



Municipal Class Environmental Assessment Killarney Municipal Wharf Improvements

Public Open House #2

Wednesday, August 30, 2023

6:00 pm to 8:00 pm

Welcome!



To view these display boards online, please visit:
<http://municipalityofkillarney.ca/municipal-wharf/>



Welcome!

- Please sign in and take a comment sheet.
- The purpose of this Open House is to:
 - Introduce the study to the public and provide an update.
 - Present the evaluation of alternative designs.
 - Present the recommended alternative design concept.
 - Seek your input and comments.
- If you have questions, our team members are available to discuss the project with you.
- Please place your comment sheets in the “Comment Box” or send them before Wednesday, September 13, 2023 to:



Kelly Champaigne, Project Manager
Municipality of Killarney
32 Commissioner Street
Killarney, ON P0M 2A0
kchampaigne@municipalityofkillarney.ca





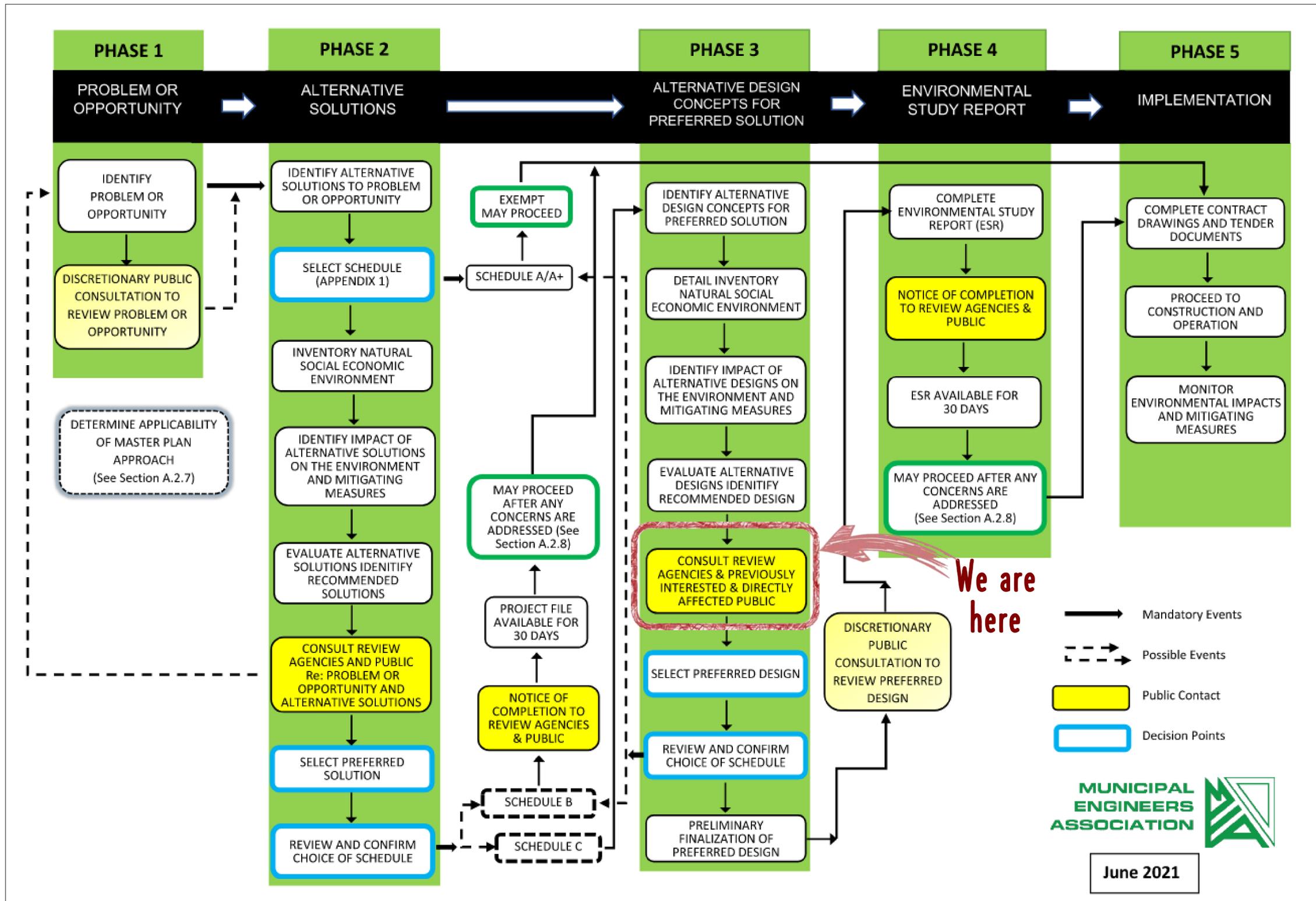
Purpose of this Study

- To identify the preferred solution and conceptual design for the Killarney Municipal Wharf Reconstruction Project.
- To obtain and incorporate input from the public, agencies, key stakeholders and other interested parties in the selection of the preferred solution and preparation of the conceptual design to ensure the future Municipal Wharf best meets the needs of the community.





