



# Renovation and Conversion of the Robert Bateman Highschool

Environment, Infrastructure and Community Services  
Committee Meeting - December 8, 2022

# Agenda

1. Project Description
  - Consultation Process
  - Neighbourhood Context
  - Phase 1
  - Renders
2. Net Zero GHG Emissions Roadmap
3. Budget & Schedule Summary
4. Finance
5. Site Plan and Parking
6. Questions



# Stakeholder Consultation

## Brock University

- *Faculty of Education*
- *Library and Media Services*
- *Instructional Resource Centre*
- *Infrastructure and Information Technology Services*
- *Space Management and Planning*
- *Student Wellness and Accessibility*
- *Faculty of Social Sciences, Graduate Studies and Research*
- *Technology Enabled Learning*
- *Facilities Management*

## Burlington Public Library

## TechPlace

## Halton District School Board

- *Capital Projects*
- *Facility Services*
- *Planning*

## Conservation Halton

## Halton Region

## Burlington Economic Development Corporation

## The City of Burlington

- *Facility Assets*
- *Corporate Energy and Emissions*
- *Parks and Recreation*
- *Recreation Services*
- *Recreation and Community Culture*
- *Community Development*
- *Business Services*
- *Operations and Special Projects*
- *Information Security*
- *Business Analyst*
- *Network Analyst*
- *Audio Visual Specialist*
- *Corporate Strategic Initiatives*
- *Facility Operations*
- *Transportation Services*
- *Zoning Department*
- *Chief Building Official / Building Department*

