Elphinstone St.



- Vehicle Roadways
- Vehicle Access Points
- Loading Zone
- Site Boundary
- Pedestrian Access Points

1 FRONT OF HOUSE





6.4 Existing Lawson Aquatics Centre Assessment:

Part of the due diligence conducted during the planning process included an assessment of the existing Lawson Aquatics Centre. This was done to understand the current state of the existing infrastructure in order to assess the suitability for expansion and costs required to sustain the existing structure over the long term. The assessment report, found in the appendix, is not an exhaustive assessment of the building but is intended to provide an overview based upon on-site visual observation, review of existing reports, interviews and discussions with the City of Regina Facilities representative(s), and application of Best Practice Design for Aquatic Facilities Including Accessibility. The following points summarize the findings of the report, the full report can be found in the Appendix.

Amenities & Features

1. 65m Lap Tank
2. Above gound hot tub & teach pool
3. Dive Tower 1m, 3m, 5m, 7m and 10m
4. 300 Spectator seats
5. Fitness
6. Strength & conditioning
7. Fieldhous: Tennis, Badminton, Basketball courts Oval Track, fitness, cycling, studios

A Best Practice Shortfall...

The LAC would not qualify for the Rick Hansen Foundation Accessibility Certification (RHFAC) because it does not meet the prerequisite of having all pubic areas of the building universally accessible. This would necessitate the installation of an elevator to the mezzanine level and a strategy to obtain universal access to the timer's/judge's box.

The main tank utilizes a gutter system that is not unusual in older facilities, but it does make accessing the main tank a significant challenge even for able bodied swimmers. No ramp or access with dignity is possible to the main lap tank.

The hot tub and teaching pool are not accessible without the use of a lift. The main change room is dated and does not meet the ideal ratios of contemporary models for inclusive design. Best practice would have 60% universal change facilities with 40% designated male and female.

	Capital Expenditure Forcast Summary			TOTAL
Discipline	Year 1	Year 2 - 5	Year 6+	By Discipline
Architecture	735,000	414,200	2,690,000	3,839,200
Building Envelope	15,000	180,000	3,769,000	3,964,000
Structural		2,000,000	150,000	2,150,000
Mechanical	265,000	2,282,500	1,950,000	4,497,500
Electrical	225,000	313,000	7,500	545,500
Civil - Short and long term infrastructure replacement		30,000	500,000	530,000
Civil - Parking lot renewal (replacement cost)			2,366,000	2,366,000
Total Per Year	**1,240,000**	**5,219,700**	**11,432,500**	
TOTAL ALL DISCIPLINES				**17,892,200**

The Lawson Aquatics Centre has been well maintained by the City of Regina with ongoing investments in building infrastructure and upgrades to specific areas related to programming and architecture.

The facility looks its age despite ongoing maintenance and upgrade efforts. Every discipline included in the report note that ongoing investment yearly will be required to prevent further deterioration, and some larger investments made to bring components up to current codes, or to replace end-of-life elements.

There are no major structural issues with the existing facility however there are some significant mechanical upgrades required despite the recent remedial work undertaken. As well, there is currently a risk that various electrical components could fail, necessitating a shut down of the facility until the fix could be completed. Replacement of mechanical and electrical systems with more modern and efficient equipment as end of life is reached will recognize an improvement in energy use.

The building envelope, however, presents a significant challenge given the lack of envelope continuity. The building also does not present to the public a contemporary architectural expression of a community gathering space and hub. It is a “black box” that does not engage the street or function as a beacon to the local community or the city. Coupled with the Fieldhouse the buildings are not welcoming nor do they advertise the range of activities that occur within through transparency. These are important considerations but are more philosophical in nature and have therefore not been included in the cost estimates.

The above table summarizes the expected costs associated with salvaging the existing LAC as part of the new indoor aquatics facility project.

7.0 Vision & Principles

Regina's Indoor Aquatics Facility is an inclusive, accessible and sustainable community hub and tourist destination – that creates vibrancy and improves quality of life for Regina residents and visitors for generations to come.

The project background, engagement findings and trend and best practices all provide guidance and influence related to what a new indoor aquatics facility in Regina should include and what needs it should meet. The Aquatics Review and Supply and Demand report, found in the Appendix, provides detailed information related to design and operational considerations related to equity and inclusion, climate, and public health.

Based on all information gathered to date, the following vision and principles have been developed to explain the strategic intentions of a new indoor aquatics facility and how it should be designed and ultimately operated. The vision and principles are key in making sure that the City's investment is optimized and that it can be leveraged to make maximum impact in the local area as well as the broader City and Region.

The new indoor aquatics facility will have a direct role in the development of individuals, communities, the economy and the social infrastructure in the City. It will be a best-in-class aquatic facility offering opportunities for recreation, leisure, therapy and competitive aquatic sports. The pools are to be complemented by robust support spaces – including well designed and supportive staff areas, safe inclusive and forward looking changeroom design strategies and extended dry land spaces such as fitness, wellness, and health programs.

The new indoor aquatics facility will be a hub of wellness and social connectivity. It will be fully accessible (beyond codes) and inclusive of all groups. It will contain spaces and amenities that support inclusion and reconciliation. It is anticipated that there will be commercial and retail partners. Finally, this project does not end at the building envelope but includes outdoor aquatic components and site infrastructure and planning to support the larger site developments and community connections.

A new Aquatic and Community Centre should provide a unique opportunity to develop a community asset that will:

- Be a **multi-faceted destination** and **community hub** that will serve residents and visitors of all walks of life for decades to come.
- **Improve the quality of life** for all residents and make Regina an attractive place to live, work and play.
- Support **excellence in competitive aquatics** with a facility that can host National competitions
- Achieve **ambitious sustainability targets** and be a cornerstone of the City's commitment to be 100% renewable by 2050.
- Create **a complete civic precinct** with enhanced vehicular, cycling, and pedestrian connections.
- Expand the city's **outdoor amenities** which support open air community and sports events
- Be an exemplary facility in providing **enhanced inclusive & accessible environments**
- Demonstrate leadership and commitment to **reconciliation**.

8.0 Program

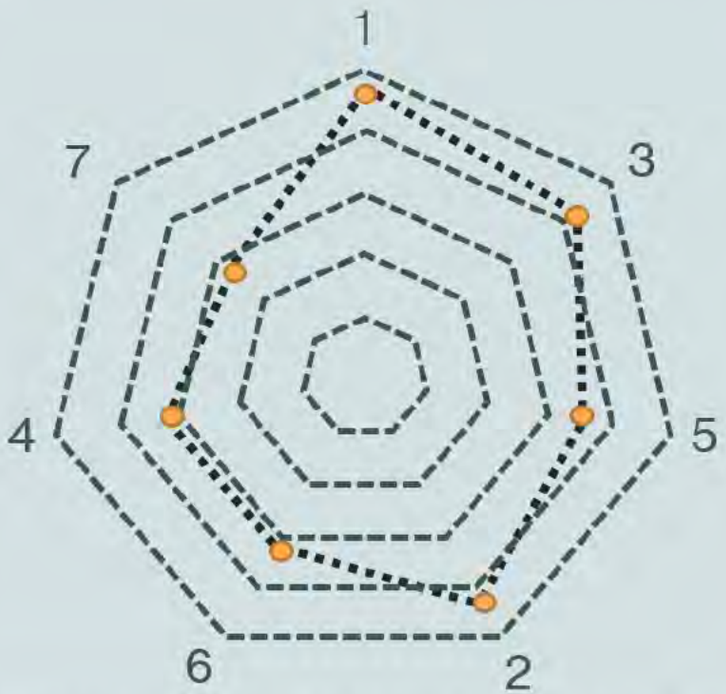
8.1 Programatic Needs

The Aquatics Review and Supply and Demand report, found in **Appendix B - Engagement**, provided important information related to the strategic underpinnings of a new facility (as demonstrated in the vision and guiding principles). The report also provides insight as to the optimal program balance between the seven activity types. Throughout the report, a radar diagram is used to show the balance between the different activity types that each influence suggests. The report culminates in the following overall balance.

As can be seen, there is pressure for this new facility to meet demands for all activity types, including almost an equal focus on recreation and leisure and sport training elements as well as substantial attention to skill development, therapy, fitness, and special events.

This balance has been translated by the design team into the following four program options.

Although each of these options would lead to enhancements of the indoor aquatics in the City and further meet the vision, principles and broader community goals outlined in this study, it is recommended that the New Build option should be pursued by the City. Based on this recommendation, the following concept designs, capital and operational costing, and economic impact analysis have been completed.



Priority Spidergram

1. Recreation & Leisure 2.Sports Training 3.Skill Development 4.Therapy & Rehabilitation 5.Fitness 6.Special Events 7.Leadership Training

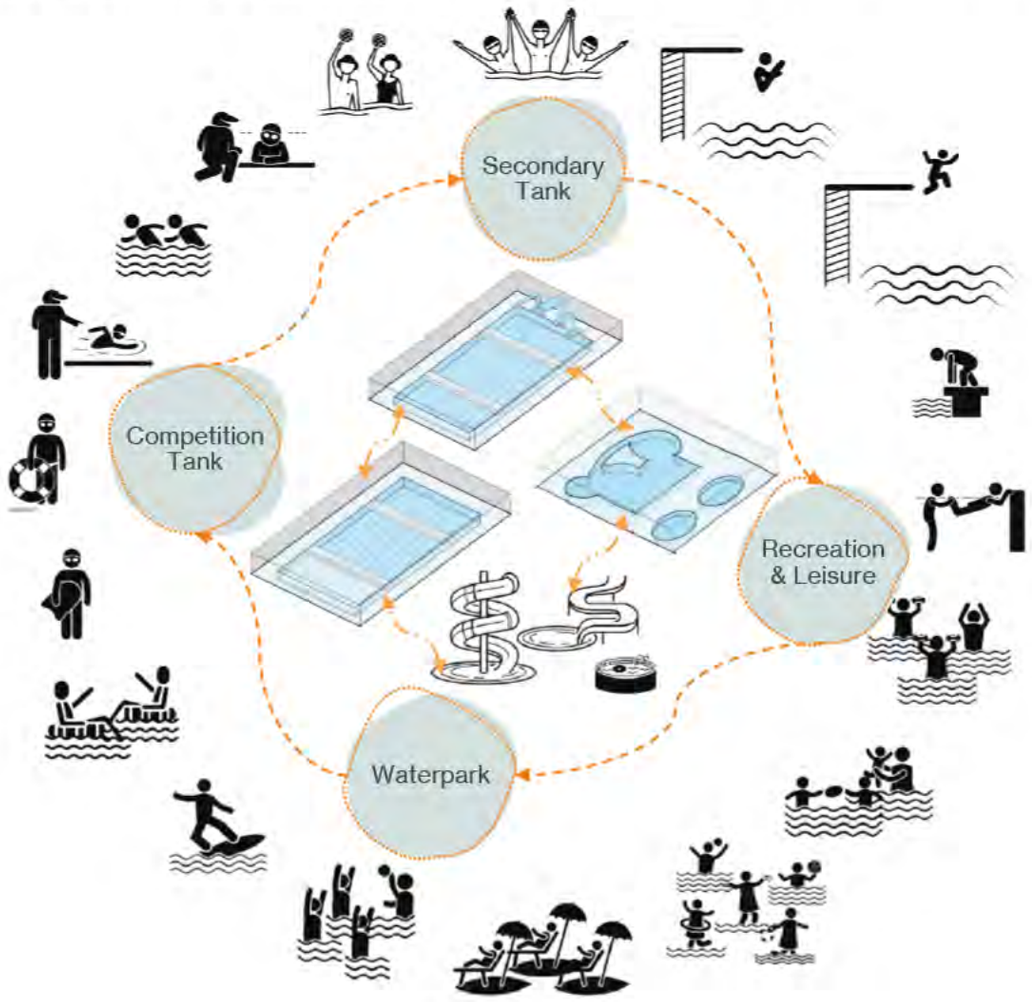
The spaces and activities provided by pools can enhance physical and social health and well-being, contribute to community and economic development, and address challenges related to physical inactivity, mental health, chronic conditions, providing safe spaces for reconciliation and inclusion initiatives, and facilitating community cohesion.

8.2 Programmatic Synergies

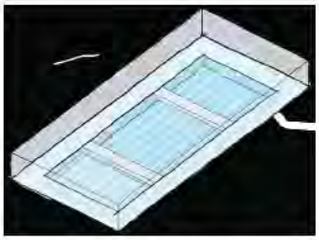
Deciding on a proposed aquatic program can be a complex process, being based on a number of factors that range from demand, future needs and emerging trends, as well as a community's identity and aspirations. The City's approach to assessing indoor aquatics opportunities is focused on seven different functions that can occur in a pool setting including:

1. Front of House; A group of administrative spaces that includes reception, offices, meeting and staff rooms.
2. Fitness; Dedicated fitness studio containing cardio and weights machines as well as free weights, and stretching areas.
3. Competition & Training; Lane swimming and structured aquacise / fitness classes and aquatic sports.
4. Leisure & Recreation; Swimming for fun with specialized amenities like waterslides, wave pools, lazy rivers, play equipment, etc.
5. Rehabilitation; Therapy and rehab for those with varying abilities and those recovering from surgery or injury, zero entry access and some assisted support for access
6. Aquatic Support & Amenities; Spaces that support aquatic activities including Change rooms, Diving Boards, Spectator Seating and Staff support spaces.
7. Community & Shared Space; Multipurpose, Gymnasium and cultural spaces

For this feasibility study, all research and engagement focused on uncovering which of these programs are to be enhanced as part of the new facility design. The Option Comparison Table for the Aquatic and Community Centre in Section 8.4. There are 4 options presented; Functional, Optimized, Enhanced and Renovate + Addtion. Each highlight the various scales of program components, cost and opportunity for future growth.



8.3 Major program components



Lap Tank

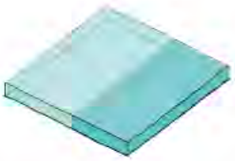
- 25X50m, 10 lanes
- 10x Long course lanes
- Bulkhead - 20 shortcourse lanes
- 10x - removable starting blocks
- 1x water polo field of play
- Aquacise/lessons area

Warm-up Tank

- 25X30m, 10 lanes
- International level Fields of Plays :
- - 1x water polo
- - Synchro/Artistic swimming
- - Diving platforms (1m, 3m, 7.5m, 10m)

Leisure tank

- Zero-depth entry
- 1x Tot-zone w/ water feature toys (0-5)
- 1x Lazy river
- 3x 25m swim lesson lanes (5-12)
- 1x Accessible slide
- 1x basketball hoop
- 1x Climbing wall



Water Park & Exterior Leisure

- 3x High slides
- Extreme ride(s)
- 1x Tube/raft/drop slide(s)
- Interior/Exterior lazy river
- Sun deck w/ lounge chairs
- Wave Pool / Moving water tank
- Fire pit w/ Lounge chairs
- Concession (indoor/ outdoor)
- Parent supervision area
- Access to leisure/toy storage, classroom(s), lifeguard & first aid room

Hot Zone

- 1x Hot tub – Adult
- 2x Steam Room(s)
- 1x Sauna
- 1x Plunge (cold)

Therapy & Wellness

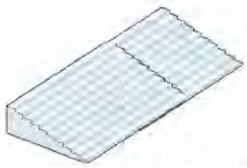
- 1x Hot tub – Therapy
- 1x Multipurpose room – Rehabilitation room
- Rest/Wellness deck area

Diving

- Diving boards, platforms, and dive towers1m, 3m, 5m , 7.5m, 10m
- Diving boards – springboards mounted on diving stands with movable fulcrums
- Dry-Land Training
- Landing pads – stacked or foam pits
- Trampolines
- Crash mats
- Somersault boxes
- Stretching mats

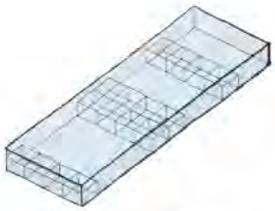
Deck

- Judging/Officials Area
- Secretary/Medical table
- Press stand
- Medal ceremony area
- 400-500x Coaches/Athlete seats
- Athletes hot tub
- Sports group dedicated storage
- Access to classroom(s), lifeguard & first aid room