Environmental Assessment Process

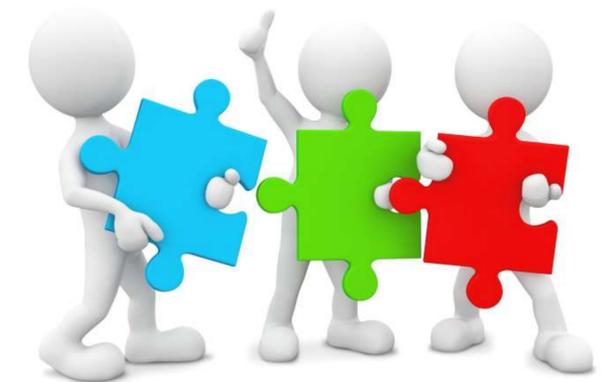


- Project is being undertaken as a Schedule “C” Class Environmental Assessment (EA) Study
- Schedule “C” EA studies include Phases 1, 2, 3 and 4 (with Phase 5 being design and construction of the project).
- We are currently near end of Phase 3.



Problem / Opportunity Statement

- A Problem / Opportunity Statement identifies the problem to be addressed by the EA Study *and* associated potential opportunities.



Project Problem / Opportunity Statement

The problem that this Class EA will address is the poor condition of the Killarney Municipal Wharf. Allowing the wharf to continue in its current condition without intervention would result in its continued deterioration, negatively impacting its ability to carry out its community role.

Addressing the poor condition of the wharf presents opportunities for the Municipality. These include ensuring the wharf is better able to resist potential climate change impacts (such as elevated water levels) and increasing its potential for community use.

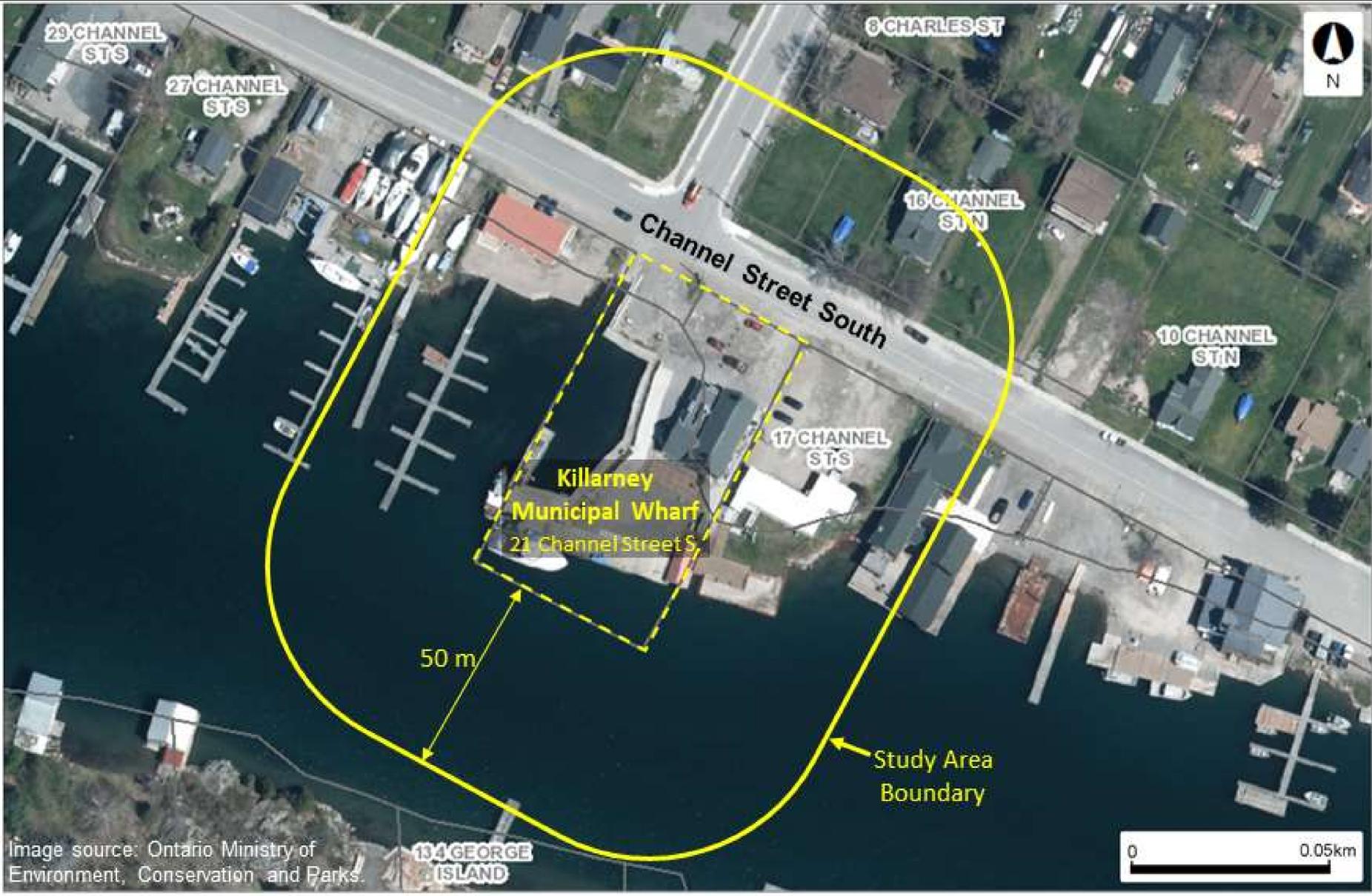


Study Area

The Municipal wharf is located at 21 Channel Street South in the Village of Killarney.