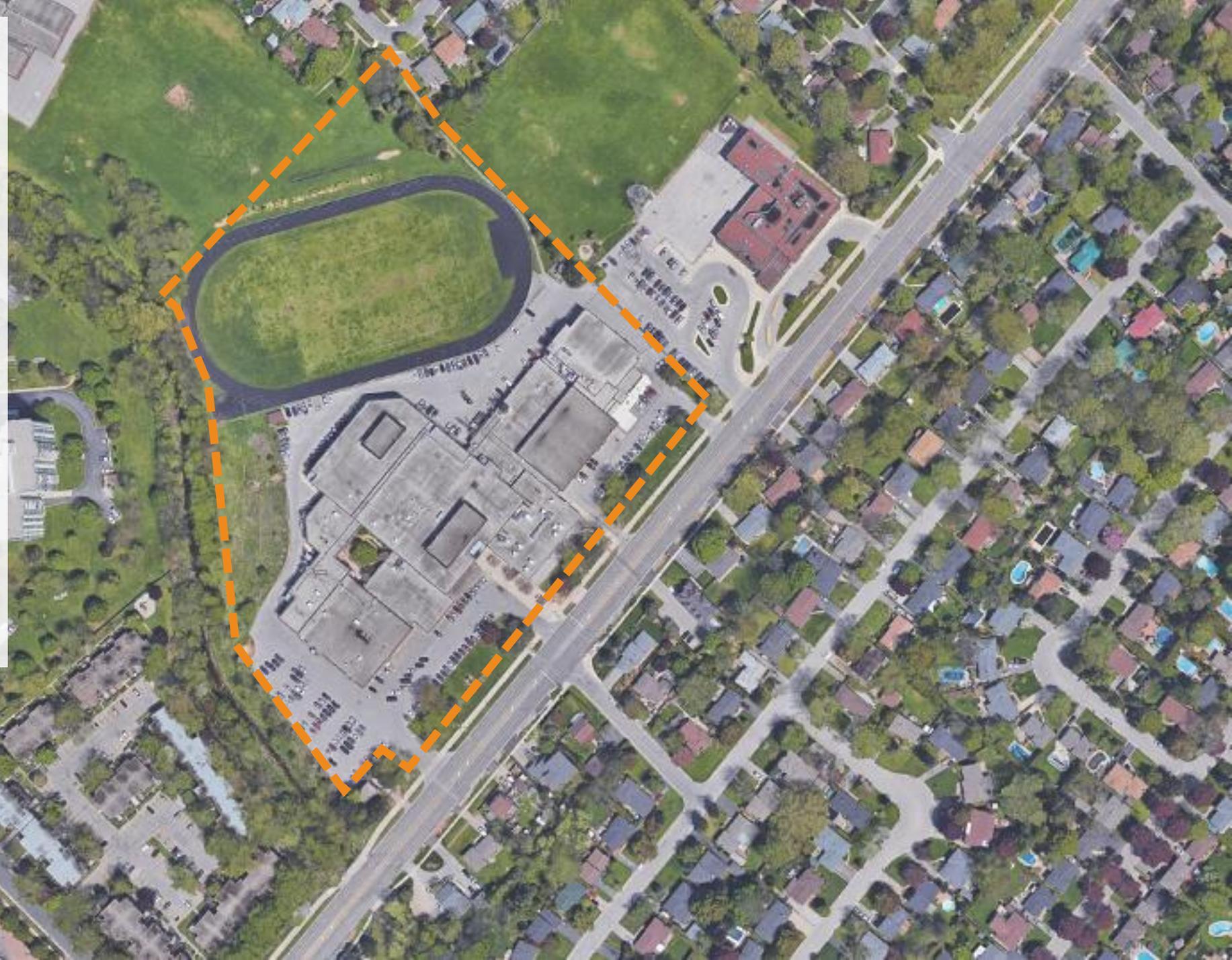
# Project Description

- Better connecting the interior spaces with the exterior, improving access to day-light and the wellbeing of the building's occupants.
- Creating new and open spaces of overlap and collaboration, that supports synergies between each tenant by creating dynamic public space shared by each.
- Welcoming everyone through intuitive wayfinding and universal design strategies.
- Designing infrastructure that will support a phased approach of meeting the City's net-zero carbon goal by 2040



