Quayside falls within both the **East Bay Front** and **Keating Channel** precinct boundaries.

Surrounded by existing communities, such as the **West Don Lands**.

As well as precincts in the planning phases, such as the **East Harbour**.
• **Bus routes** servicing the Eastern Waterfront

• Future proposed **waterfront LRT line**

• Future **Subway relief Line**
Regeneration Area

- New development can incorporate a wide mix of uses both public and private, including residential.
- These sites will be subject to particular attention in the precinct implementation strategies to ensure that they achieve the highest quality of built form and design.
- The precinct implementation strategies will define their scale, range of uses and ensuring that the individual building design meets high standards of excellence through peer review.
East Bayfront Precinct Plan was approved by Council in December 2005.

It encoded the overall Master Plan for the Quayside site including: streets and blocks, parks and open spaces, heights and densities, land uses, and affordable housing and sustainability targets.

The vision for East Bayfront precinct is for a new urban waterfront community, a place of design excellence, high levels of sustainability and strong relationships to the water’s edge. East Bayfront will accommodate a mixture of uses and a range of urban built form with buildings arranged to collectively give appropriate definition, identity and scale to the public realm of the district while serving their intended uses.
Planning Context – Keating Channel Precinct Plan

**Building Typology:** The urban design strategy draws on the mid-rise and high-rise building typologies that are so prevalent in Toronto. These elements will be combined within the Precinct to create a more sustainable model for a dense and compact built form that supports active pedestrian life.
Current Zoning: Height

**Zoning areas** are approximate, drawings reflect the current allowable height and tower placements.

* The zoning bylaw permits an additional 12 m above the permitted height in this location.
Current Zoning: Density

Zoning areas are approximate, drawings reflect the current allowable as of right GSF
Zoning areas are approximate, drawings reflect the current allowable height and tower placements.
Ranges are approximate, and reflect a scenario of residential uses within the current allowable as of right GSF.

<table>
<thead>
<tr>
<th></th>
<th>Lower Range Residential</th>
<th>Upper Range Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SF</strong></td>
<td>1,183,000</td>
<td>2,273,000</td>
</tr>
<tr>
<td><strong>Number of Units</strong></td>
<td>Approx 1,180</td>
<td>2,260</td>
</tr>
<tr>
<td><strong>As of Right Development GSF</strong></td>
<td>3,281,000</td>
<td></td>
</tr>
</tbody>
</table>
## Project Structure

<table>
<thead>
<tr>
<th><strong>SUSTAINABILITY</strong></th>
<th><strong>MOBILITY</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>A truly climate positive community</td>
<td>A competitive, safer alternative to the private automobile for every trip</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>PUBLIC REALM</strong></th>
<th><strong>BUILDINGS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>A public realm for the entire region that is delightful and vibrant year-round</td>
<td>A built environment that is more usable, efficient and affordable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>COMMUNITY &amp; CITY SERVICES</strong></th>
<th><strong>DIGITAL PLATFORM</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>A close-knit, healthy community with seamless access to vital daily services</td>
<td>Open digital infrastructure that inspires innovation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>HOUSING AFFORDABILITY</strong></th>
<th><strong>PRIVACY &amp; DATA GOVERNANCE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusive, affordable communities for people of all ages, abilities, and means</td>
<td>A new standard for transparent, accountable, and responsible data use</td>
</tr>
</tbody>
</table>

Targeted outcomes inform every step of our planning.
Buildings - Overview

New construction techniques such as timber and modular combined with new program typologies such as micro-housing and radical mixed-use result in a wide variety of building shapes and block sizes, generating new forms of street grid.
Buildings - Public Engagement

- **Mass Timber Event**: Tuesday, July 17, 2018 (during Open Sidewalk)

- **Biophilic Building Design with Bill Browning**: Saturday, July 22, 2018 (during Open Sidewalk)