The land is owned by the Municipality.

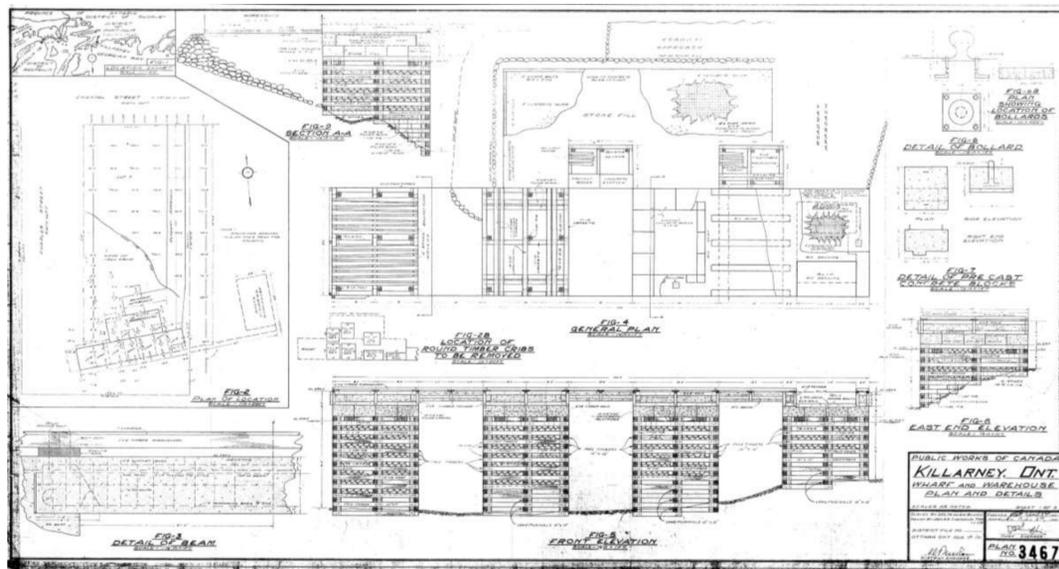
The study area boundary extends approximately 50m outward from the municipal property.



Project Background

Wharf Construction

- A portion of the wharf was built in 1951 by Public Works of Canada. The wharf was built using a rock-filled timber crib construction, including a concrete deck surface along the south edge along the water.
- The wharf has undergone a number of upgrades and repairs since the original 1951 construction, including significant upgrades in 2013.
- Some of the rock-filled timber cribs built in 1951 are still in use today.



Wharf Design Plans, 1951



Underside of South Dock on East Side

Condition of Wharf

- The south-east section of the wharf has a concrete deck and wood curb on the south edge along the water. The area behind the concrete dock has been losing fill, which means the crib is losing its ability to retain it.
- Lightweight fill in the form of large polystyrene blocks were previously buried behind the dock to relieve earth pressure against the structure. However, uplift forces due to higher-than-expected water levels appear to have pushed the blocks upward, causing extensive damage to the area. Pre-cast concrete barriers have been used as counterweights as a short-term precaution measure.



Project Background (1)

Flooding

- The wharf has in recent years been impacted by high-water levels in the Great Lakes
- In 2019 and 2020, the water level in Georgian Bay approached record levels of about 177.5 m. This submerged the north and north-east docks, which have a top of deck elevation of 177.38 m. This left them inaccessible to boaters and visiting tourists.
- It also likely increased the uplift faced by the polystyrene fill blocks buried behind the dock.