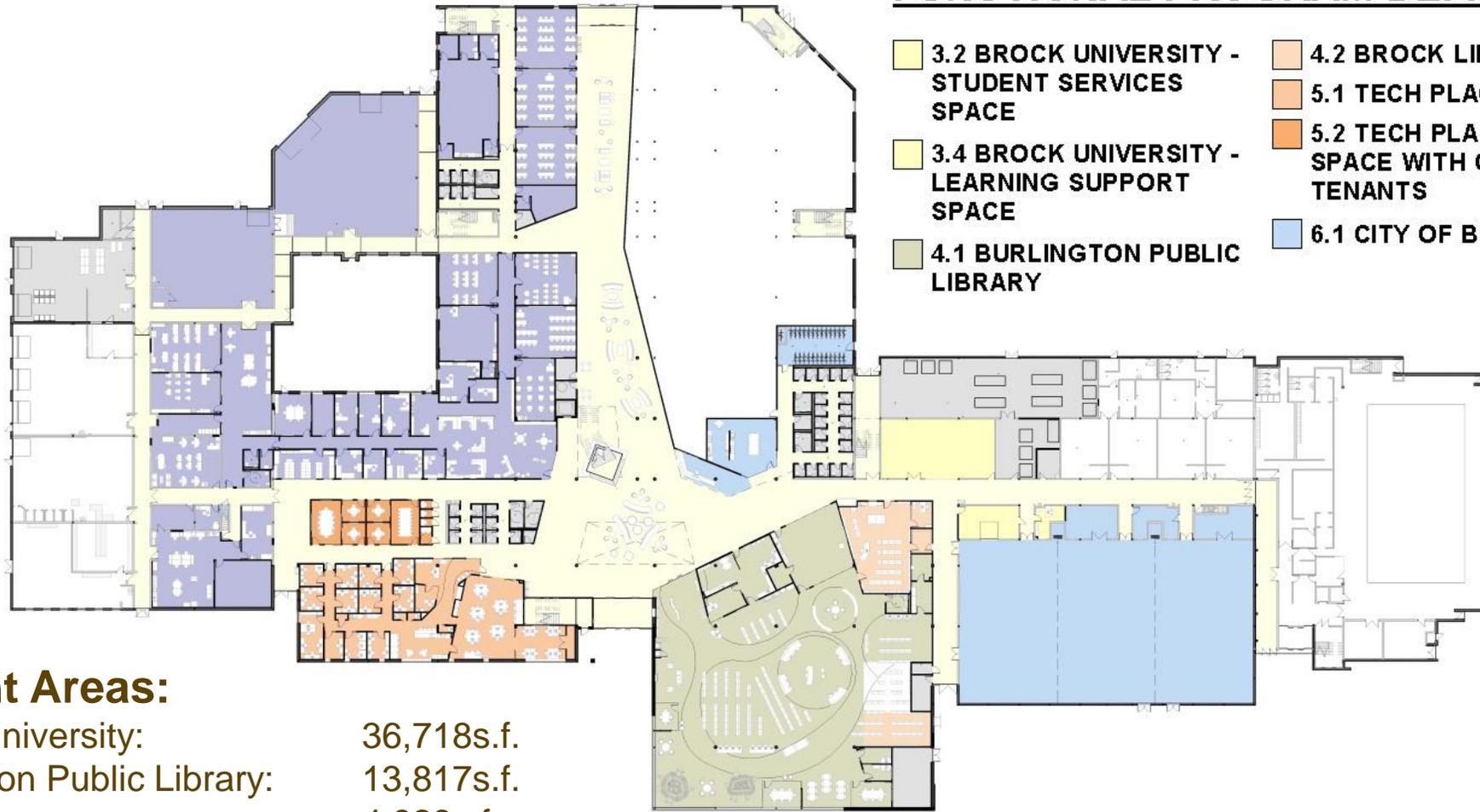
# Neighbourhood Context

Municipally known as 5151 New Street in the City of Burlington, the subject lands are a former secondary school known as Robert Bateman Highschool and contains the Burlington Centennial Pool, which will remain operational throughout the project.



# Ground Floor Plan

## FUNCTIONAL PROGRAM DEPARTMENT



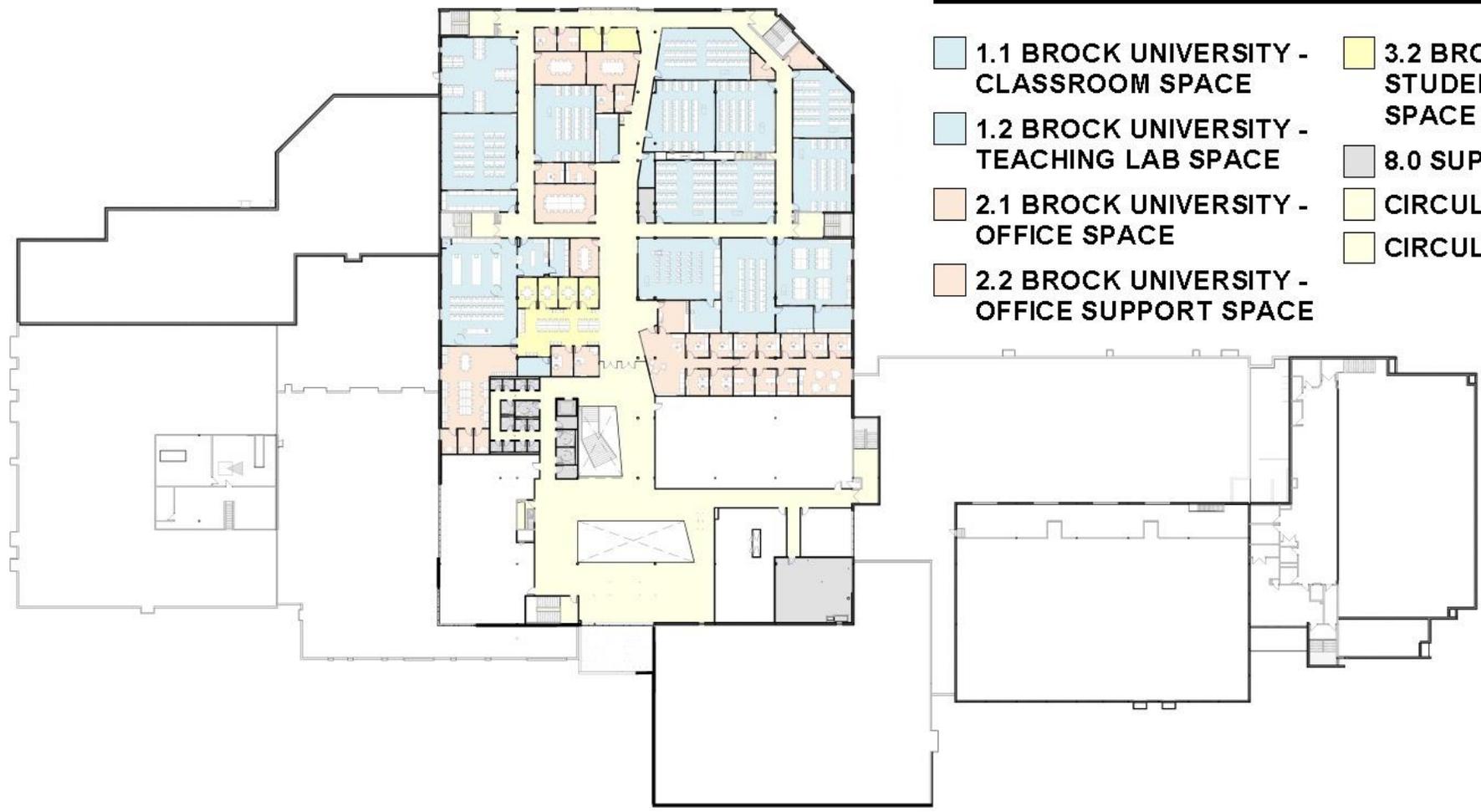
- 3.2 BROCK UNIVERSITY - STUDENT SERVICES SPACE
- 4.2 BROCK LIBRARY & IRC
- 7.1 HALTON DISTRICT SCHOOL BOARD
- 3.4 BROCK UNIVERSITY - LEARNING SUPPORT SPACE
- 5.1 TECH PLACE
- 8.0 SUPPORT SPACE
- 4.1 BURLINGTON PUBLIC LIBRARY
- 5.2 TECH PLACE - SHARED SPACE WITH OTHER TENANTS
- CIRCULATION
- 6.1 CITY OF BURLINGTON