- **Roundtable #4**: Tuesday & Wednesday, August 14-15, 2018

- **Design Jam: Vertical Living**: Monday, September 17, 2018
Areas for Panel Consideration

Buildings Goals and Innovations:

• Success of key strategies in creating more adaptable, affordable and sustainable buildings

• Appropriateness of approach to building innovation components

• Feedback on proto-model design
Buildings

Consultants Engaged for MIDP Development

Sidewalk is working in partnership with several teams on the Buildings Innovation strategy that will inform the Master Innovation and Development Plan, including:

- Proto-Model: MGA and Equilibrium
- Building Concepts: 3 architects
- Flexible Unit Design: 3 architects
- Engineering - General
- DC Building Design
- Cost Estimating
- Code consultant
Buildings
Buildings Innovations

Objectives

**Adaptability**
Create structures that are more responsive to the people’s needs over time, both on Day 1 and years later.

**Affordability**
Reduce the cost and speed of construction through a manufactured approach to buildings.

**Sustainability**
Build at the highest sustainability standard to help the environment, reduce utility costs, and improves occupant well-being.

**Design Excellence**
Uphold and deliver innovative building design and architectural excellence on the waterfront.
Buildings Innovations

Adaptability

**Panel Systems**
- 20-40% of upper interior walls
- 50% of lower interior walls

**Underground Delivery System**
Cost partially offset by basement construction

**Loft Typology**
First two floors of buildings have loft typology

**Radical Mixed-Use**
Buildings include: micro-units, radical mixed-use

**Centralized Parking**
Includes centralized parking structure
Cost Neutral
Cost reduction 5% with scale beyond Quayside

Delivery of Material
Tall timber products are manufactured and delivered by Canadian factories

Proto Model Size
10, 20, and 30-storey models with standardized factory based building format

DC Power
Integration of DC power system
C2C MATERIALS
Achieve Toronto Tier 3 Green Standard with Cradle to Cradle (C2C) Material Certification

GREEN ROOF
Green roof with potential for urban farming or PV’s

FACADE GLAZING
Facade glazing is photosensitive. South-facing facade designed to reflect glare-free light to north facing buildings

POWER + SPRINKLERS
Surface-mounted low voltage power and high pressure sprinklers enable partition walls to be movable. Extend BMS to wall plug
Making Old

New Again
<table>
<thead>
<tr>
<th>OLD: CURRENT PRACTICE</th>
<th>NEW: SIDEWALK LABS INNOVATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsustainable Steel &amp; Concrete</td>
<td>C2C Plaster</td>
</tr>
<tr>
<td>Concrete Cores</td>
<td>Configurable Walls</td>
</tr>
<tr>
<td>Single-Use Elevators</td>
<td>Modular Solutions</td>
</tr>
<tr>
<td>Frame in Place</td>
<td>Safer DC Power</td>
</tr>
<tr>
<td>Drywall &amp; Insulation Support</td>
<td>Faster-Response Mist System</td>
</tr>
<tr>
<td>Sprinkler Systems</td>
<td>Renewable Canadian Resource</td>
</tr>
<tr>
<td>Widespread AC Wiring</td>
<td>Off-site Fabrication</td>
</tr>
<tr>
<td>Fragmented Supply Chain</td>
<td>Combo Internal Freight System</td>
</tr>
</tbody>
</table>
Horyuji Temple / Japan

Oldest wooden building in the world

Five-story pagoda

32.5 meters in height

Built in 711 AD
OLD: Poor Sustainability Concrete & Steel

NEW: Sustainable Timber
OLD: On Site Concrete Core

NEW: Modular Elevator Core
OLD: Frame in Place

NEW: CLT Panel Wall
OLD: Plaster & Lathe Installation

NEW: Factory Plaster Installation
OLD: Widespread AC Wiring

NEW: Safer DC Power
BUILDING BLOCK
The Opportunity of Timber

Sidewalk Toronto is considering using tall timber technologies on an unprecedented scale, and exploring what it would mean to build Quayside primarily, or even entirely, out of tall timber.
Building Block

Why Mass Timber?