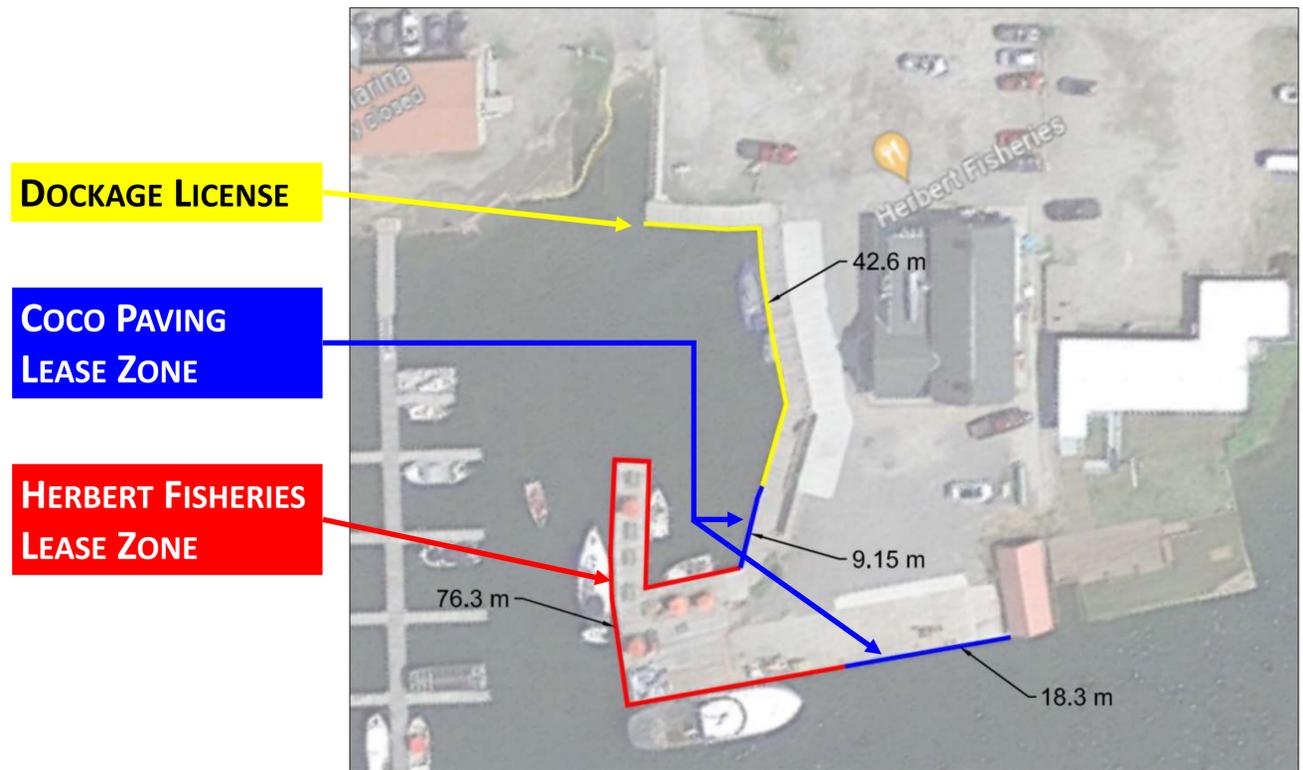
Wharf Assessment (2020)

- In November 2020, the Municipality undertook an assessment of wharf upgrades to address the issues related to deterioration and water elevation. The assessment identified two feasible upgrade alternatives, which included:
 - A short-term solution that would raise the lower north and east docks to the same elevation as the main concrete dock at the south; and
 - A long-term solution that would reconstruct the wharf to a higher deck elevation, providing increased freeboard to the record high water level of Lake Huron.
- The Municipality determined that the preferred option would be to reconstruct the wharf, and the wharf redesign process was initiated.
- The Municipality's wharf design consultant (EXP) developed two alternative designs for the wharf reconstruction. The designs include a sea wall, which resulted in the need for the project to be undertaken as a Class EA (i.e., this EA study).
- This Class EA study will be used to confirm the preferred alternative solution (reconstruction of the wharf) and to identify a preferred design alternative.

Project Background (2)

Wharf Leases

- Municipality leases space along the wharf to Coco Paving and Herbert Fisheries for commercial uses.
- Space is also available for public dockage.
- Alternative solutions and designs are to minimize potential impacts to availability of dockage to lease holders while maximizing public dockage space.



Opportunity for a Public Space

- The Village of Killarney is the largest settlement in the Municipality.
- Killarney's economy is heavily dependent on tourism and recreation.
- Tourists are drawn to the area by the area's nearby parks (Killarney Provincial Park and French River Provincial Park) and natural wilderness, lakes and forests.
- Revitalization of the wharf provides an opportunity to enhance its use as a public space. This would help to support the community's accommodation, retail and food service businesses while providing a desirable community feature for permanent and seasonal residents.





Preferred Alternative Solution

- In Phase 2, four alternative solutions were considered to address the problem statement.
- Based on the evaluation and feedback received, the preferred alternative solution is to reconstruct the municipal wharf (#2).

✗ 1. Raise the North and East Docks

- This would be a short-term option that involves raising the lower north and east docks to the same elevation as the main concrete docks at the south.

✓ 2. Reconstruct the Wharf

- This is a long-term solution that includes reconstructing the wharf to a higher deck elevation, which would provide increased freeboard to Georgian Bay, and to Lake Huron's record-high water levels.

✗ 3. Build a New Municipal Wharf

- This solution would see the Municipality build a new Municipal Wharf in a new location.

✗ 4. Do Nothing

- This alternative is the "base-case" alternative that would see the Municipality do nothing and leave the wharf as-is.

Alternative Design Concepts

Characteristics of Alternative Design Concepts

- a) Reconstruction of municipal wharf at higher elevation.
- b) North deck elevation to be raised by 0.72m and south deck by 0.3m, bringing both to an elevation of 178.10m (this provides a freeboard of 0.60m compared to record high water level of Georgian Bay).
- c) Layout of reconstructed wharf generally matches existing configuration, except for removal of finger dock at the south-west corner of the wharf and extension of concrete dock 1m further into channel, providing larger usable dry area.
- d) New floating docks to be installed on small craft basin by boat launch, providing dockage for small recreational boats.
- e) Mooring area for larger commercial vessels to remain on south side of wharf by the main channel.
- f) Construction of north dock would consist of steel sheet pile seawalls with anchors to underlying bedrock, and floating docks with timber deck.
- g) South dock would consist of steel tube piles anchored into bedrock to support a concrete deck.
- h) South dock would include fender on all sides (see figure, right), extending below the water surface to act as a seabreak.
- i) Entire parking lot regraded to new wharf elevation.