Spectator Seating

- 1200-1500 Spectator seating

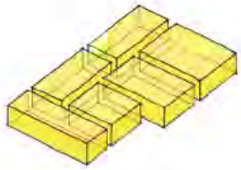


Change Rooms

- Universal change
- Female change
- Male change
- Team / group change
- Staff change

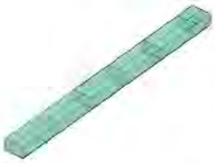
Other Support

- Media box
- Aquatic classroom
- CoR Sport program storage
- CoR Leisure program storage
- User group storage
- First Aid Room
- Lifeguard Room
- Bulkheads & provisions of timing equipment, starting blocks
- Scoreboards / video-boards



Administrative

- Receiving, Admissions & Cashier
- 4x Admin offices
- Admin open workstations :
- 20x admin staff open workstations
- 5x facility staff o.wsts.
- 25 lifeguards
- Copy/Supply
- 1x Staff lounge
- 1x meeting room
- 1x Bookable shared multipurpose room

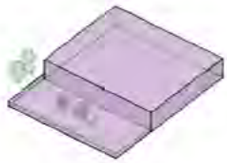


Washrooms

- Accessible Washrooms
- Gender neutral private stalls & shared vanities
- Outdoor Washrooms/Changerooms

Cultural Space

- Social heart & entry atrium, community space
- Cultural / ceremonial space
- Elders room
- Community kitchen



Lease Spaces

- Retail / business area(s)
- Not-for-profit lease space
- Concession / food & beverage area(s)
- Complimentary professional lease space
- Major program lease spaces

Multi-purpose rooms

- Indoor Play ground
- Parents Viewing Area
- 2x large multipurpose
- 1x small multipurpose
- 1x Child minding

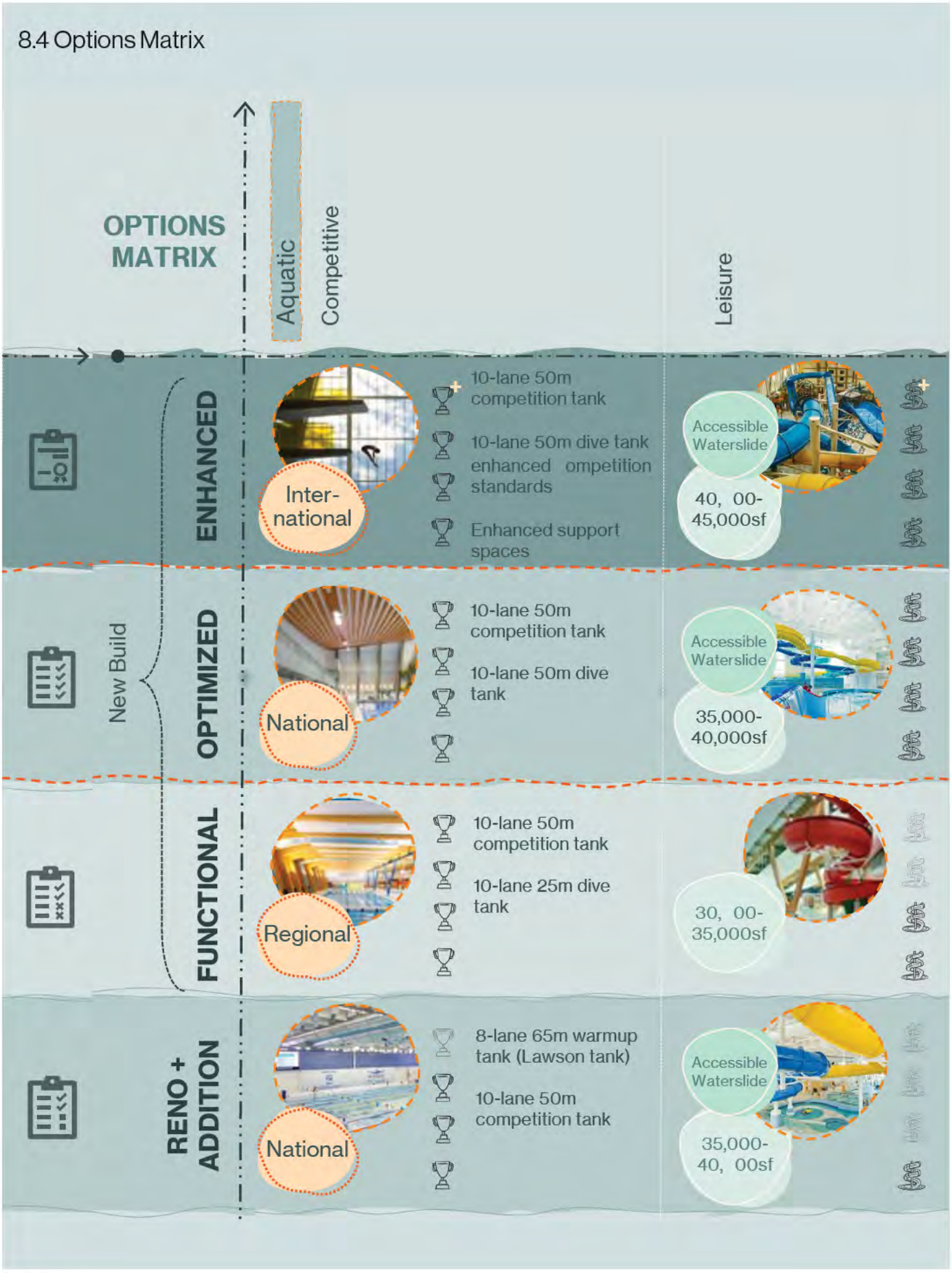
Strength & Conditioning

- Cardio machines
- Strength machines
- Stretching / balls
- Fitness open area
- Consultation / testing room
- Convenience accessible WC x3
- Group fitness storage
- Fitness equipment repair room
- 1x Large fitness studio (cap. 40)
- 1x Small fitness studio (cap. 20)

Gymnasiums

- Gymnasium
- Basketball court
- Court Sports
- Lounging area for viewing

8.4 Options Matrix



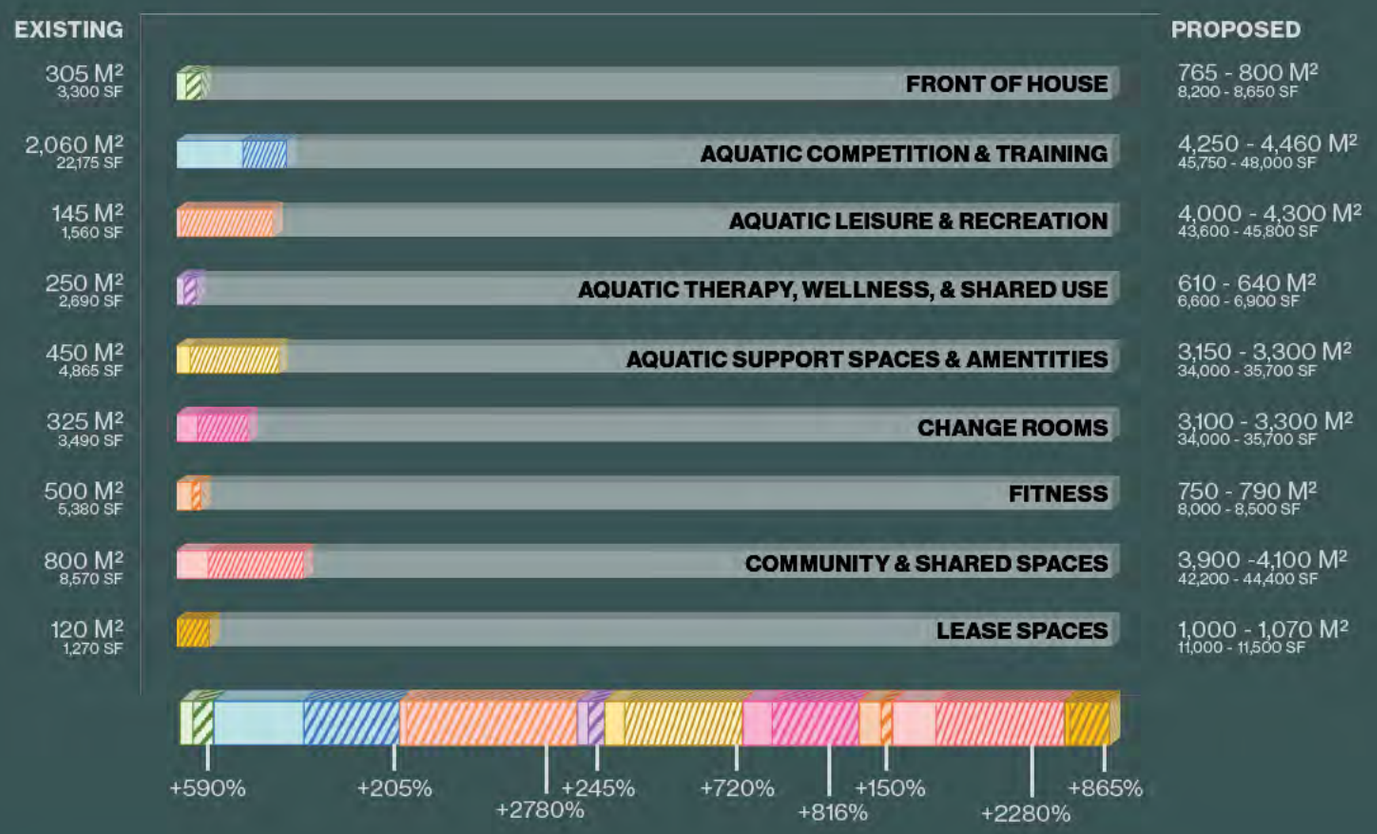
Community
Support
Other Programs
Sustainability
Accessibility
Construction Cost
Capital
Optimised Operational
Economic Spin-off
Pro/con
Phasing Challenges
Future Demand
Expandability
Draw & Attraction
~25%>
~$183M
~%
~$146.2M
* Rev ewed & Endo sed by the CAC
~25%<
~$110M
~25%<
~$144.7M

SPACE NEED SUMMARY		Recommended	
	Program Components	Area (SM)	Area (SF)
1	**Front of House**		
1.1	Receiving, admissions, & cashier	300	3,229
1.2	Admin offices	64	689
1.3	Admin open work stations	355	3,821
1.4	Copy/supply room	12	129
1.5	Staff Lounge	16	172
1.6	Meeting Room(s)	18	194
	Subtotal	765	8,234
2	**Aquatic Competition & Training**		
2.1	Long Course Competition Tank	1,250	13,455
2.2	Secondary Tank - Warm Up/Dive Tank	1,250	13,455
2.3	Deck area	1,750	18,837
	Subtotal	4,250	45,747
3	**Aquatic Leisure & Recreation**		
3.1	Leisure Tank	700	6,997
3.2	High Slides	180	1,938
3.3	Extreme Ride(s) (tube slide)	150	1,615
3.4	Outdoor aquatic component (hot tub)	120	1,292
3.5	Lazy River	590	6,351
3.6	Wave pool/Moving Water Tank	340	3,660
3.7	Deck area	1 64	17 680
	Subtotal	3,723	40,069
4	**Aquatic Therapy, Wellness, & Shared Use**		
4.1	Hot tub - Adult	150	1,615
4.2	Hot tub - Athlete	60	646
4.3	Hot tub - Therapy	25	269
4.4	Plunge	15	161
4.5	Multipurpose Room - Rehabilitation Room	0	0
4.6	Steam Room(s)	22	237
4.7	Sauna	15	161
4.8	Deck area	350	3 76
	Subtotal	637	6,857
5	**Aquatic Support Spaces & Amentities**		
5.1	Spectator seating (national comp. standards)	1,556	16,749
5.2	First Aid Room	10	108
5.3	Lifeguard Room	80	861
5.4	Bulkheads and provisions of timing equipment, starting blocks	-	-
5.5	Scoreboards/videoboards	-	-
5.6	Diving boards, platforms and dive tower	100	1,076
5.7	Media Box/Judging Box/Area		-
5.8	Dryland Training Studio	240	2,583
5.9	Aquatic Classroom(s)	120	1,292
5.1	CoR Sport Program Storage	200	2,153
5.11	CoR Leisure Program Storage	200	2,153
5.12	User Group Storage	650	6,997
	Subtotal	3,156	33,971
	Dash (-) indicates area incorporated elsewhere		
6	**Change Rooms**		
6.1	Universal change	1,200	12,917
6.2	Female change	600	6,458
6.3	Male change	600	6,458
6.4	Team/Group Change	200	2,153
6.5	Staff change	117	1,259
	Subtotal	2,717	29,246

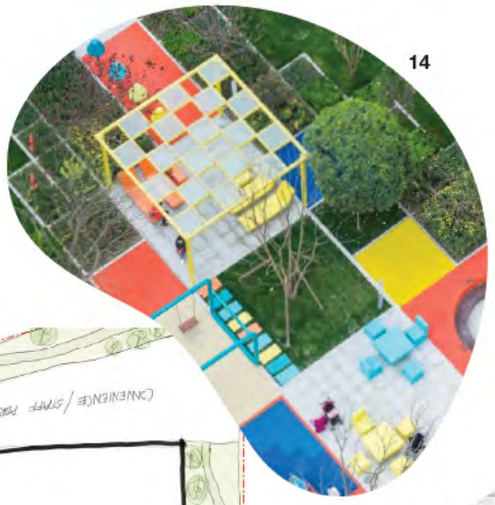
SPACE NEED SUMMARY		Recommended	
	Program Components	Area (SM)	Area (SF)
7	**itness**		
	reng h & Condit o ing	6	6 458
	Stud os	150	1,615
7.3	Cycling	0	0
7.4	Badminton		0
	Subtotal	750	8,073
8	**Community & Shared Spaces**		
1	Gymnasium c/w full size basketball court		0
2	Lounging	200	2 153
3	Pa ent viewing	175	1 8 4
4	K ds area in luding indoor layg ound area	200	2 153
5	Mult purpose Community Rooms	557	6 000
6	Washrooms	300	3 229
7	Ou oo Washrooms/Changerooms	40	431
8.8	Child Minding	225	2,422
8.9	Social Heart & Entry Atrium, Community Space	600	6,458
8.1	Cultural/Ceremonial Space(s)	100	1 076
	Subtotal	2,397	25,806
9	**Lease Spaces**		
1	Re ail/business a ea(s)	20	2 153
2	No -f -P ofit Lease Spac	75	807
3	ncession/food and beverage area(s)	15	1 615
4	Complimentary Professional Lease Space	200	2 15
9.5	Major Program Lease Spaces	396	4 263
	Subtotal	1,021	10,990
10	**Back of House**		
1	Bui ding Mechanical & Electrical Rooms	900	9,688
2	Po l Mechanical	1	10 764
	Crawl Spac	2,000	21,528
10.3	Building Operator (custodial) Space	250	2 691
	Subtotal	4,150	44,671
11	**Circulation, Structural Footprint, & Misc Space**		
1	Ci cula ion	2,357	25 366
11 2	ru tural Footprint	943	1
	Subtotal	3,299	35,513
12	**Outdoor Spaces**		
12.1	Site development including parking lot for staff parking, accessible parking, and bus access	5,000	53 820
2	Trai s, Social Gathering, Landscaping	20,000	215,2 0
3	Basketball court, Outdoor Amenities	90	9 88
12.4	Accessible Recirculating Spray Pad	150	1,615
12.5	Accessible Play/Playground Area(s)	700	7 535
12 6	Outdoor seating area(s) connected to facility and concession(s)	3,000	32,292
12.7	Adjoining facilities	-	-
12.8	Space, amen ties, desig e ements in support of Social and Cultural initiatives including truth and reconciliation	-	-
12 9	Fenc ng, la dscaping, traffic control and roads	-	
12.10.	Skate Park	0	0
	Subtotal	29,750	320,229
	Total Interior Space	26,865	289,176
	Total Exterior Space	29,750	320,229
	Total Parking Spaces	18,200	195,905

9.0 Concept Design

Prior to beginning the design work on the site, various consultants and the client group members worked to determine the overall building program, traffic planning, sustainable strategies, feeding information into the site planning and test fits.