CLIMATE-FRIENDLY
Helps Sidewalk Toronto make progress towards meeting Waterfront Toronto’s ambitious sustainability goals and achieving climate positive

ECONOMIC BOOST
Supports and leverages the expertise of Canada’s world-leading timber industry

HEALTHIER SPACES
Provides warmth and character to living spaces

FASTER CONSTRUCTION
Achieves faster construction times, less on-site noise, less congestion, and safer sites via off-site manufacturing

COST SAVINGS
Realizes significant cost savings in the long term, especially as the market expands
Building Block

Mass Timber Challenges

TECHNOLOGICAL CAPACITY
Timber construction limited to 30 storeys

INDUSTRY CAPACITY
Supply chains will need to grow to support larger-scale construction

BUILDING CODE
Regulation would require amendment for buildings above 6 storeys (the current limit)

IMMEDIATE COST
Savings may not be realized at the scale and timeframe envisioned for Quayside
Building Block

Tall Timber in Canada

PRECEDENT
Canada is leading tall timber building construction in the Americas with residential buildings, scholastic buildings, and commercial buildings, including Brock Commons and The Arbour.

CODE
Current code pre-approves buildings up to 6 storeys, with performance-based approvals for taller buildings. In 2021, the code is anticipated to pre-approve timber buildings up to 12 stories and performance-based approvals for taller buildings.

TRI-GOVERNMENTAL SUPPORT
Federal, provincial, and city agencies have partnered to support the advancement of timber technologies and industry growth.

LOCAL NATURAL RESOURCES
Canada is home to the largest supply of certified forests that can be sustainably cultivated. For example, it would take just 100 minutes of growth of these forests to support an entirely timber Quayside.

GROWING INDUSTRY
Expanding the existing tall timber industry could allow Toronto to become a global resource for tall timber expertise.
Building Block
Mass Timber Innovations
Concrete Podium, Glulam Columns, CLT Flooring
Building Block
Mass Timber Precedent

CLT Gymnasium
Building Block
Mass Timber Precedent

Custom Glulam Beams
Building Block
Mass Timber Construction

UBC Centre for Interactive Research on Sustainability, Vancouver
Building Block
Mass Timber Precedent  Credit Valley Hospital, Mississauga
Mass timber at Quayside can help enable a unique new living experience on the waterfront, and expand housing options for a diverse range of residents.
01 Identification of Technology

Explored and identified a series of innovations that make up our strategy for the built environment.

02 Proto-Model Development

Developed proto-models to test the integration of specific technologies and variations in design.

03 Design & Cost Benchmarking

Commence benchmarking exercise to better understand design and costs of construction based on proto-models.

04 Building Design Check

Develop building designs for buildings on Quayside that we will measure against our benchmarks and goals.
PROTO MODEL
20’ X 20’ COMMERCIAL BAY

GLULAM COLUMNS
RAISED ACCESS FLOOR
SERVICES TO LEVEL BELOW
GLULAM GIRDERS
CLT DECK
20’ X 20’ RESIDENTIAL BAY

GLULAM COLUMNS

KITCHEN/BATHROOM MODULE

CORRIDOR PARTITION

GLULAM GIRDERS

CLT DECK - WITH ACOUSTIC MAT & INTERIOR FLOOR FINISH
24’ X 24’ LOFT BAYS

COMMERCIAL

RESIDENTIAL
STOA TRANSFER SYSTEMS

2-STOREY

1-STOREY

GROUND FLOOR

CONCRETE
40’ X 40’ STOA

- CLT Deck
- Glulam Girders
- Glulam Columns
OVERSIZED
BASE MASSINGS
LATERAL SYSTEMS
MASSING STRATEGIES
MASSING STRATEGIES

MA6 Paris competition_MGA
BLOCK MASSING STUDY