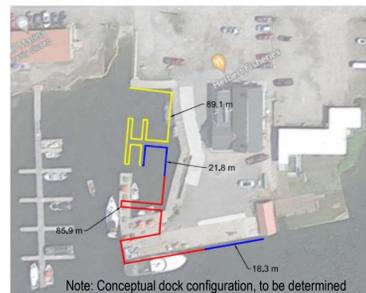
Example of timber fender

Alternative Design Concepts

Conceptual Layout A



EXISTING MOORING LENGTH
SCALE: 1:750



Note: Conceptual dock configuration, to be determined

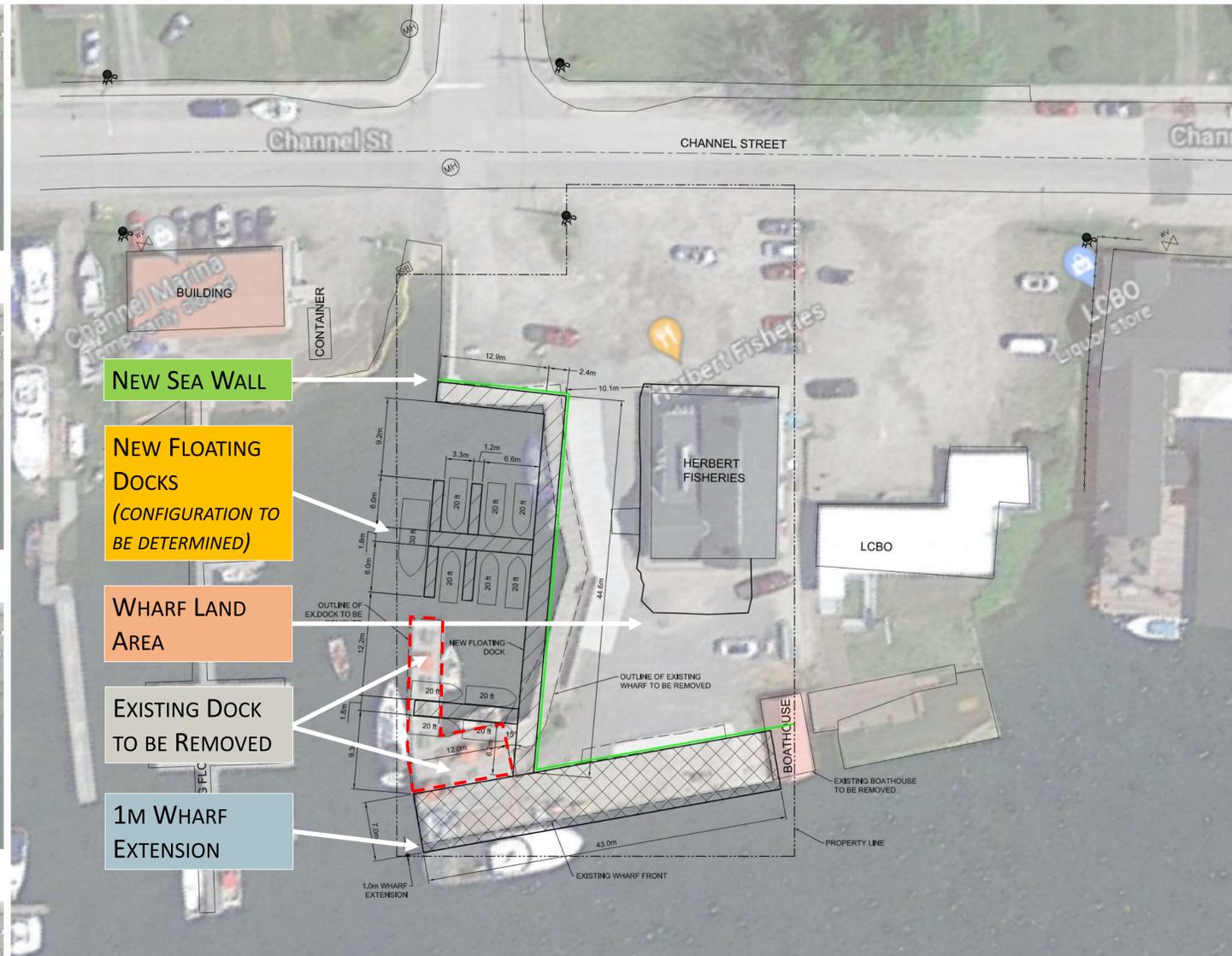
NEW MOORING LENGTH
SCALE: 1:750



EXISTING SHORE AREA
SCALE: 1:750



NEW SHORE AREA
SCALE: 1:750



CONCEPTUAL SITE PLAN
SCALE: 1:250

LEGEND	
E/P	EXISTING EDGE OF PAVEMENT
CL	EXISTING CENTER LINE
Crb	EXISTING CURB
	EXISTING EDGE OF SIDEWALK
	EXISTING BOATRAMP
	EXISTING PATIO
	EXISTING CONCRETE PAD
	EXISTING FENCELINE
	EXISTING RETAINING WALL
	DOCKAGE LICENSEE
	COCO PAVING LEASE ZONE
	HERBERT LEASE ZONE
	EARTH RETAINING STRUCTURE
(MH)	EXISTING MAN HOLE
	EXISTING HYDROPOLE AND GUIDEWIRES
PART 1	DRAFT PLAN LOT NUMBERS
(SIB)	EXISTING PROPERTY BARS
	EXISTING STORM WATER DRAIN
(WV)	EXISTING WATERVALVE
	FLOATING DOCK
	CONCRETE DOCK ON PILES
	EXISTING BUILDING
	EXISTING BUILDING
	EXISTING BUILDING
BM#1 ELEV. 177.926m	SITE BENCHMARKS ARE ROUND IRON BARS IN GROUND ESTABLISHED BY EXP SURVEYORS DEC.21 2021
BM#2 ELEV. 178.234m	