Spatial Relationships - Bubble Diagram in Progress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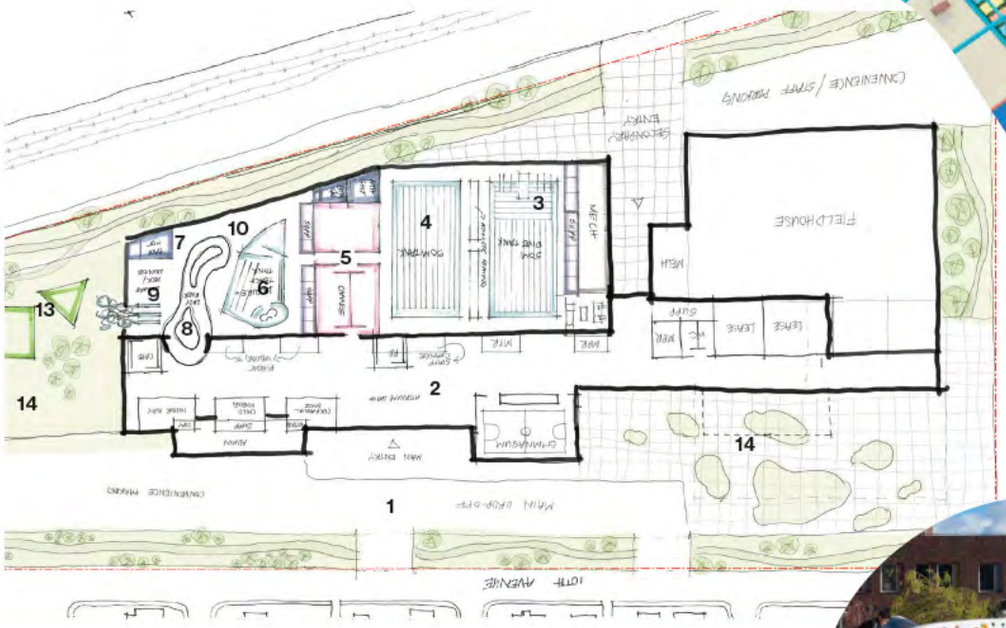
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10TH AVENUE
FIELD HOUSE


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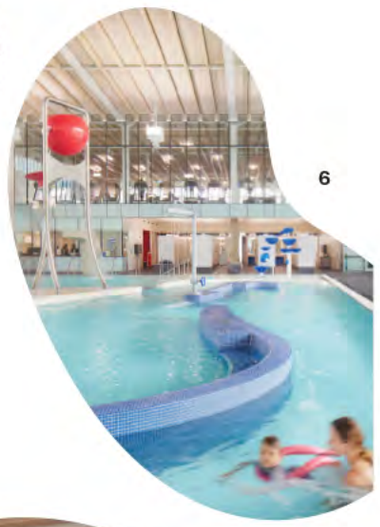
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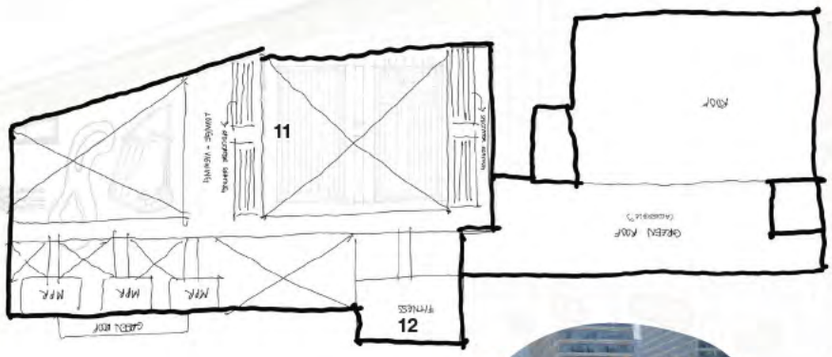
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12
ROOF
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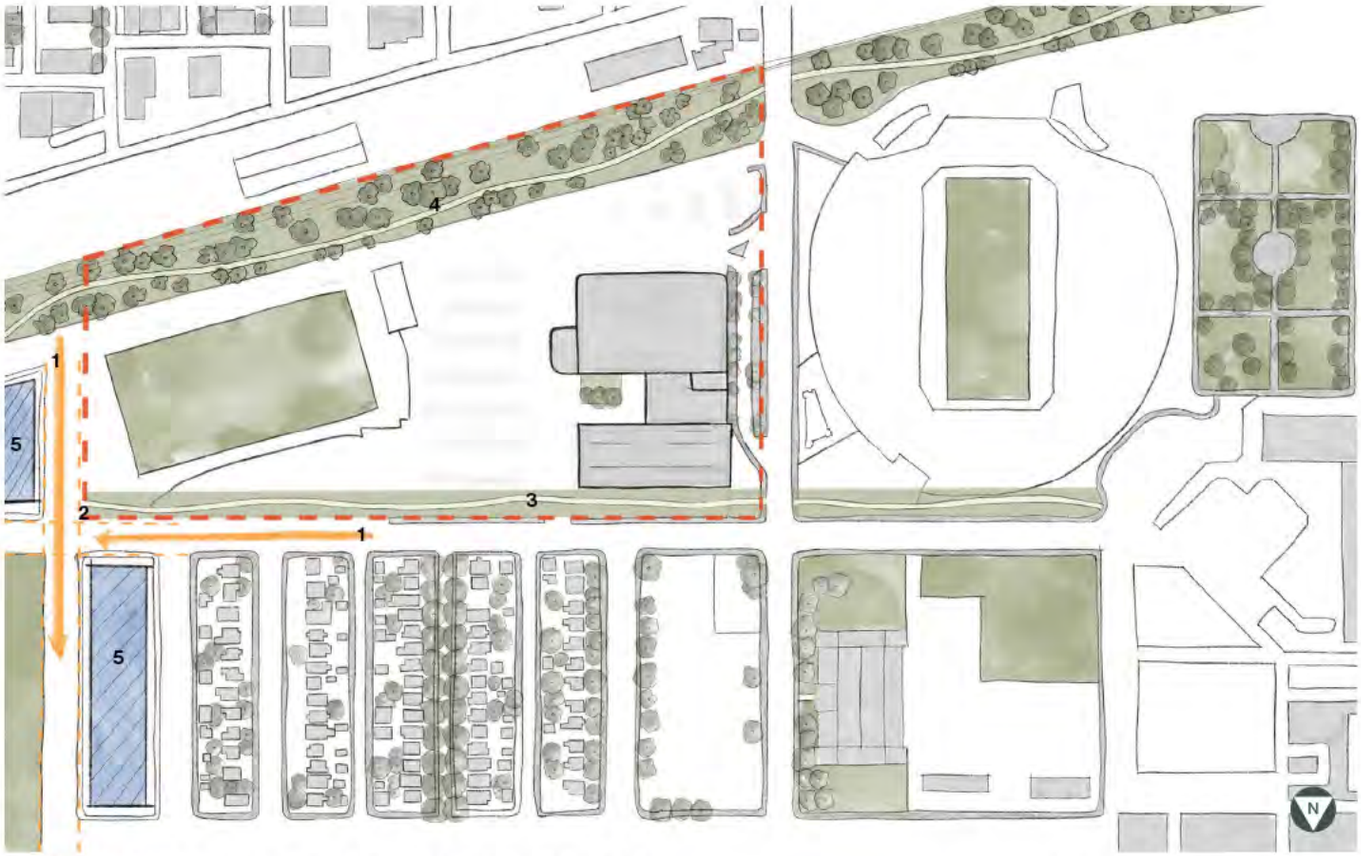
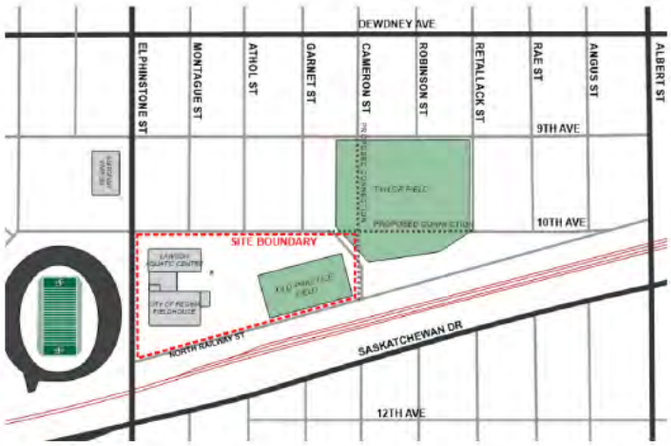
9.2 Future Urban Opportunities



The City of Regina is implementing more bike routes over the next 5 years in a phased approach. The plan shows that is 2021-2022 a bike lane will occur on Elphinstone St, running past the West side of the site. The future green-way or "Multi-Use Pathway" intended to run along the railway is also in the plan. It is important to note the future pedestrian and cycling routes as it will influence the flows and traffic. As the site sits in the middle between the Wascana Creek and Downtown it is probable the site will become heavily populated by cyclists and pedestrians.

1 Road Extension
2 New Site Boundary
3 East / West Pedestrian Connector
4 Future Green-way
5 Future Residential Development

Planning of this project needs to anticipate that 10th Avenue will develop as an east – west connector. Future development of the Taylor Field site is expected to reinstate previous street grid connections, thereby linking the stadium and REAL site to the downtown street network.



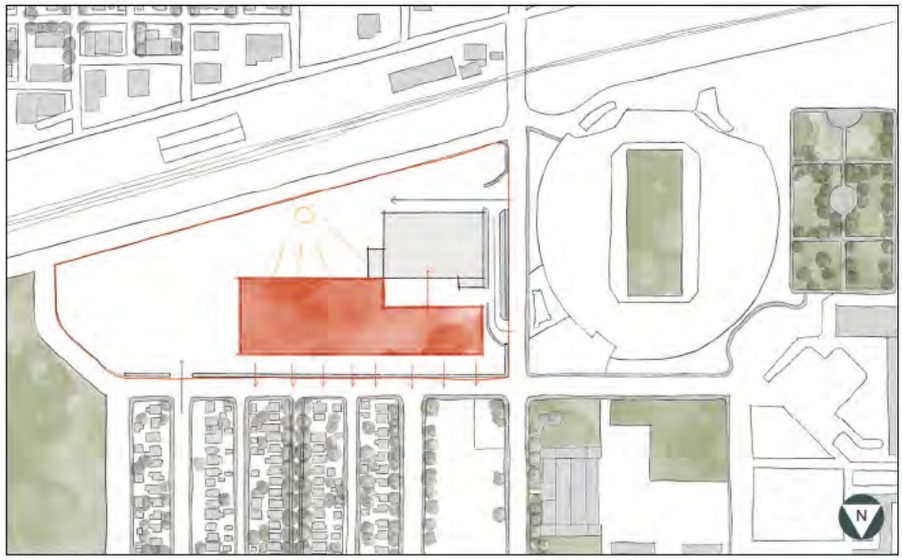
9.3 Siting Strategies

A series of test fit studies were conducted for three possible areas that the building could be located on the Sportplex site. Each option has its unique relationship to the adjacent streets, existing Fieldhouse and surrounding context.

9.3.1 Test Fit Layout A

Situating the mass of a new facility, elongated parallel to 10th Ave allows for:

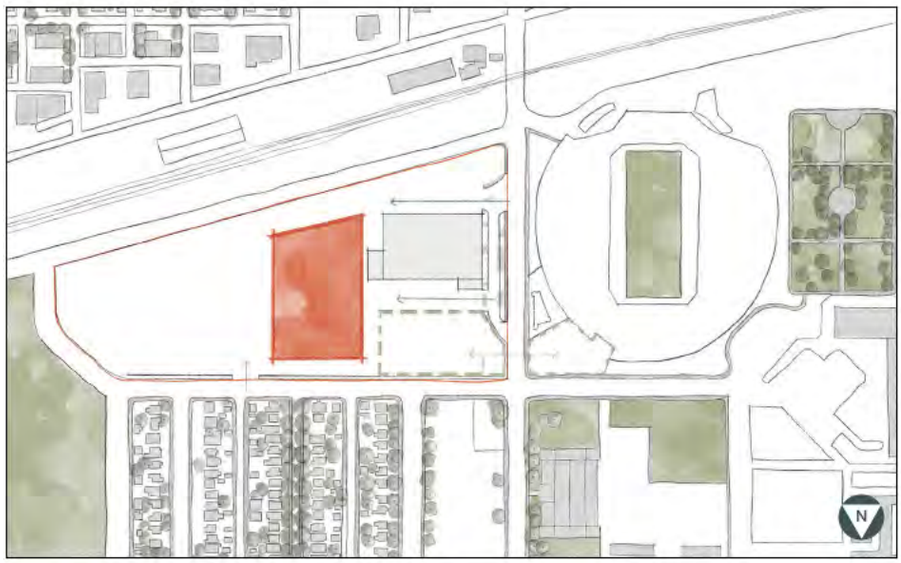
- activation of the street edge
- direct connection of facility with the residential community to the North
- a natural relationship with Fieldhouse



9.3.2 Test Fit Layout B

Situating the mass of a new facility, centred, compactly on site allows for:

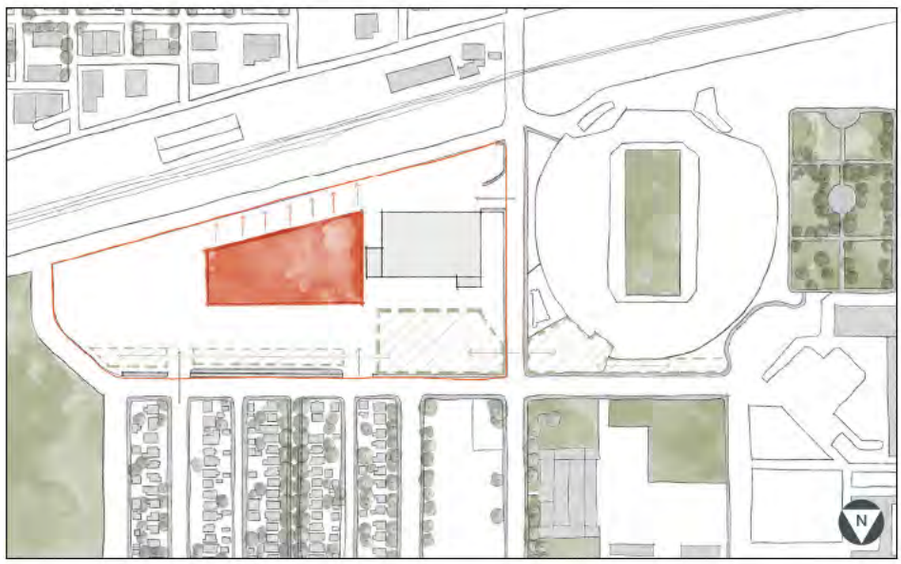
- a natural opening at the NW of the site, that mirrors the Mosaic Stadium Plaza
- easy access from both Elphinstone + 10th Ave
- connection of facility with the residential community to the North



9.3.3 Test Fit Layout C

Situating the mass of a new facility, favouring the angle south edge allows for:

- plays with synergies of opening a civic facade and activating the potential new green-way along railroad
- maximizes opportunities for leisure program sun exposure
- a natural opening at the NW of the site, that mirrors the Mosaic Stadium Plaza
- creating of a prominent green-way all the way along 10th ave that softens the relationship with the residential community to the North