### Tenant Areas:

Brock University:	36,718s.f.
Burlington Public Library:	13,817s.f.
TechPlace:	4,928s.f.
Halton District School Board:	26,851s.f.
City of Burlington:	2,310s.f.
Gymnasium:	11,132s.f.

# Second Floor Plan

## FUNCTIONAL PROGRAM DEPARTMENT



- 1.1 BROCK UNIVERSITY - CLASSROOM SPACE
- 1.2 BROCK UNIVERSITY - TEACHING LAB SPACE
- 2.1 BROCK UNIVERSITY - OFFICE SPACE
- 2.2 BROCK UNIVERSITY - OFFICE SUPPORT SPACE
- 3.2 BROCK UNIVERSITY - STUDENT SERVICES SPACE
- 8.0 SUPPORT SPACE
- CIRCULATION
- CIRCULATION (BROCK)



Proposed Design

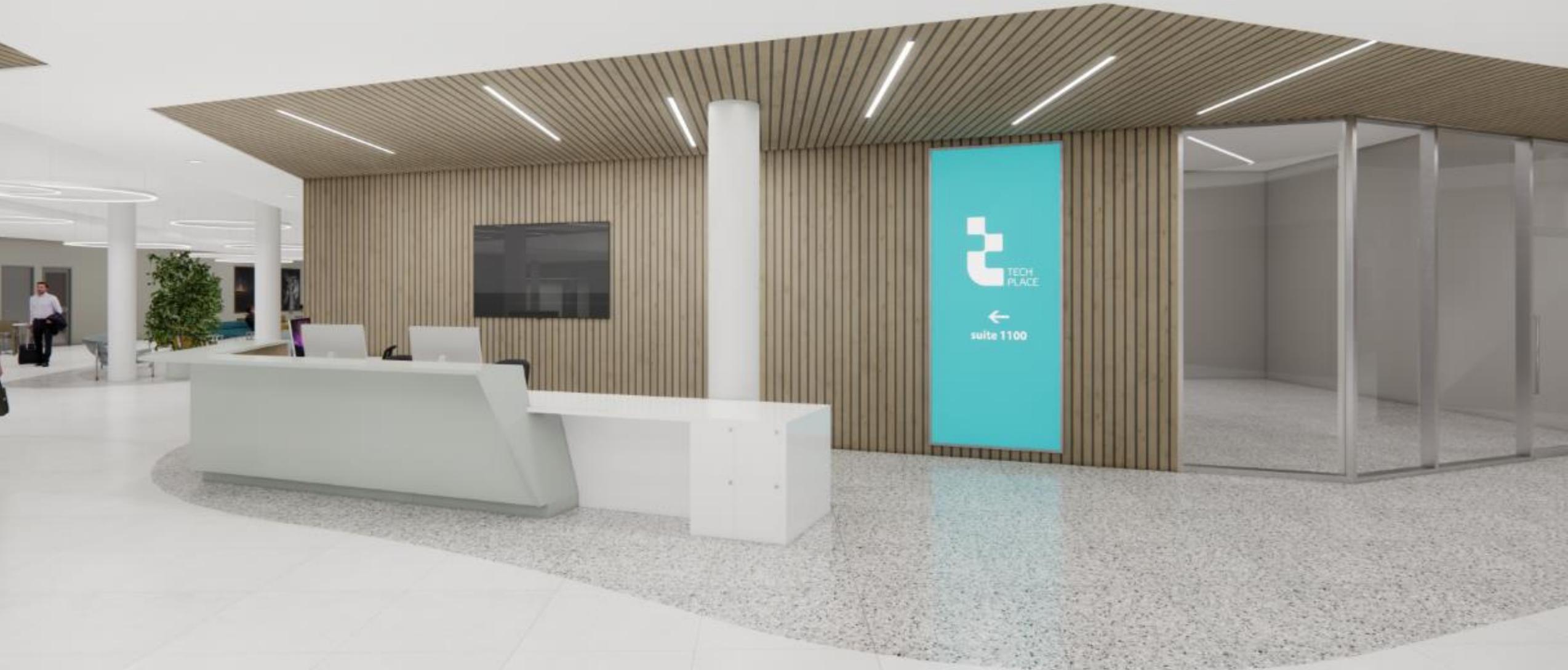


View of the Main Entry From New Street



View of the New Two Storey Lobby from the Entry





View of the New Welcome Desk



View of the Main Street and New Feature Stair to the Second Floor



View of the New Feature Stair

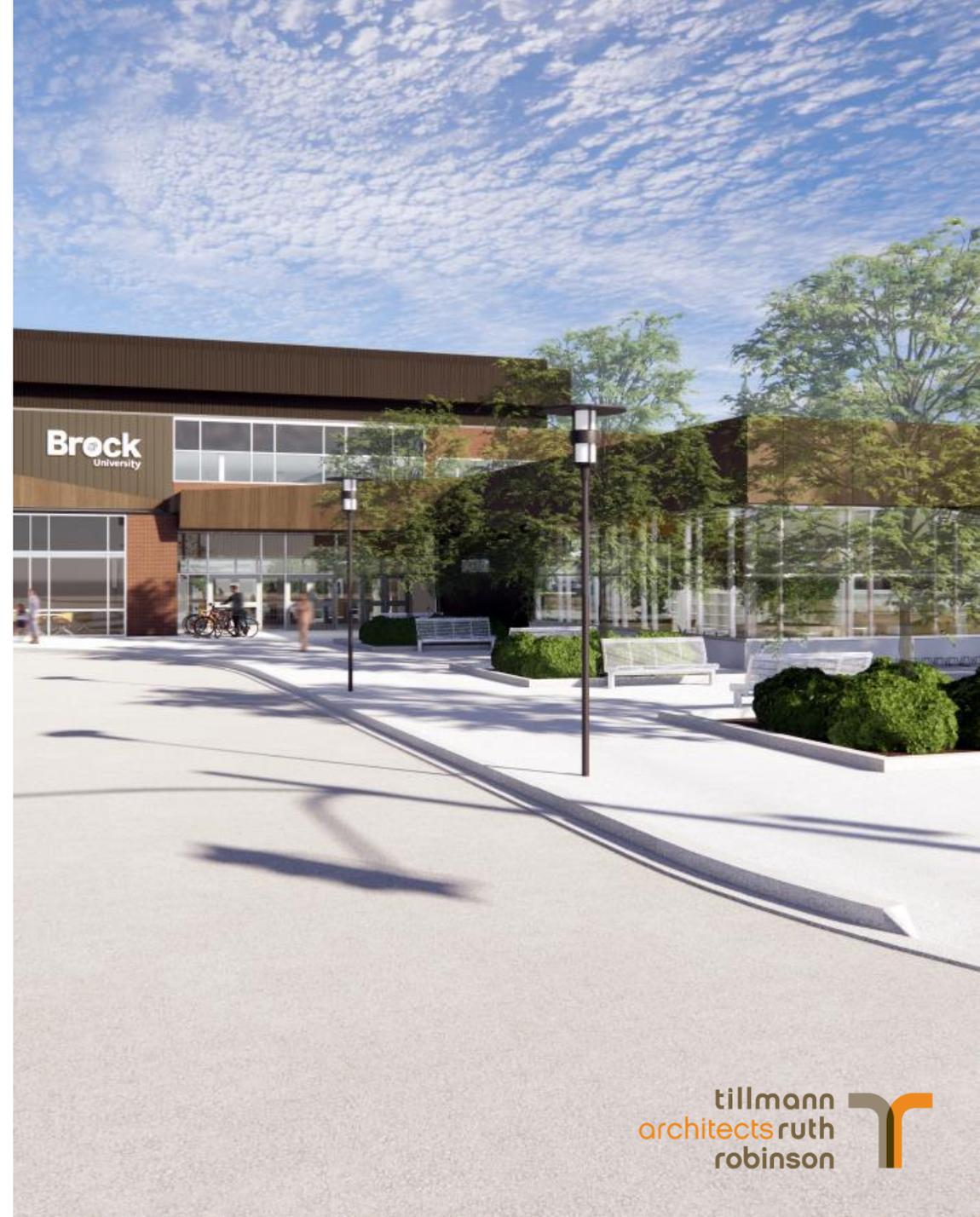




View of the Main Street looking towards the Parking at the North

# Five Steps Net Zero GHG Emissions

1. First Step of System Upgrades
2. Second Step of System Upgrades
3. Third step of System Upgrades
4. Onsite Renewable Energy
5. Purchased GHG Offsets



# First Step of System Upgrades

The “Step 1 Scenario” models upgrades to certain building systems. The key performance assumptions for this scenario are as follows:

- Improved Wall R-Value = from R6 to R-25
- Improved Window Assembly Performance Reduced Building Envelope Air Leakage Improved Air-Side Heat Recovery Effectiveness = 70% on all ventilation air (except gyms)
- Addition of chiller plant (capable of heat pump operation) Replacement of air handling units, terminal units, distribution system piping, and pumps.



**17%** Energy Consumption Reduction from Baseline



**32%** GHG Reduction from Baseline

# Second Step of System Upgrades

The “Step 2 Scenario” models upgrades to additional building systems. The key performance assumptions for this scenario are as follows:

- Improved Roof R-Value = R-35 [h-ft<sup>2</sup>·F/Btu] effective
- Installation of the first portion of the Ground Source Heat Pump (GSHP) Ground Heat Exchanger (GHX) designed to work with Step 1 chiller / heat pump plant and sized to meet 100% of annual cooling / heat rejection loads and 75% of annual heating loads (note: existing boilers to provide supplemental heating during the Winter)