PROJECT GENERAL INFORMATION	
LOCATION:	KILLARNEY MUNICIPAL WHARF (N45.907, W81.513) KILLARNEY, ONTARIO
PROJECT SCOPE:	REMOVE AND RE-CONSTRUCTION OF ENTIRE MUNICIPAL WHARF WITH POSSIBLE SOUTH SIDE EXPANSION, PENDING AGENCY APPROVAL.
EXISTING WHARF CONSTRUCTION:	ROCK-FILLED TIMBER CRIBS SUBSTRUCTURE, COMBINATION OF TIMBER AND CONCRETE DECK SUPERSTRUCTURE.
PROPOSED WHARF CONSTRUCTION:	STEEL TUBE PILES AND SHEET PILE SUBSTRUCTURE, COMBINATION OF TIMBER AND CONCRETE DECK SUPERSTRUCTURE, FLOATING DOCK, 8 SLIPS

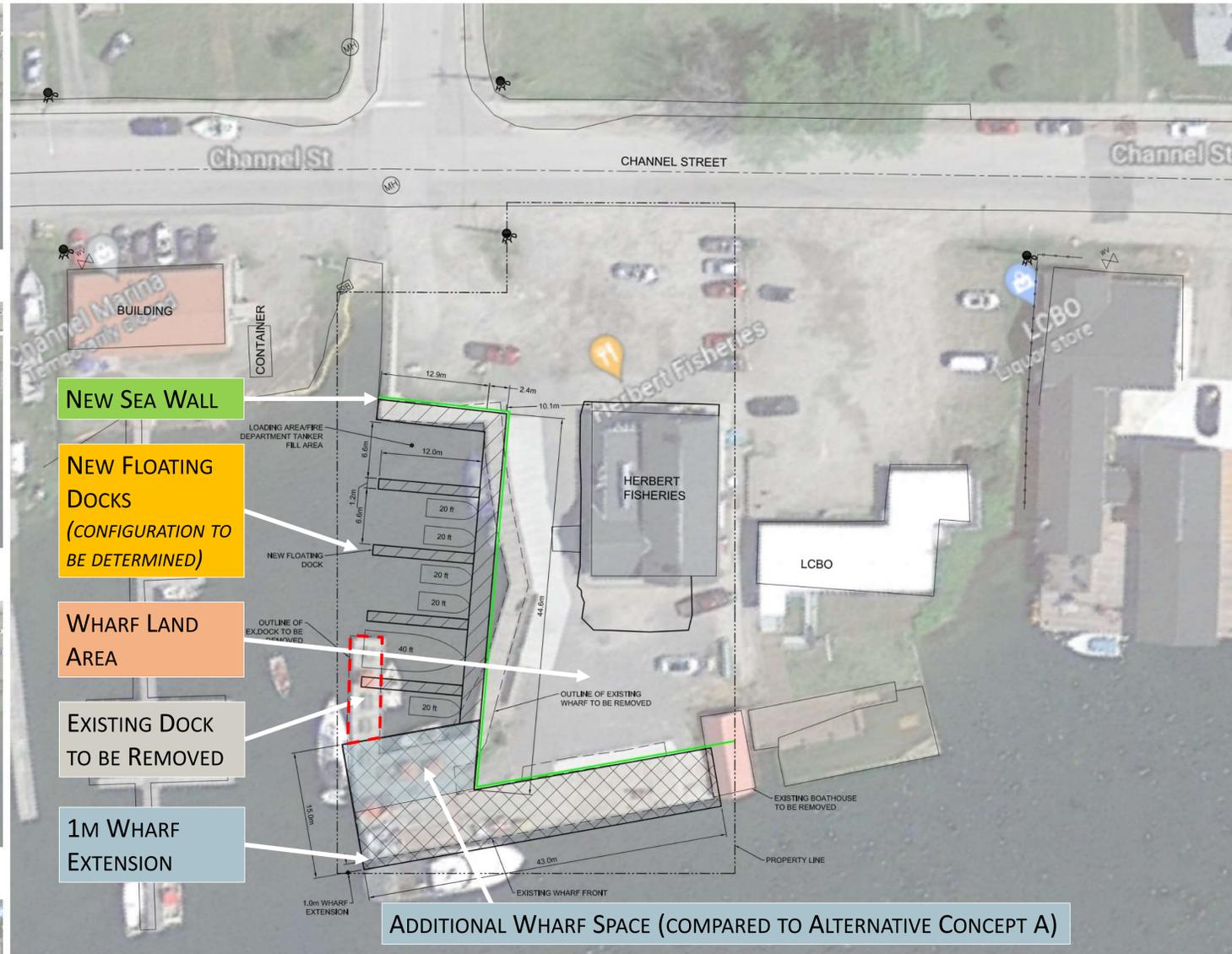
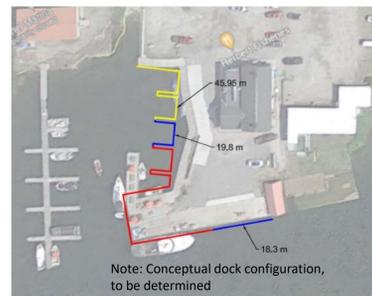