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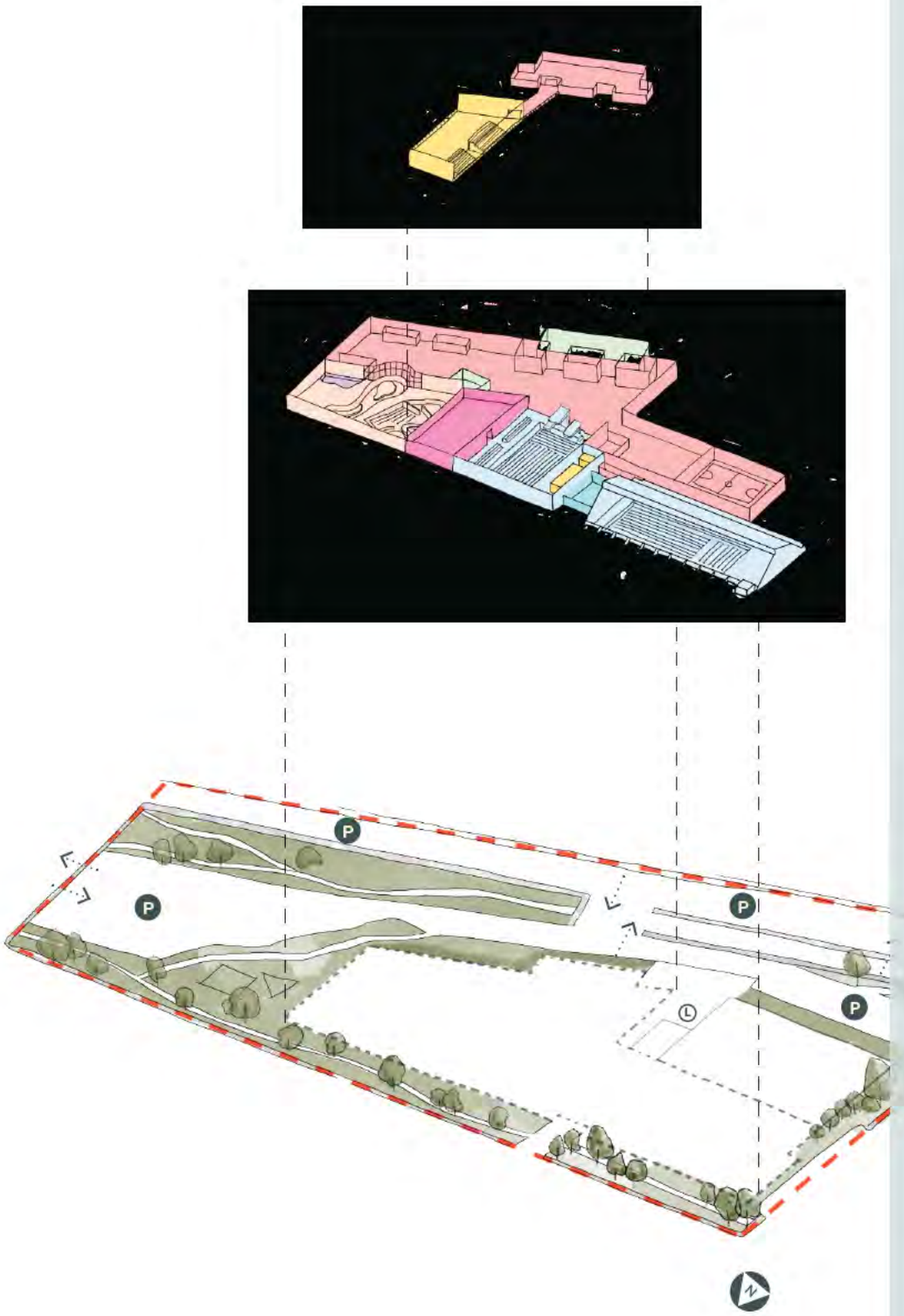
9.4 Concept Option 1 - New Build



Indoor Amenities & Features

- 50m 10-lane Lap Tank
- 50m 10-lane Dive Tank
- Drydive
- On-deck classrooms & Storage
- 1500 spectator seats
- Leisure pool with 3-lane teach pool,
- Lazy river
- 3 slides
- Hot Zone
- Therapy zone
  Fitness centre, studios, gymnasium
- Ceremonial, multi-purpose, cafe & Lease space
- Outdoor Playground & Splash Pad

Outdoor Amenities & Features

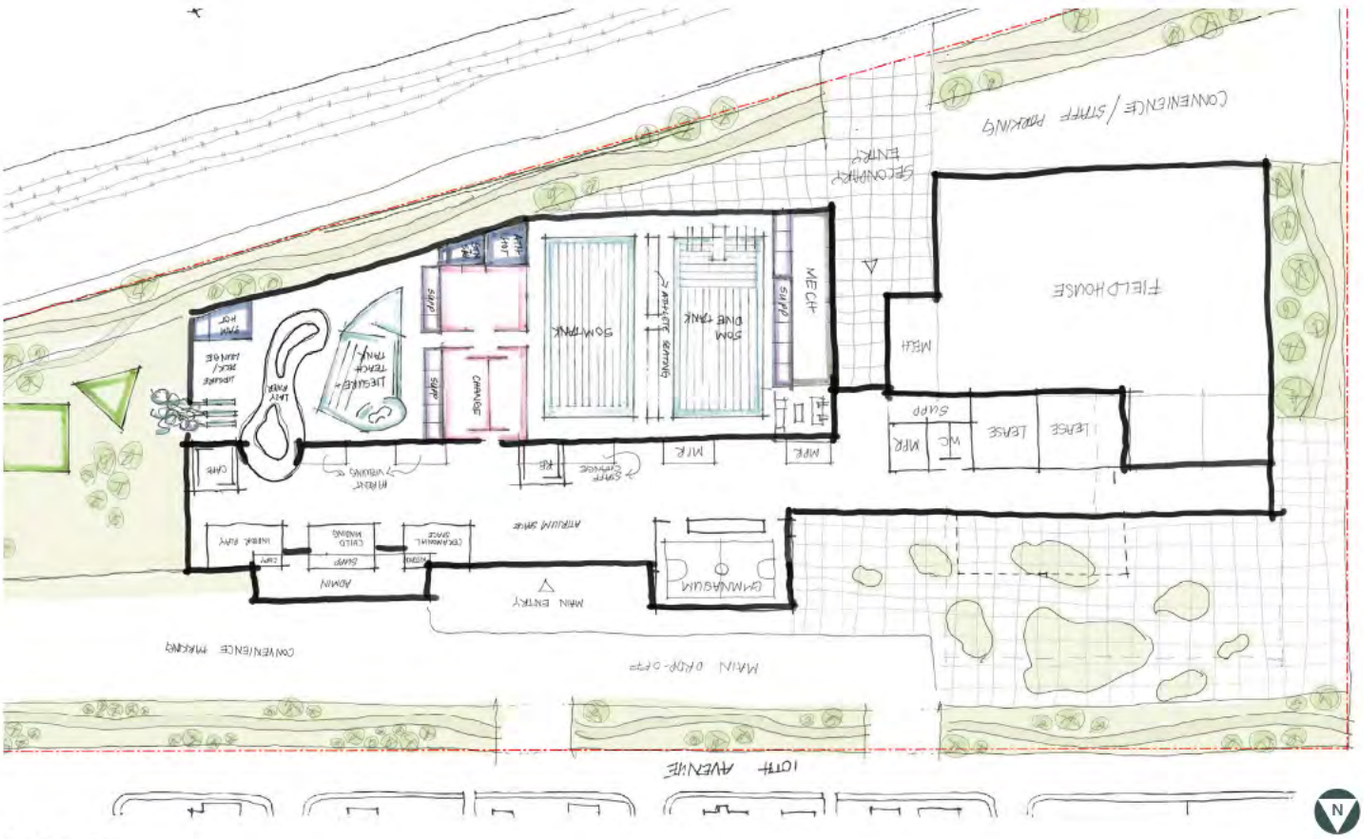
Landscaping

- Green space ~1, 780, 000m²
- Hardscape ~22, 000, 000m²
  Accessible Playground and Spraypad
- Potential NW plaza
- Multi-use pathway along 10th Ave
- Green space adjacent to Taylor Field site
- Efficient crowd management for events.
- Maintains emergency vehicle access

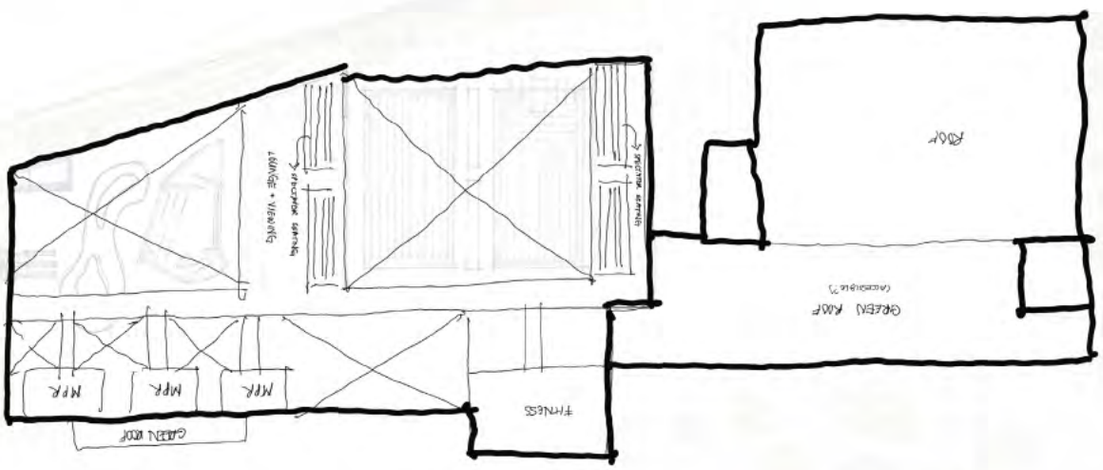
Ⓟ Parking
South (+/- 160)
S-W (+/- 75 stalls)
N-E (+/- 50 stalls)
Overflow (+/- 80 stalls)

Ⓛ Loading

⋯⋯> Site Access
10th Avenue
Elphinstone St



Plan: Level 1



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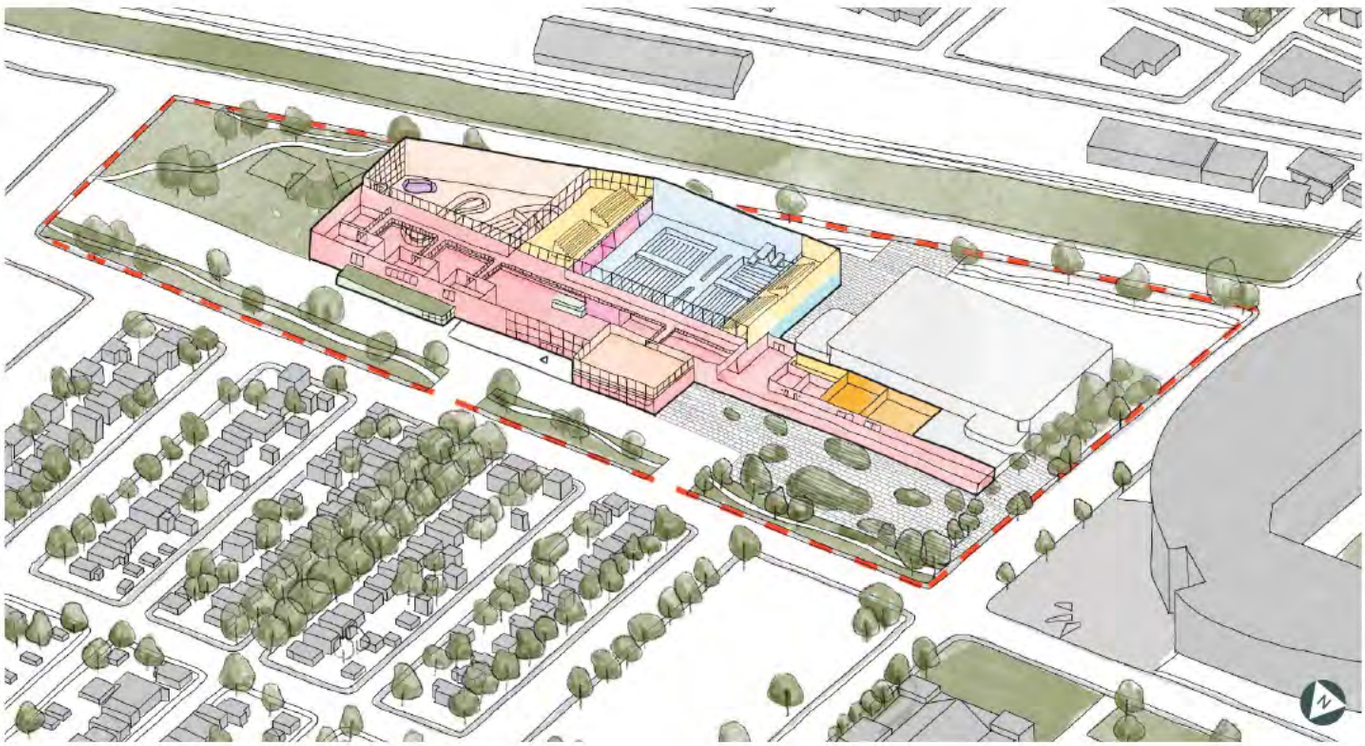
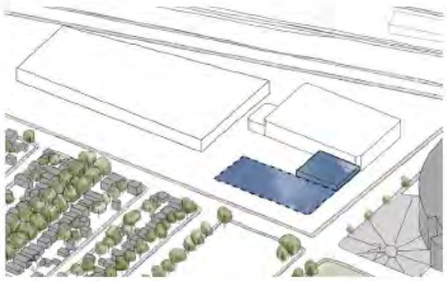
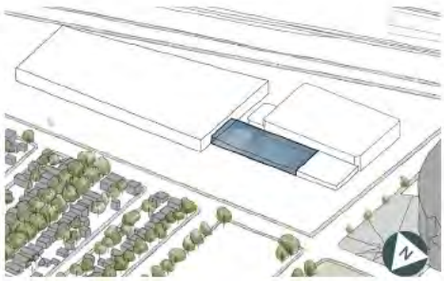


Phasing Diagrams





Phase 1:
- Competitive pools
- Leisure pools
- Hot pools
- Aquatic support spaces
- Admin & control

Phase 2:
- Decommission Lawson
- Demolish Lawson
- Renovate Concourse

Phase 3:
- Build connecting community space
- Landscaping

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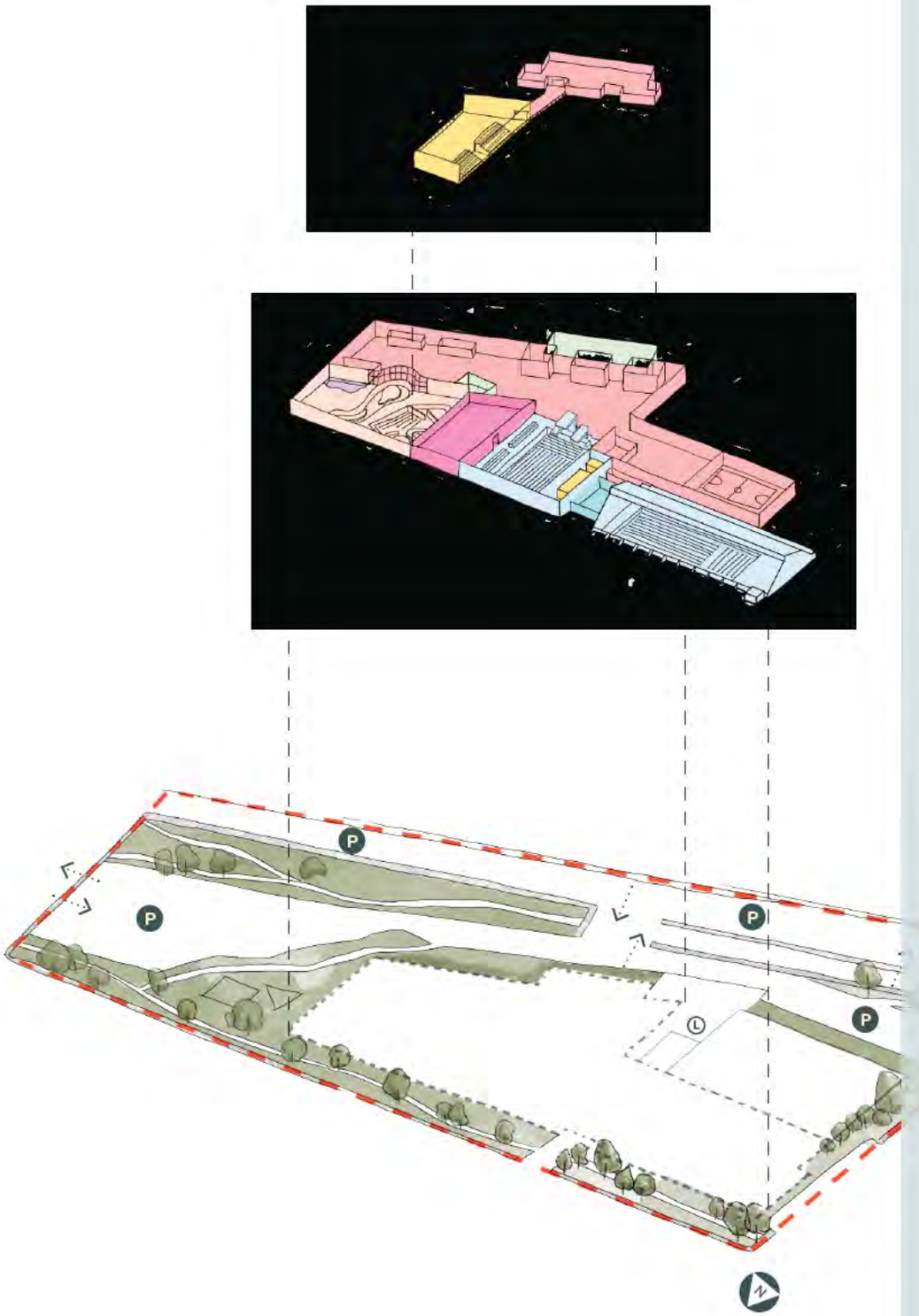
9.6 Concept Option 2 -Reno + Addition