**40%** Energy Consumption Reduction from Baseline



**70%** GHG Reduction from Baseline

# Third Step of System Upgrades

The “Step 3 Scenario” models upgrades to additional building systems. The key performance assumptions for this scenario are as follows:

- Addition of two more chillers (capable of heat pump operation)
- Installation of the second portion of Ground Source Heat Pump (GSHP) Ground Heat Exchanger (GHX) sized to meet 100% of annual heating loads



**45%** Energy Consumption Reduction from Baseline



**85%** GHG Reduction from Baseline

# Fourth Step - Onsite Renewable Energy

After Steps 1, 2, and 3 have been fully implemented:

- the annual energy use of the building should be reduced by over 45%
- the operational GHG emissions should be reduced by over 85% relative to the “Baseline Scenario”

Step 4 includes the installation of onsite renewable energy (i.e. a PV system with a nameplate rating of ~1,200 kWp), the annual net operational GHG emissions should be close to zero (for a typical year).



**45%** Energy Consumption Reduction from Baseline



**98%** GHG Reduction from Baseline

# Fifth Step - Purchased GHG Offsets

The final step will be purchasing GHG offsets after each year of building operations.

Any shortfall in balancing the annual operational GHG emissions to zero should then be made up by purchasing third-party GHG emissions offsets.

Only high-quality and rigorously-verified carbon offsets should be used.



**45%** Energy Consumption Reduction from Baseline



**100%** GHG Reduction from Baseline

# Budget & Schedule Summary

Phase 1 Renovations



# Proposed Capital Financing

Phase 1 Renovations

# Phase 1: Proposed Capital Financing

Tenant Capital Contributions (Cash)	\$7,100,000
Non-Tax Supported Debt Financing	
Tenant Recovery	\$11,750,000
Special Circumstances Debt (SCD)	\$4,000,000
Tax Supported Debt Financing	\$45,900,000
Senior Government Funding	\$4,000,000
<b>Total Proposed Phase 1 Budget</b>	<b>\$72,750,000</b>

- Estimated construction cost \$72.75 mil
- Prior approved funding \$3 million (design)

# Key Funding Sources

## Debt Financing

### Non-Tax Supported Debt

- Tenant recovery from annual rent (\$11.75M)
- Special circumstances debt (\$4M) funded through Hydro Reserve Fund