SCALE 1:250
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Alternative Design Concepts

Conceptual Layout B



ADDITIONAL WHARF SPACE (COMPARED TO ALTERNATIVE CONCEPT A)

LEGEND	
E/P	EXISTING EDGE OF PAVEMENT
CL	EXISTING CENTER LINE
Crb	EXISTING CURB
	EXISTING EDGE OF SIDEWALK
	EXISTING BOATRAMP
	EXISTING PATIO
	EXISTING CONCRETE PAD
	EXISTING FENCELINE
	EXISTING RETAINING WALL
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	COCO PAVING LEASE ZONE
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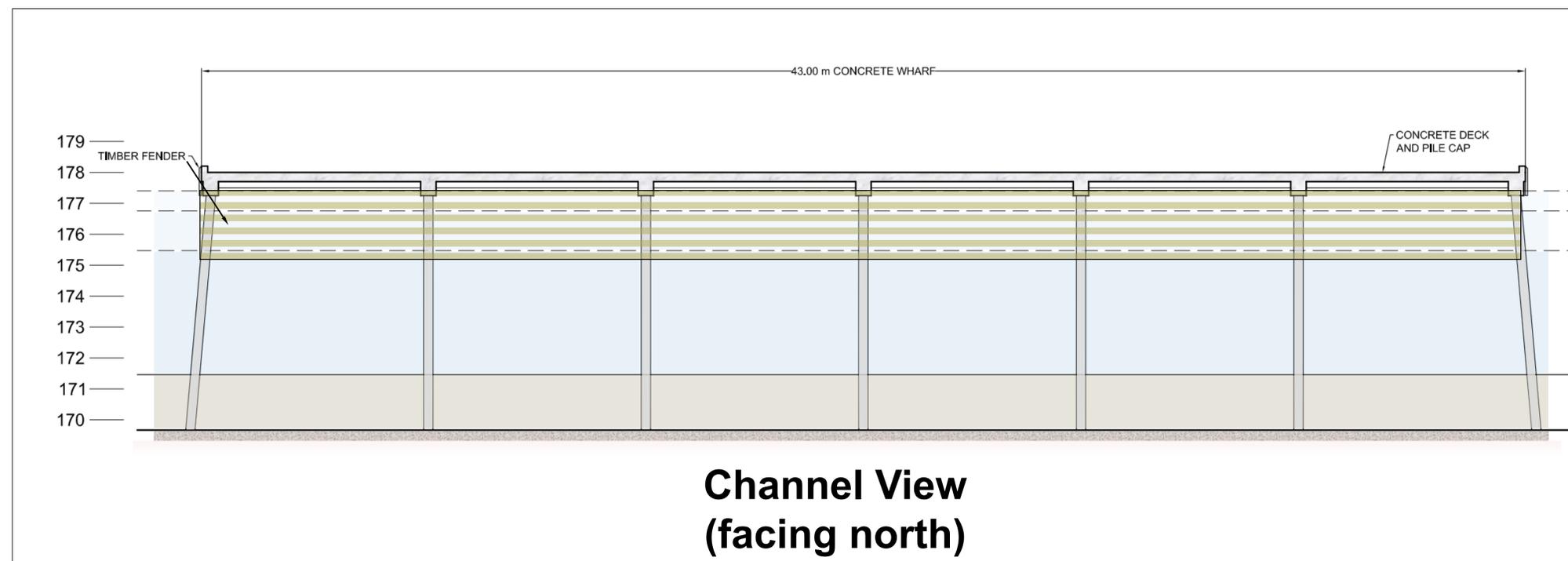
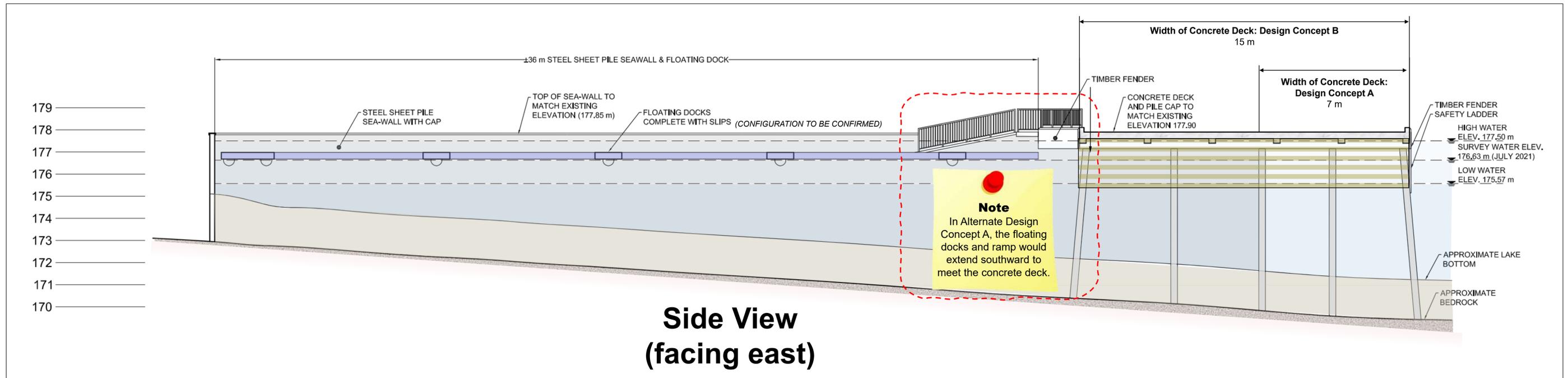