Indoor Amenities & Features

- 50m 10-lane Lap & Dive Tank
- 65m 8-lane Renovated Warm-up Tank
- Drydive
- On-deck classrooms & Storage
- 1500 spectator seats
- Leisure pool with 3-lane teach pool,
- Lazy river
- 3 Slides
- Hot Zone
- Therapy zone
- Fitness centre, studios, gymnasium
- Ceremonial, multi-purpose, cafe & Lease space
- Outdoor Playground & Splash Pad

Outdoor Amenities & Features

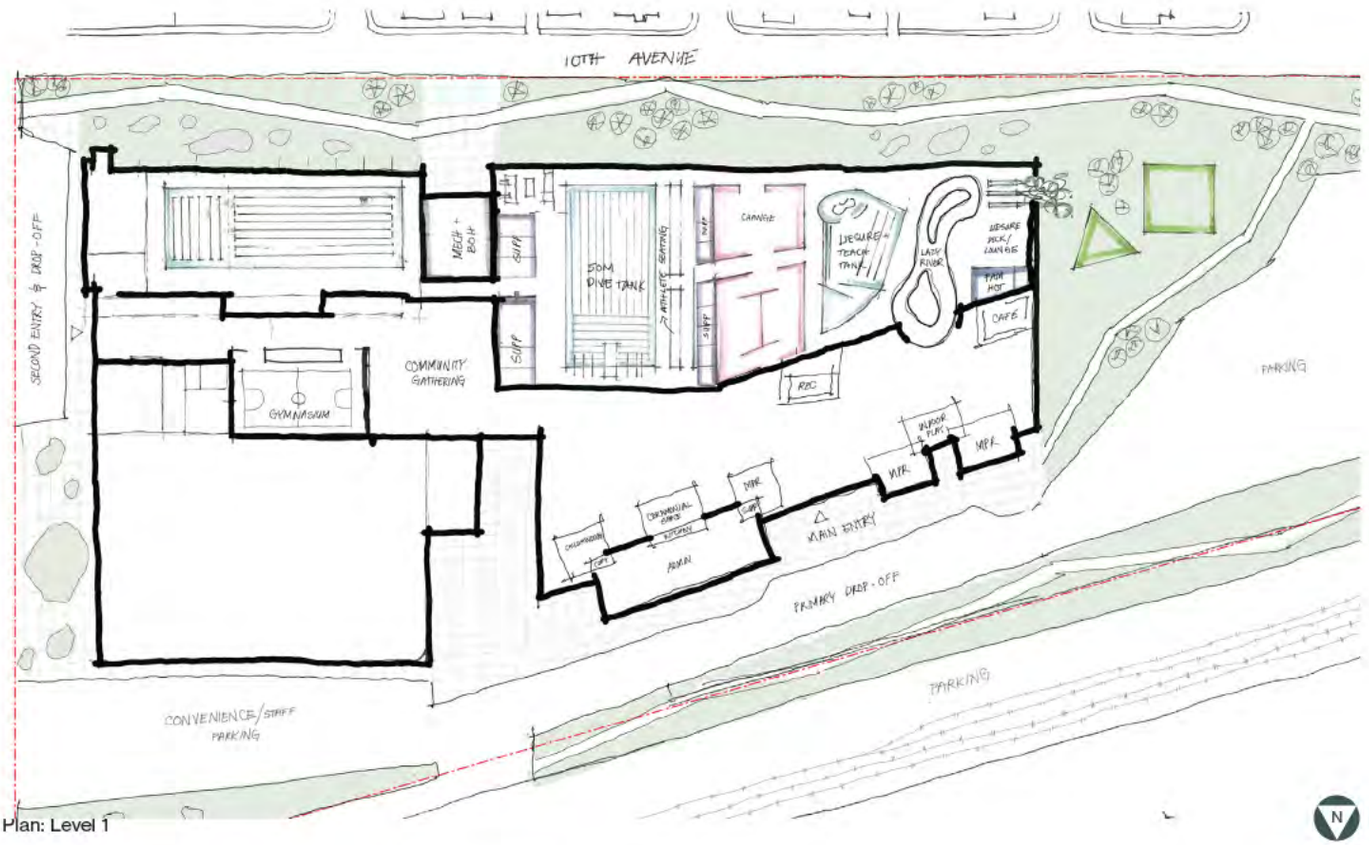
Landscaping

- Green space: ~1, 780, 000m2
- Hardscape: ~22, 000, 000m2
- Accessible Playground and Spraypad
- Potential NW plaza
- Multi-use pathway along 10th Ave
- Green space adjacent to Taylor Field site
- Efficient crowd management for events.
- Maintains emergency vehicle access

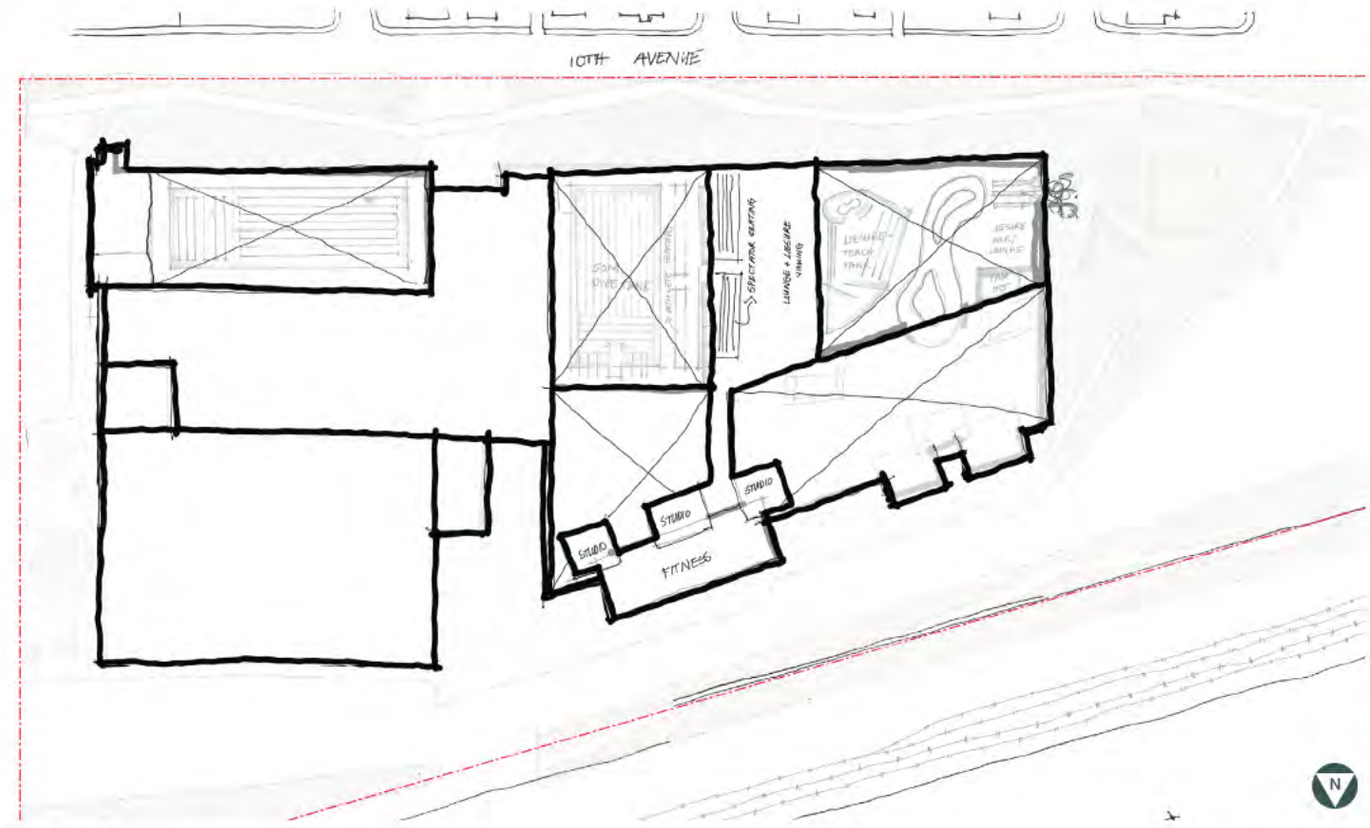
P Parking
- South (+/- 160)
- S-W (+/- 75 stalls)
- N-E (+/- 50 stalls)
- Overflow (+/- 80 stalls)

Ⓛ Loading

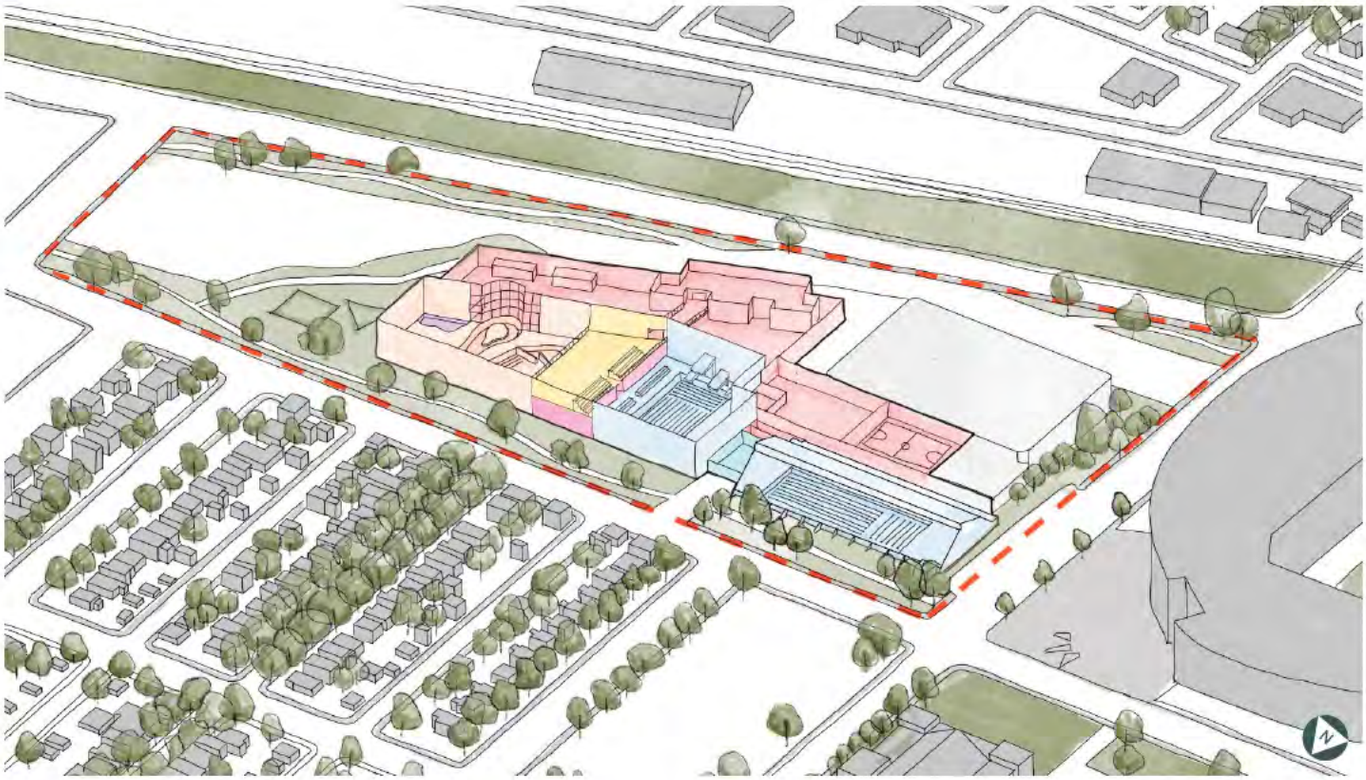
Site Access
- 10th Avenue
- Elphinstone St



Plan: Level 1



Plan: Level 2



Phasing Diagrams

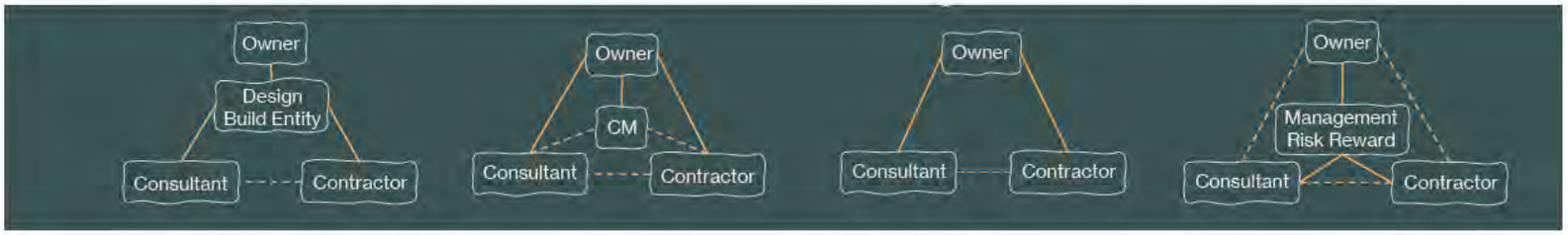
Phase 1:
- Competitive pools
- Leisure pools
- Hot pools
- Aquatic support spaces
- Admin & control

Phase 2:
- Decommission Lawson
- Renovate Lawson Tank
- Upgrade Mechanical systems
- Repurpose Lawson Changerooms
- Renovate Concourse

Phase 3:
- Build connecting community space
- Landscaping

10.0 Project Delivery

There are several different models of project delivery that can be considered for a project of this scale and complexity. The determination on which model is best suited should take into account a number of factors. Of primary consideration are: risk profile of owner, complexity of the project, need for cost certainty, and schedule. Additional consideration might include capacity and expertise of the owner, site complexities, funding requirements and or restrictions and market conditions or certainty.