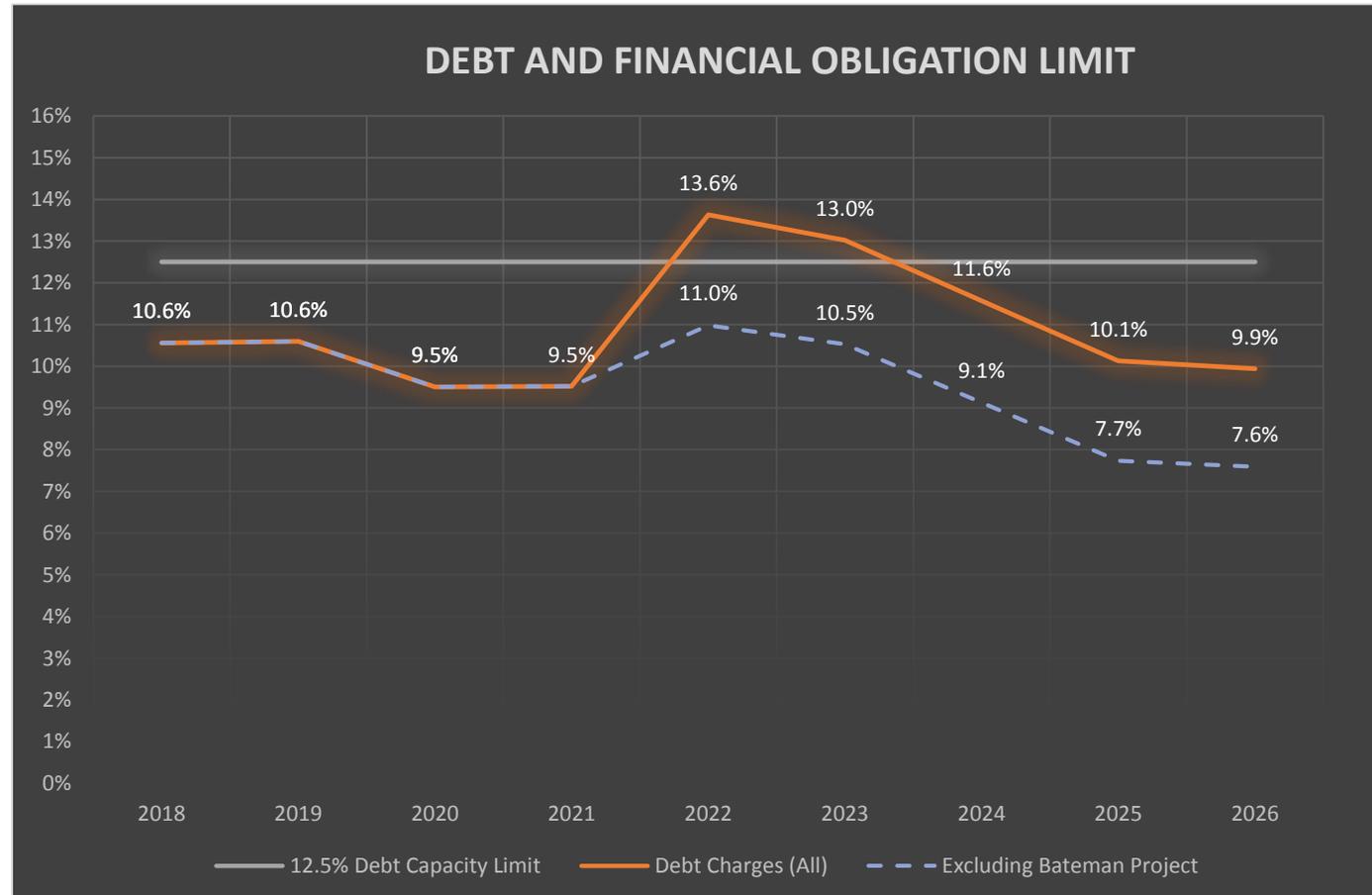
### Tax Supported Debt (TSD)

- Annual debt repayment \$4.4 million
- Tax rate impact of 2.3%
- Debt limit increases to 13.6%, within debt policy temporary overage guidelines

## Senior Government Funding

- Low Carbon Challenge Economy Fund application for \$10.8 million
- If application is successful;
  - Recovery of \$4 million
- If application is not successful;
  - Project cost will be revised to \$61.95 million
  - TSD financing will be reduced accordingly, reduced the annual debt payment to \$3.8 million