Design-Bid-Build (DBB)

Risk level: Medium-high
City Admin effort: medium
Construction contingency: high

Pros: well understood, highly competitive, owner design control until procurement

Cons: contract price not guaranteed/checked in market until tender, contractor involved late (can create adversarial relationship), owner carries majority of risk (design error/ omission), ridged schedule

CM (Construction Management) at Risk

Risk level: Medium
City Admin effort: Medium
Construction contingency: low-medium

Pros: well understood, highly competitive, owner design control until procurement, CM involved during design as advisor, high transparency, schedule acceleration, change in construction made simpler, risk for schedule delay & scope gap transferred

Cons: Higher admin effort than DBB, numerous points of accountability (contractual risk),

Design-Build

Risk level: low-Medium
City Admin effort: Medium-high
Construction contingency: low

Pros: owner has a single point of responsibility with the design builder who has contractual relationships, early schedule & cost certainty, risk transferred for design errors & omissions

Cons: potentially reduced quality, limited design control, challenging with complex/ renovation projects, owner has reduced flexibility to changes as design evolves

Integrated Project Delivery (IDP)

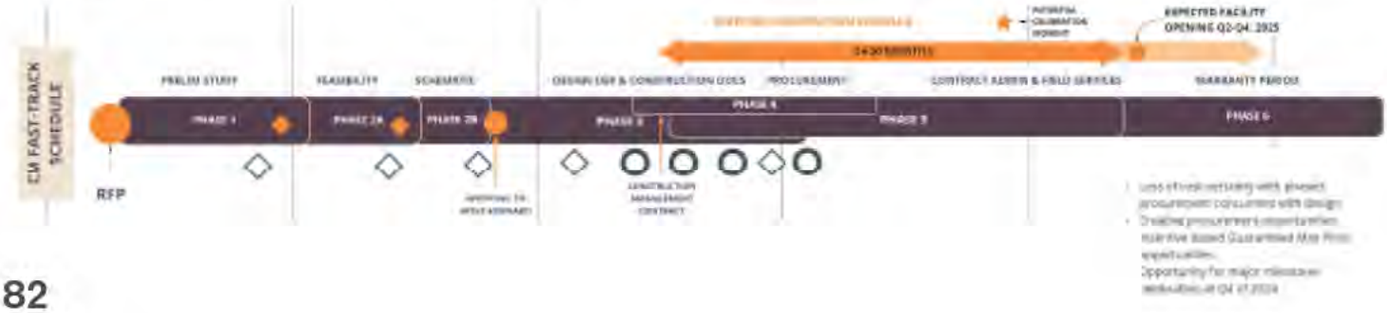
Risk level: Medium-high
City Admin effort: high
Construction contingency: N/A – Risk Pool

Pros: shared accountability (only to the extent that the risk pool is allocated), potentially compressed schedule, promotes coordination & alignment (when lean construction principles are applied)

Cons: Contract familiarity – CCDC 30 (relatively new, 2018), Lack of market familiarity, Challenges around market familiarity (potentially reduced design/contractor availability, challenges around finance & insurance, Owner solely responsible for cost overruns

Recommendation

There are several reasons that CM at Risk should be selected as the delivery method. First and foremost the projects schedule will benefit from the ability to start the construction earlier by tendering in several stages and completing the design while construction has started (fast track). In addition, the CM can provide valuable insight into constructability of building elements and into market conditions that can inform the design choices and mitigate cost pressure. The project requirement to keep the Lawason operation until service is replaced will require complex phasing and logistics. A CM can assist in evaluating the best strategies and balance the priorities for construction and operational continuity.



11.0 Costing Analysis

11.1 Capital Cost

It is anticipated that the construction costs will be approximately $146,161,800 based on a Preliminary Class D Estimate conducted in April 2022. This estimate includes typical contingencies that are reflective of the early stage of the project development and assumes a construction start in the year 2024. Class D estimates have a degree of variability (+/-25%) that reflects the early stage of the design process. The costing was based on program areas for both new build and renovation and addition scenarios. Key elements of the analysis include:

- Elemental breakdowns were utilized (meaning each building component was assessed – structure, envelope, interior partitions)
- Allowances were applied where not enough detail available at this time (typical for Class D estimates)
- Contingencies have been applied to capture areas of risk.
- Construction duration is assessed an accounted for.
- Additional sustainability design features beyond LEED Gold considerations were excluded from this cost estimate pending further review and discussion regarding the City's objectives for this project
- This estimate includes typical contingencies and assumes a construction start in the year 2024.

Net Construction Cost	$104,993.500
Design Contingency (15%)	$15,539,000
Construction Contingency (5%)	$6,026,600
Total Construction Cost	$126,559,100
Escalation (6.5%)	$19,602,700
Escalated Construction Cost	$146,161,800
Professional Fees (7.0%)	$10,231,326
Project Contingency	$5,000,000
Furnishing, Fitting & Equipment (Estimate)	$1,500,000
Provincial Sales Tax (6% PST)	$9,773,587
Goods & Services Tax (5% GST)	$8,144,656
Estimated Total Project Cost (Apr 2024)	$180,811,369

A cost analysis exercise was also performed on the Renovation and Addition option. This exercise confirmed that renovation and addition was effectively equivalent in cost, with an escalated construction cost of $144,745,500. The similarity in cost being the result of the extensive scope and intensity of renovation, high contingencies associated with renovations due to the complexity of the work, and additional project schedule required.

For more information related to capital costs estimates, please refer to the Appendix.

11.2 Life Cycle Cost

An elemental Life Cycle cost analysis has been completed that indicates approximately $50,000,000 in life cycle costs over a 50 year period. These costs are represented in 2022 dollars. Life Cycle cost analysis can be found in Appendix

11.3 Operational Cost

Although capital costs are a major consideration for these types of public investments, so too are the ongoing operating obligations related to making sure the facility is accessible to those who need it. At this stage of planning, the following estimates should be considered +/` 20%. Facilities like the one proposed require operating subsidy, and in this case the operational costs of the new facility will be somewhat offset by those incurred to operate the existing LAC. The new facility is expected to generate approximately $3.4M in revenues and incur approximately $8.3M in operating expenses for a required subsidy of $4.8M. This equates to a 40% cost recovery rate, not including capital amortization or life cycle reserve budgeting.

For more information related to operation costs, please refer to the Appendix.

11.4 Economic Impact

Economic impact is also important to consider when contemplating investment in a public recreation centre. The following summarizes the expected economic impact of this project during construction, normal operation and special events. Detailed analysis can be found in Appendix

Impact through Construction
Based on the capital cost of approximately $146 million.

- Total economic output associated (direct, indirect, induced): $235,758,983
- Total GDP generated (direct, indirect, induced): $115,321,660
- Total employment created (direct, indirect, induced in FTEs): 886

These expenses will be incurred by the City of Regina over a multi-year period.

Impact through Operations
Annual operating projections for the new indoor aquatics facility were developed based on staff input on estimated revenues, expenses on salaries and benefits, and other annual operating expenses such as maintenance, utilities, and so forth. Inputs for this analysis are derived from the Operational Budget Forecasts report

- Total economic output: $10,696,006
- Total GDP $2,344,982
- Total Employment (FTEs) 99

Impact through Event hosting
Sports tourism and event hosting is an important dimension of Canada's tourism economy overall. Unlike more traditional forms of tourism, sports tourism is equally driven by domestic and inter-provincial and therefore is more resilient to disruptions such as pandemics and other unforeseen events. Sport Tourism Canada estimates that sport tourism contributed $7.4 billion to the Canadian economy in 2019,
If on an average year the City were to host 10 regional events, 8 provincial events, and 2 national or international events, the total economic impact generated by the facility is estimated to be:

- $101,780 for 10 regional events
- $511,640 for 8 provincial events
- $811,700 for national / international events

12.0 Partnerships

Partnerships are becoming more and more common during the development and operations of public recreation facilities. Partners can include user groups, non-profit or private sector facility operators, sponsors, post-secondary institutions or even other regional municipalities.

In order to understand the level of partnership interest in the New Indoor Aquatic Facility project, the City administered an partnership Expression of Interest (EOI) process. This entailed the creation and posting of a formal Expression of Interest package that outlined information about the project and some ideas related to potential partnerships the City might entertain. Groups or organizations interested in partnering were encouraged to respond to the EOI with details about their partnership proposal.

It was important for the City to under take a formal EOI process as it was a transparent and fair opportunity for any group to respond to.

The EOI was facilitated during early 2022 and responses were received. Although partnership may materialize during future phases of the project, none of the proposal received have a significant impact on the program or concept design at this feasibility stage of planning.

Sponsorship is also very commonplace in recreation facilities in Canada. Naming rights for different amenities within a facility, or even for the overall facility, enable sponsors to get desired brand recognition and exposure, and demonstrate commitment to the community while helping recover capital or operating costs of a facility. Potential sponsors were also able to participate in the EOI process and a more formal sponsorship campaign would occur if and when the project progresses to the next stages of design and gets closer to taking physical form.

13.0 Discussion, Analysis & Recommendations

Regina's Indoor Aquatics Facility is an inclusive, accessible and sustainable community hub and tourist destination – that creates vibrancy and improves quality of life for Regina residents and visitors for generations to come.

The objective of the feasibility process was to produce a building program and concept options that have been guided by stakeholder and public input, tested by careful analysis, and are programmatically, functionally and financially supportable. The information in this report should guide key decisions for the future progression of this project and should be used as the basis for the schematic design.
Key decisions are:

- To undertake a significant renovation of the Lawson Aquatic Centre coupled with an addition to meet programmatic needs, or, replace the Lawson Aquatic Centre with a larger new facility
- To determine the service level (Functional, Optimized, or Enhanced) that best meets the City's needs now and in the future

Renovate and Expand vs. New Build - Key Considerations

1. The detailed Condition Assessement of the Lawson Aquatic Centre identifies the significant cost required to extend the facility's life. Furthermore, even with the required investment, an upgrades Lawson will not be able to meet best practice in a number of key areas.
2. Planning a significnant addition to the Lawson is possible (see Reno and Addition Concept), however the planning presents significant operational challenges relating to circulation, control and adjacencies. These operational inefficiencies would surpass any capital savings associated with renovating.
3. The technical challenges in renovating the Lawson and the extent of the renovation necessary are financially inefficient.
4. Undertaking a renovation and expansion requires a significantly longer construction period to complete the project, resulting in more disruption to the area and facility users.

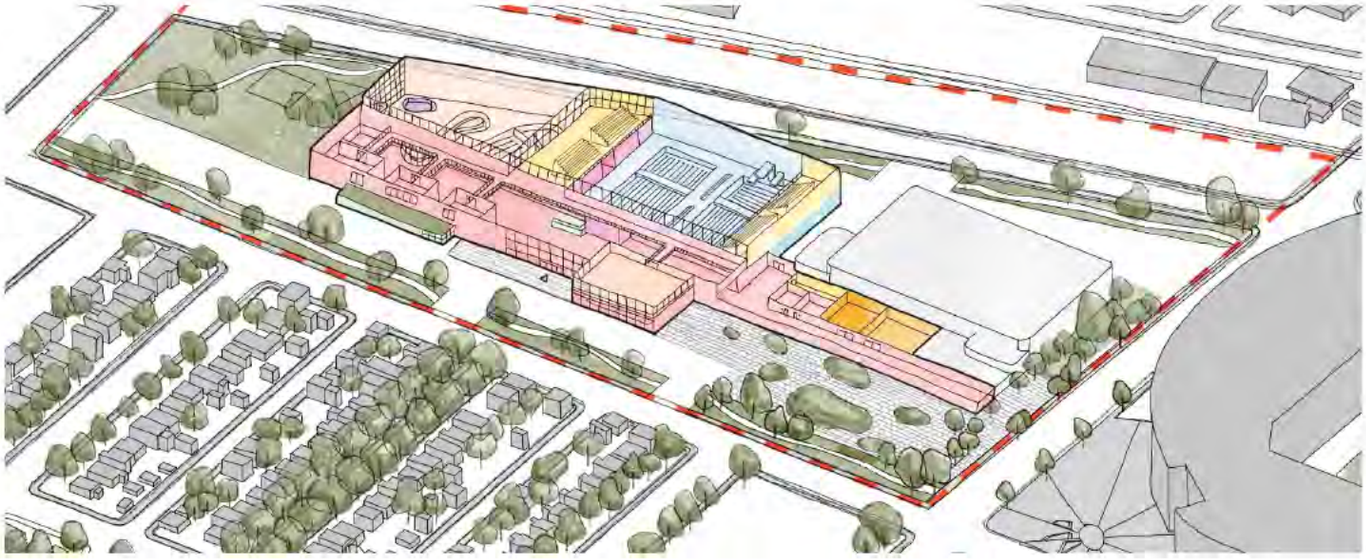
Recommendation:

The New Build represents better value, performs better operationally, and responds better to siting and urban design priorities. It does not represent a significantly higher capital cost and has advantages in cost in operations and lifecycle.

Service Level Delivery - Key Considerations

1. The current and projected demand for fitness, training and competititve swimming indicates that a secondary tank for this program is needed now, and that it should be a second 50m length pool to meet demand due to future growth of Regina.
2. Demand for training support spaces and auxillary programs is high.
3. The level of competition targeted is National Level+, with the desire to promote economic development and sport tourism.
4. The engagement indicates that a robust recreation program is supported and should appeal to a broad specturm of users.
5. Engagement indicates that additional non-aquatic community amenities are in demand and desireable at this site

The optimized program fully responds to current demand, and projected future demand, in all three areas (competitive, recreation, and non aquatic amenities). It should represent the baseline as the project moves into the design phases where the program can be further refined, the analysis on utilization and capacity can be further resolved, and the construction and operational costs can be detailed with greater certainty. Program adjustments in schematic design remain possible to bring the project within budget.

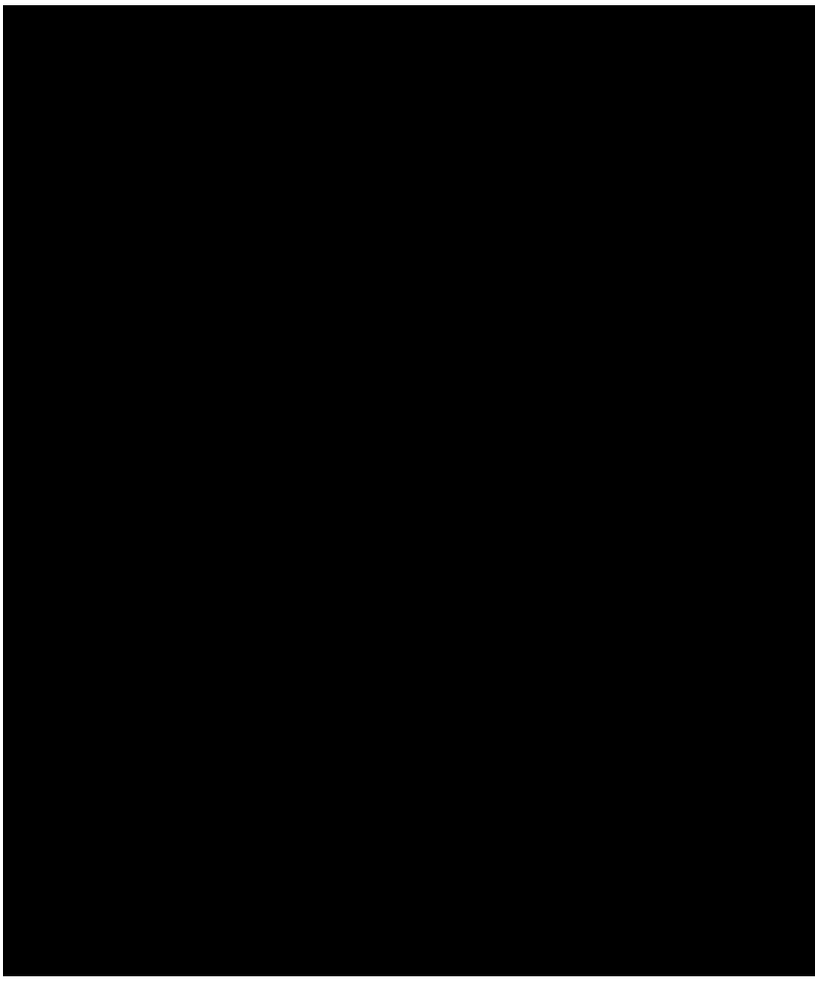


Next Steps

As part of the next stage in the process we would recommend that this report be shared with the community, and a continuation of the engagement process occur during the project's design phase.

The following studies should also be completed prior to commencement of schematic design:

- Legal & topographical site surveys
- Geotechnical report and surveys - the ground conditions are currently unknown. Soil conditions need to be assessed to gain a better understanding of any associated excavation and foundation costs.
- Environmental Assessment Report - this will also help in the understanding of costing relating to any issues surrounding the proposed facility location and potential cost if remediation or disposal is required.
- A full transportation impact assessment (TIA) - to determine the wider effects of a new expanded facility on the site, such as intersection treatments and required signalizing.
- In order to determine the direction prior to commencing schematic and detailed design, the City should also consider conducting a business case study for structured parking, that includes the option for a shared facility with the Mosaic Stadium.
- Determine the sustainability targets for the project as part of the City's wider energy objectives.



We are **hcma**. We believe human connections are the best path to solving the fundamental problems of our time.

As a gesture of respect, peace, and friendship, We acknowledge that Regina is on Treaty 4 Territory, a Treaty signed with 35 First Nations across Southern Saskatchewan and parts of Alberta and Manitoba and the original lands of the Cree, Saulteaux, Dakota, Nakota, Lakota, and on the homeland of the Métis Nation. and all their ancestors who have lived on and served as faithful stewards of these lands.

Vancouver
400 – 675 W Hastings St
Vancouver BC V6B 1N2
604.732.6620
vancouver@hcma.ca

Victoria
205 – 26 Bastion Square
Victoria BC V6B 1N2
250.382.6650
victoria@hcma.ca

Edmonton
304 – 10110 104 St NW
Edmonton AB T5J 1A7
780.885.9609
edmonton@hcma.ca

curiosity applied
hcma.ca

New Indoor Aquatics Facility Feasibility Study

IAFCAC Meeting 7

June 7, 2022

REGINA

Agenda

1. Introduction
2. Program Update
3. Concepts
4. Discussion & Questions
5. Next Steps

1.0 Introduction

Meeting purpose

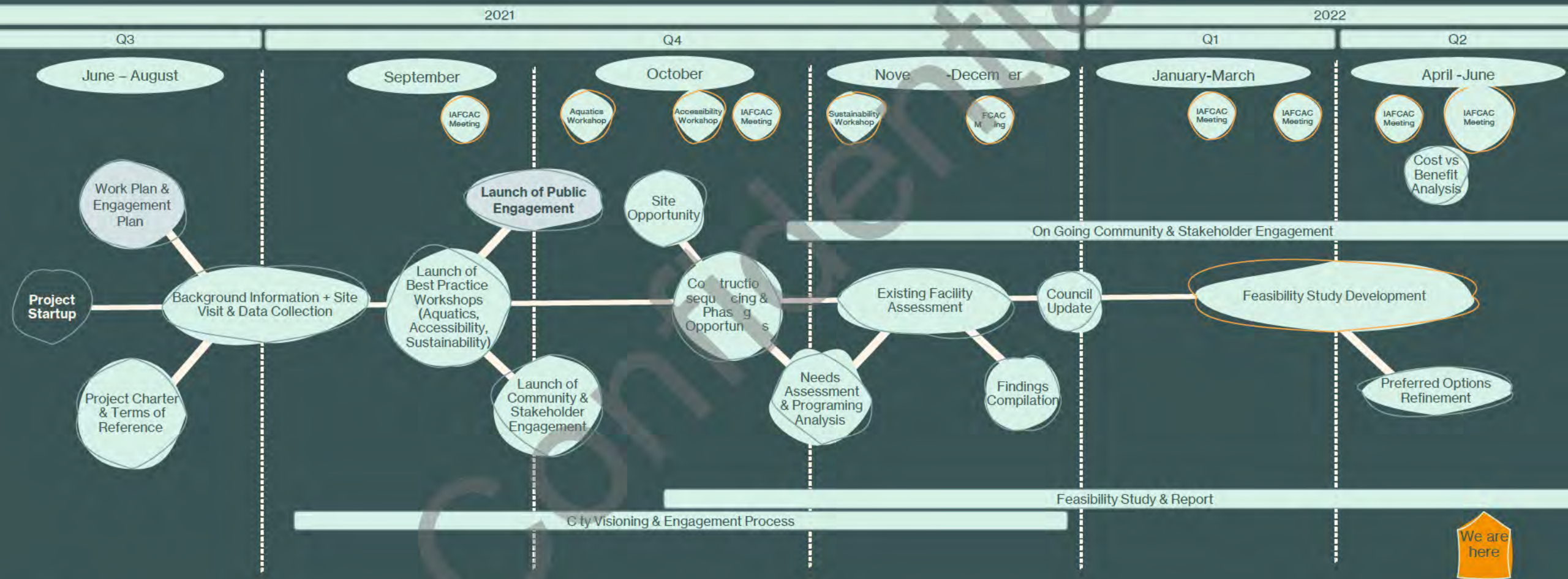
Today we will review and discuss:

- Feasibility study process and key findings
- Financial analysis
- The options and recommendation for Council

Date
June 7, 2022

Meeting
IAFCAC Meeting 07

Timeline & Milestones



2.0 Program Update

Concept Sketch – SW View

Improve the **quality of life**

Be a **mul i faceted destination** aquatics f cility & **community hub**

Support **excellence in competitive** aquatics

Achieve ambitious sustainability targets in alignment with City policy

Create a complete **civic precinct**

Expand the City's **outdoor amenities**

Be **exemplary in** providing enhanced **inclusive & accessible environments**

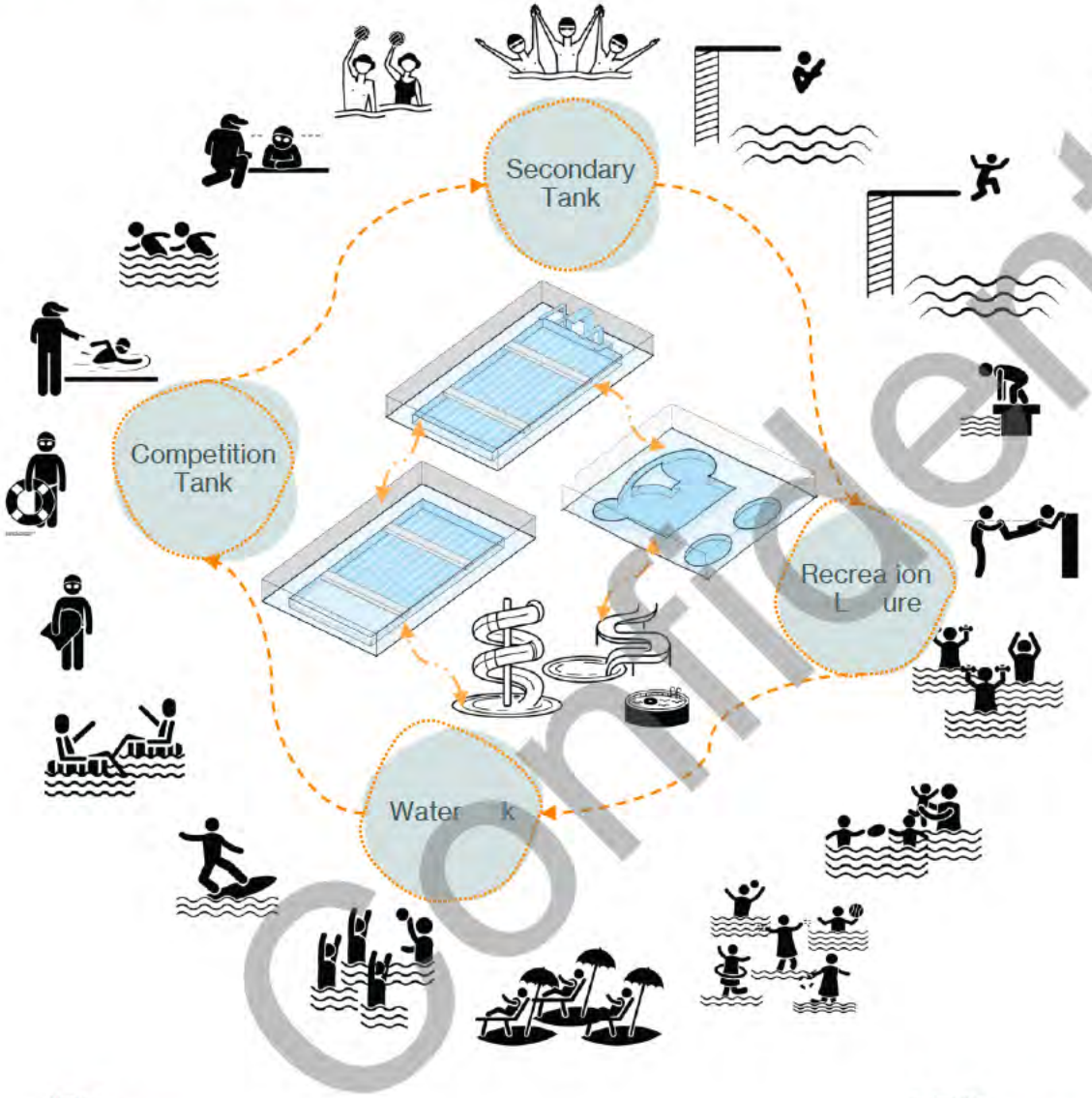
Provide spaces that **support reconciliation**

REGINA

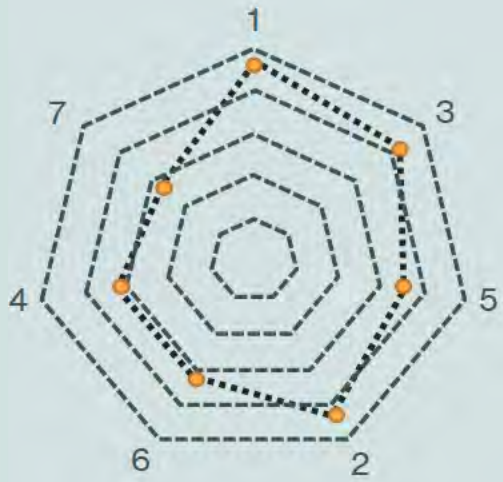
Existing vs future facility program & growth

EXISTING		PROPOSED	
305 M² 3,300 SF	+590%	765 – 800 M² 8,200– 8,650 SF	1 FRONT OF HOUSE
2,060 M² 22,175 SF	+205%	4,250 – 4,460 M² 45,750 – 48,0 SF	2 AQUATIC COMPETITION & TRAINING
145 M² 1,560 SF	+2780%	4,000 4300M² 43,1 0 – 46 3 0SF	3 AQUATIC LEISURE & RECREATION
250 M² 2,690 SF	+245%	610 640 M² 6,600 8 900 SF	4 AQUATIC THERAPY, WELLNESS, & SHARED USE
450 M² 4,865 SF	+720%	3,15 – 3,300 M² 34,000 – 35,700 SF	5 AQUATIC SUPPORT SPACES & AMENTITIES
325 M² 3,490 SF	16%	3,100 – 3,300 M² 34,000 – 35,700 SF	6 CHANGE ROOMS
500 M² 5,380 SF	150%	750 - 790 M² 8,000 – 8,500 SF	7 FITNESS
800 M² 8,570 SF	+2280%	3900 – 4,100 M² 42,200 – 44,400 SF	8 COMMUNITY & SHARED SPACES
120 M² 1,270 SF	+865%	1000 – 1070 M² 11,000 – 11,500 SF	9 LEASE SPACES

Programmatic synergies



Priority Spidergram



1. Recreation & Leisure
2. Sports Training
3. Skill Development
4. Therapy & Rehabilitation
5. Fitness
6. Special Events
7. Leadership Training

OPTIONS MATRIX

	Aquatic Competitive	Leisure	Community Support Other Programs	Sustainability	Accessibility	Construction Cost Capital	Optimised Operational Economic Spin-off	Pro/con Phasing Challenges Future Demand Expandability Draw & Attraction
ENHANCED	Inter-national 10-lane 50m competition tank 10-lane 50m dive tank enhanced competition standards Enhanced support spaces	Accessible Waterslide 40,000-45,000sf				-25%> ~$183M		
New Build OPTIMIZED	National 10-lane 50m competition tank 10-lane 50m dive tank	Accessible Waterslide 35,000-40,000sf				-% ~$146.2M		* Reviewed & Endorsed by the CAC
FUNCTIONAL	Regional 10-lane 50m competition tank 10-lane 25m dive tank	30,000-35,000sf				~25%< ~$110M		
RENO + ADDITION	National 8-lane 65m warm p tank (Lawson tan 10-lane 50m competition tank	Accessible Waterslide ,000-40,000sf				~25%< ~$144.7M		

3.0 Concepts

Renovation and expansion

Concept Axo
Up er Level

Phasing

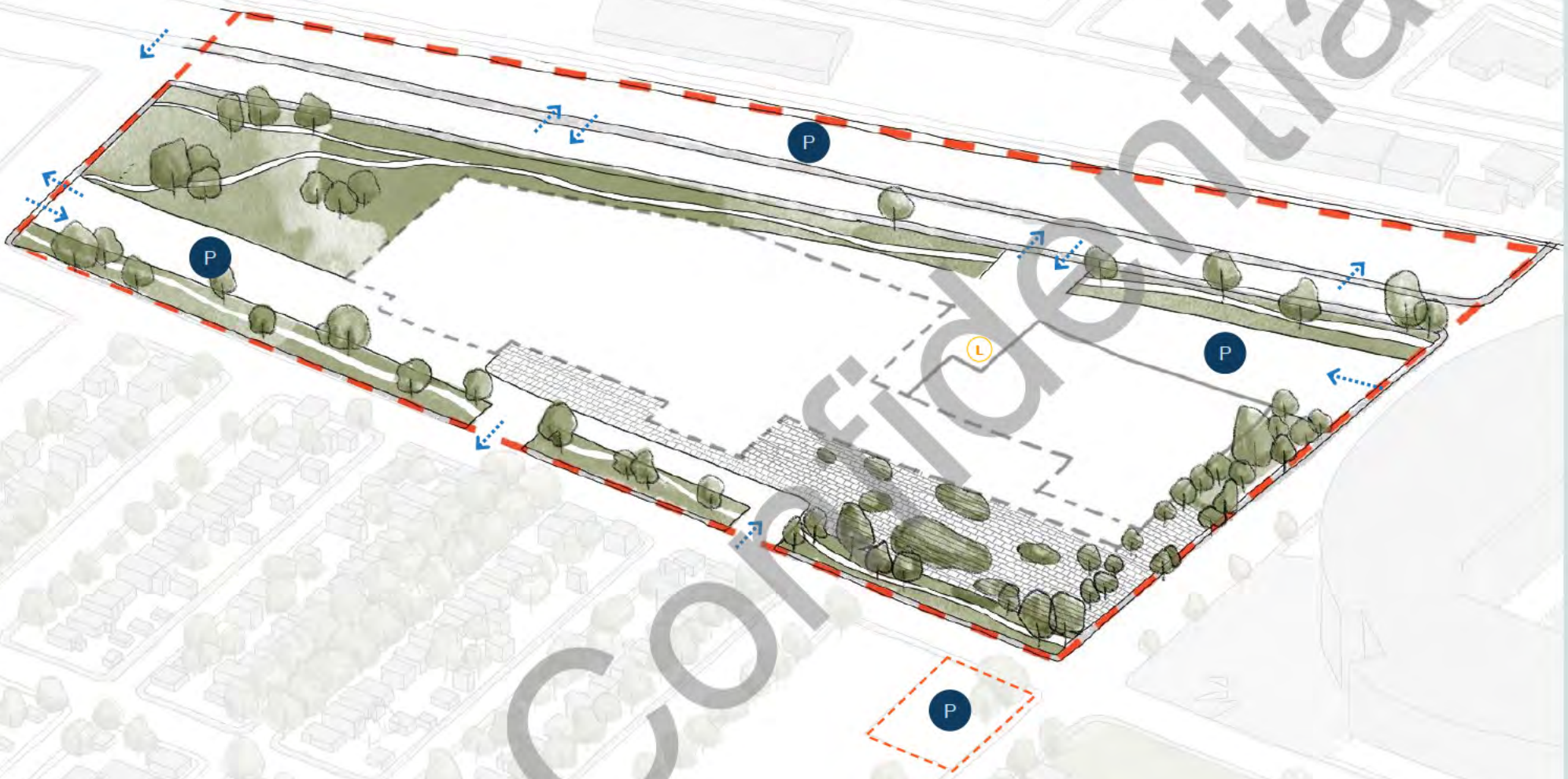
Phase 1:
- Competition pools
- Leisure pools
- Hot pools
- Aquatic support spaces
- Admin & control

Phase 2:
- Decommission Lawson
- Renovate Lawson tank
- Demolish and renovate existing change areas
- Renovate Concourse