# Debt Capacity



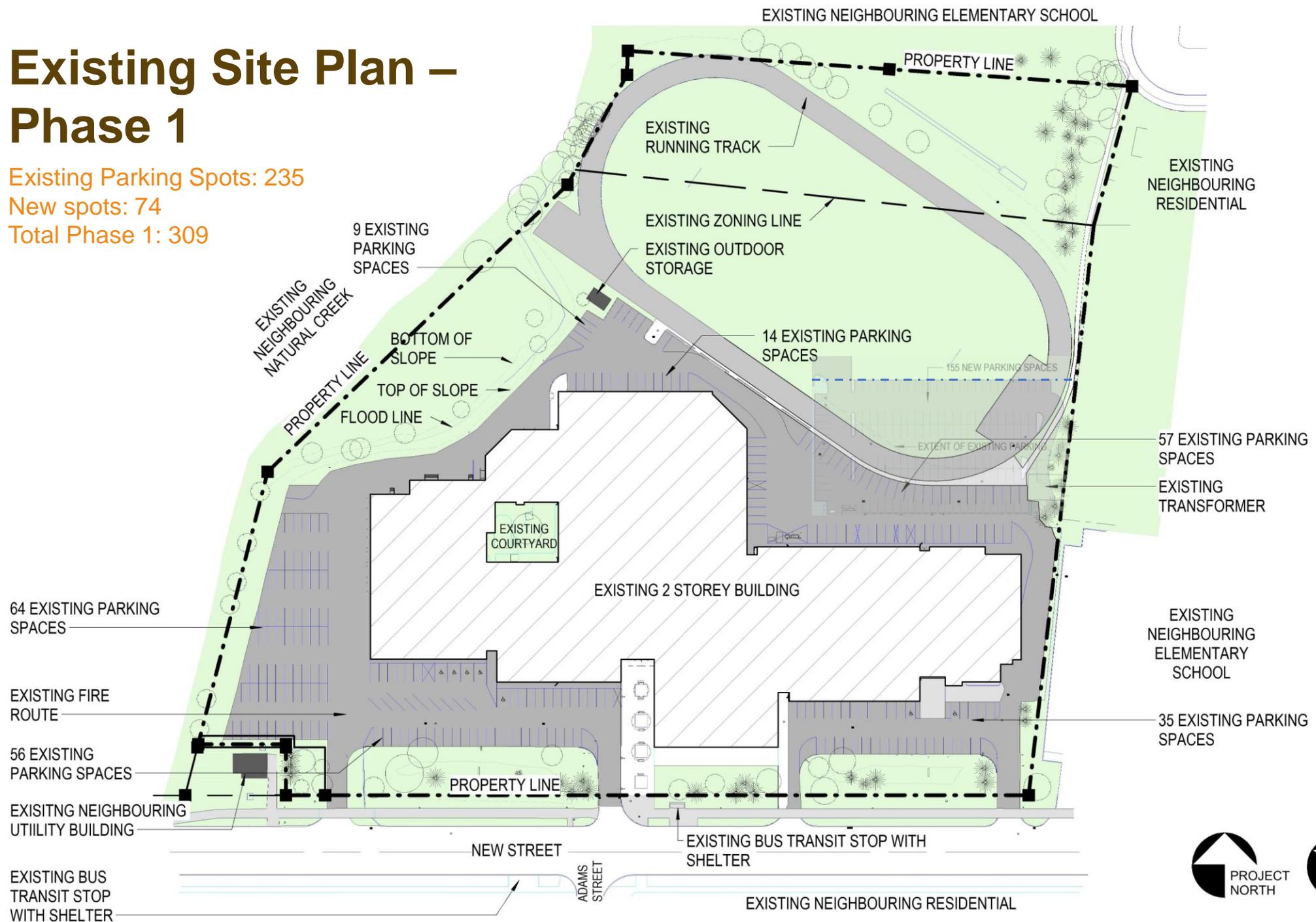
- Large capital investments
  - 2022, \$86 million approved
    - Phase 1 Bateman Renovations & Land
    - Skyway
  - Multi-year Community Investment Plan

# Site Plan and Parking

Phase 1 Renovations

# Existing Site Plan – Phase 1

Existing Parking Spots: 235  
 New spots: 74  
 Total Phase 1: 309



# Next Steps

## **Next Steps/ Recommendations:**

**Confirm Site Plan and Parking**

**Prequalify and Tender Phase 1**

**Report back to Council with Updates**

**Carry out Community Engagement for Phase 2 Amenities and Programs**

**Determine future facility Sponsorship Opportunities**

**Questions?**