Phase 3:
- Build connecting community space
- Landscaping

New build

Concept Axo
Si Plan



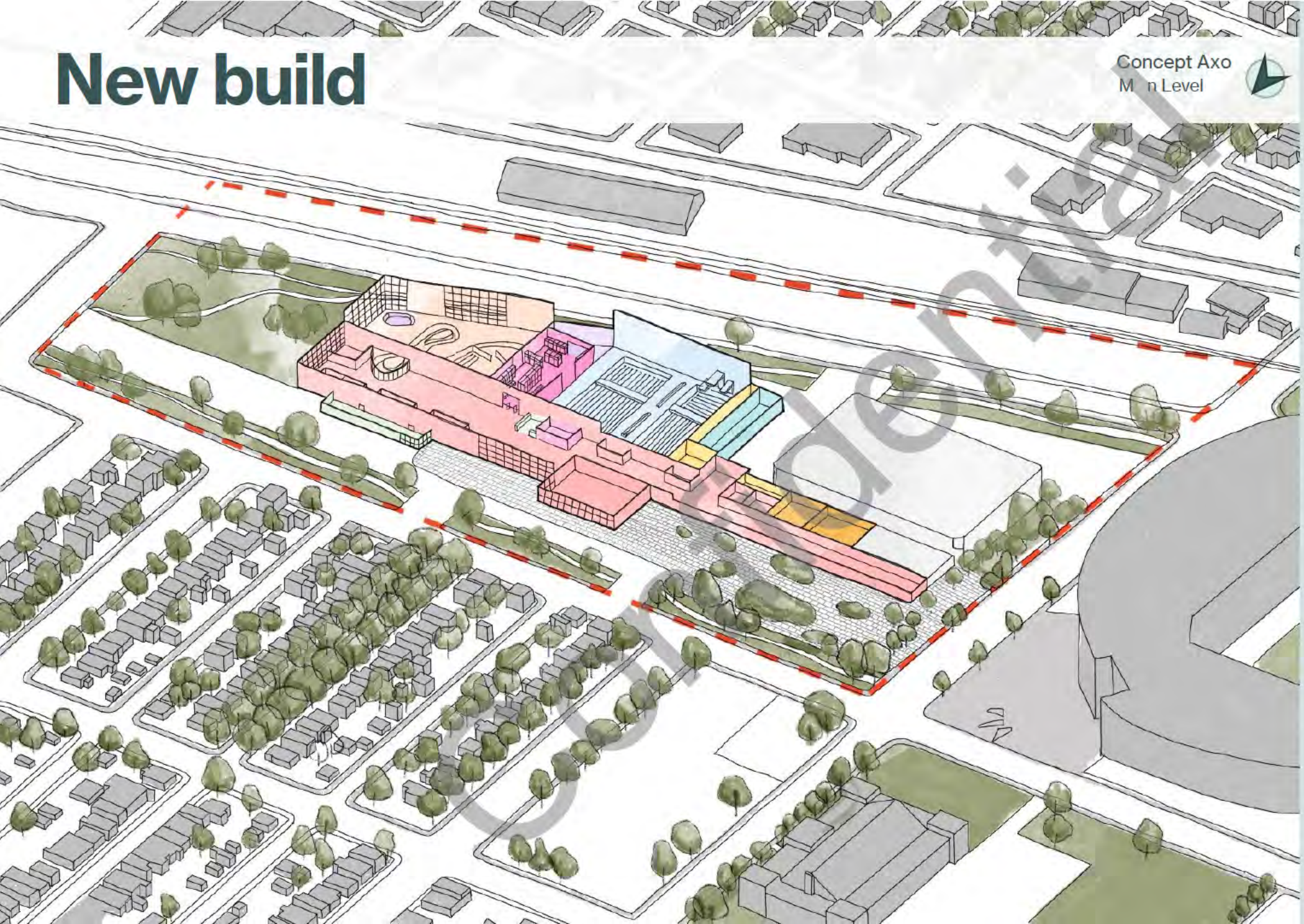
Site Amenities & Features:

- P Parking
  - South (+/- 125)
  - S-W (+/- 70 stalls)
  - N-E (+/- 100 stalls)
  - Overflow (+/- 60 stalls)
- L Loading
- Site Access
  - 10th Avenue
  - Elphinstone St
- Outdoor amenities
  - Accessible Playground and Spraypad
  - Potential NW plaza
  - Multi-use pathway along 10th Ave
  - Green space adjacent to Taylor Field site
  - Efficient crowd management for events.
  - Maintains emergency vehicle access

Landscaping
- Green space
  - ~1, 780, 000m²
- Hardscape
  - ~22, 000, 000m²

New build

Concept Axo
M n Level

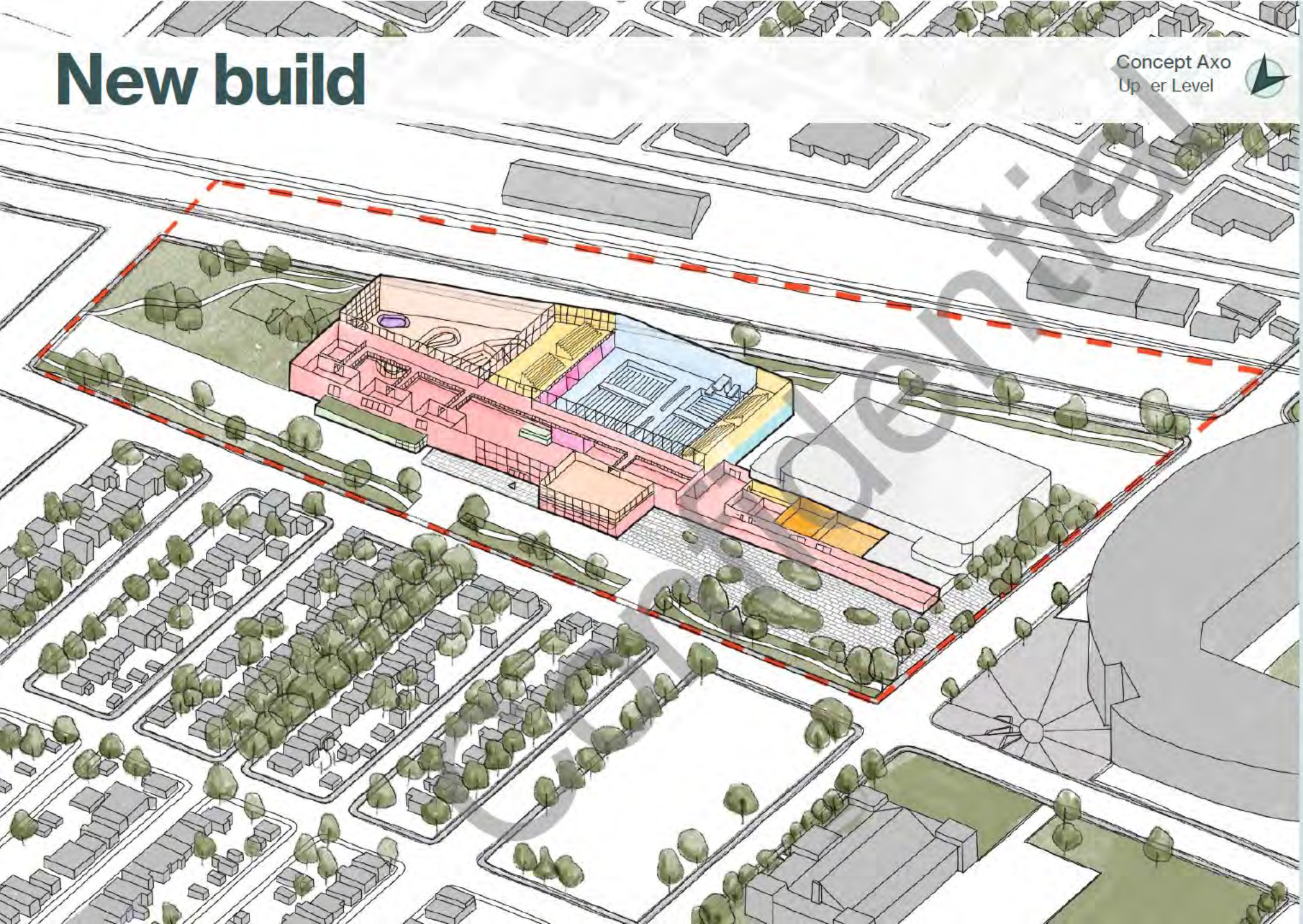


Interior Amenities & Features:

1. 2x 50m competition pools with supporting spaces
2. Spectator seating on 2nd level
3. Leisure Aquatics / Waterpark area that could include these amenities:
    1. Wave Pool
    2. Lazy River
    3. Slides
    4. Play/Splash Structures
    5. Hot Tubs
    6. Deck viewing areas
4. Multi-use spaces including therapy, fitness centre, fitness studios, community spaces, indoor children's playground, social gathering areas, gymnasium
5. Cultural, multi-purpose, cafe & Lease spaces

New build

Concept Axo
Upper Level



Phasing

Phase 1:
- Competition pools
- Leisure pools
- Hot pools
- Aquatic support spaces
- Admin & control

Phase 2:
- Decommission Lawson
- Demolish Lawson
- Renovate Concourse

Phase 3:
- Build connecting community space
- Landscaping

Financial Analysis - Recommended Option

- Analysis has determined the total project **capital costs to be $173M**.
- This estimate includes typical contingencies and assumes a **construction start in the year 2024**.
- The costs include the design and construction considerations to **align with the City's Energy & Sustainability** framework targets – estimated at 15%.

Net Construction Cost	$126,559,100
Escalation	$19,602,7 0
Escalated Construction Cost	**$146,161 800**
Professional Fees (7.0%)	10,23 326
Project FF& E Contingency	$6,500,000
Provincial Sales Tax (6% PST)	$9 773,587
Estimated Total Project Cost (Apr 2024)	**$172,666,713**

- Class D estimates have a degree of variability (+/-25%) that reflects the early stage of the design process
- A cost analysis exercise was also performed on the Renovation and Addition option. This exercise confirmed that renovation and addition was effectively equivalent in cost, due to extensive scope and intensity of renovation, high contingencies associated with renovations, and additional project schedule required

Financial Analysis - Recommended Option

- Estimated **600,000 swim visits** per year
- Anticipated operational revenues of **$3.5M**
- Anticipated operational expenses of **$8.8M**
- Accounts for **increased and enhanced** "wet" and "dry" space
- Assumes **usage patterns and fees** observed at **existing indoor** aquatics faciliti s in the City
- Assumes **50 operational weeks** annually

Unaudited Pro Forma Condensed Consolidated Statement of Operations	
Year #3 of Operations (at maturity)	
Revenues	
User fees	$1,791,061
Program fees	$1,063,500
Rentals: Wet	$572,610
Rentals: Dry	$55,445
Sponsorship	$0
Total revenues	$3,482,616
Expenses	
Staffing	$2,992,034
Operations	$4,499,459
Utilities	$1,291,823
Total expenses	$8,783,316
Net operations	**-$5,300,70**
Cost recovery	**39.7%**

Existing Lawson Compa ison	
2018-2020 averages	
Revenues	
User fees	
Program fees	
Rentals: Wet	
Rentals: Dry	
Sponsorshi	
Total revenues	$890,180
Expenses	
Staff g	$1,024,436
Operatio s	$667,765
Utilities	$321,580
Tot exp nses	$2,013,781
Net operations	**-$1,123,600**
ost recovery	**44%**

- These estimates have a degree of variability (+/-20%) that reflects the early stage of the design process

Community benefits of a new indoor aquatics facility – recommended option

Creates a destination for **residents and visitors to be active and connected to each other in an inclusive and accessible facility**

Contributes to the City's economy through employment, visitor attraction and event hosting

Addresses recommendation from the **2019 Recreation Master Plan**

Addresses **community priorities** identified through research and engagement and is **supported by the Community Advisory Committee**

Provides an opportunity to **enhance environmental sustainability** of the City's indoor aquatics facility inventory

Will **enhance service levels** and add to the **vibrancy of the surrounding area as well as the broader City and Region**

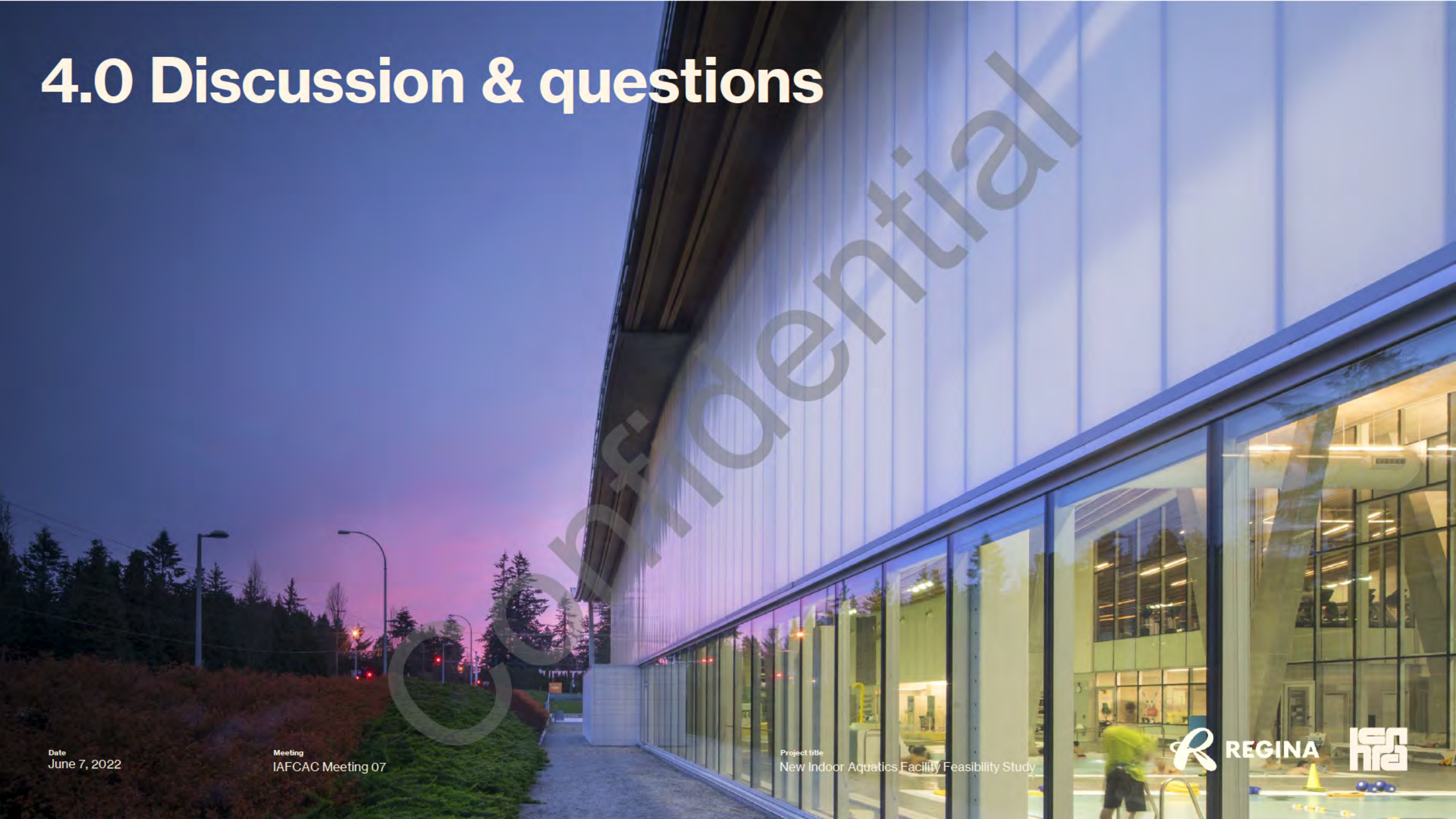
Project impacts (estimated; during construction and operations):

- Approximately **600,000 swim visits**
- **$235M in economic output** (direct, indirect and induced)
- **$115M in GDP generated**
- **886 jobs created** (direct, indirect and induced)
- Creates a **destination**
- Significant **non-local spending** generated through event hosting and the waterpark draw

Partnerships

- The City administered a partnership **Expression of Interest** (EOI) process.
- Groups or organizations interested in partnering were **encouraged to respond** to the EOI with details about their partnership proposal.
- This provided a **transparent and fair opportunity** for all groups to respond to.
- Although partnerships may materialize during future phases of the project, they **aren't anticipated to have a significant impact** on the program or concept design.

4.0 Discussion & questions



Date
June 7, 2022

Meeting
IAFCAC Meeting 07

Project title
New Indoor Aquatics Facility Feasibility Study

REGINA

5.0 Next steps

- Finalize Feasibility Study Report
- Distribute Report to IAFCAC
- Refine Council approach and presentation
- Keep momentum and dialog going in the community
- Possible 8th meeting – date & time TBD