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Alternative Design Concepts

Typical Cross Sections





Alternative Designs – Evaluation

- The alternative design concepts were evaluated based on the following evaluation criteria.

Natural Environment

- Effect on Aquatic Habitat
- Effect on Terrestrial Habitat

Built Environment

- Effect on Wharf and Associated Facilities
- Alignment with Land-use Planning

Financial

- Capital Costs
- Operating Costs

Social Environment

- Effect of Construction on Area Users
- Community Space
- Recreational Boating

Economic Environment

- Effect on Economic Development
- Effect on Municipal Leases

Technical

- Construction Material
- Construction Schedule
- Climate Change Adaptation

Cultural Environment

- Effect on Archaeological & Cultural Resources

Evaluation Rating Scale

Preference	Description
Most Preferred	Least Negative Impact and/or Greatest Benefit
Moderately Preferred	Moderate Negative Impact and/or Moderate Benefit
Least preferred	Greatest Negative Impact and/or Least Benefit



Alternative Solutions – Evaluation Summary (1)

Category	Alternative Design Concept A	Alternative Design Concept B 
Natural Environment	<ul style="list-style-type: none"> Given the limited nature for permanent and temporary disturbances to aquatic, terrestrial and avian habitats at the wharf, the overall impact to the natural environment is low for both alternative design concepts. <p style="text-align: center;">Most Preferred</p>	<ul style="list-style-type: none"> Given the limited nature for permanent and temporary disturbances to aquatic, terrestrial and avian habitats at the wharf, the overall impact to the natural environment is low for both alternative design concepts. <p style="text-align: center;">Most Preferred</p>
Social Environment	<ul style="list-style-type: none"> The anticipated construction disruptions are similar for both design concepts. While Concept A provides an increased area to accommodate recreational boaters, it will not provide an increase to the area available for non-boating uses, including pedestrians, site-seers, and other users of the wharf. <p style="text-align: center;">Moderately Preferred</p>	<ul style="list-style-type: none"> The anticipated construction disruptions are similar for both design concepts. While Concept A provides an increased area to accommodate recreational boaters, Concept B will provide an increase area for pedestrians and other users of the wharf. <p style="text-align: center;">Most Preferred</p>
Cultural Environment	<ul style="list-style-type: none"> Both alternatives are equally preferred. <p style="text-align: center;">Most Preferred</p>	<ul style="list-style-type: none"> Both alternatives are equally preferred. <p style="text-align: center;">Most Preferred</p>
Built Environment	<ul style="list-style-type: none"> Both alternatives would similarly accommodate the existing use of the wharf and align with existing and zoned land uses. <p style="text-align: center;">Most Preferred</p>	<ul style="list-style-type: none"> Both alternatives would similarly accommodate the existing use of the wharf and align with existing and zoned land uses. <p style="text-align: center;">Most Preferred</p>



Alternative Solutions – Evaluation Summary (2)

Category	Alternative Design Concept A	Alternative Design Concept B 
Economic Environment	<ul style="list-style-type: none"> • Concept A is less preferred compared to Concept B because it will result in less wharf area than Concept B, thereby providing less space for local activities that may generate economic opportunities. <p style="text-align: center;">Moderately Preferred</p>	<ul style="list-style-type: none"> • Concept B is most preferred as it provides the more wharf area than Concept A (thereby providing more opportunity for local activities that may generate economic opportunity) while allowing the Municipality to meet terms of municipal wharf leases. <p style="text-align: center;">Most Preferred</p>
Technical	<ul style="list-style-type: none"> • Both concepts would use similar construction materials and methods and include similar resiliency to extreme weather events. • However, Concept A is most preferred because of its slightly shorter construction period compared to Concept B. <p style="text-align: center;">Most Preferred</p>	<ul style="list-style-type: none"> • Both concepts would use similar construction materials and methods and include similar resiliency to extreme weather events. • However, Concept B is moderately preferred to Concept A as it will have a slightly longer construction period. <p style="text-align: center;">Most Preferred</p>
Financial	<ul style="list-style-type: none"> • The anticipated capital and operating costs are not significantly different for either concept. <p style="text-align: center;">Most Preferred</p>	<ul style="list-style-type: none"> • The anticipated capital and operating costs are not significantly different for either concept. <p style="text-align: center;">Most Preferred</p>
Overall Evaluation Summary	<p style="text-align: center;">Moderately Preferred Most Preferred</p> <p>Generally, the two design concepts will each affect the natural, economic and social environment similarly, based on the evaluation.</p> <p>However, Alternative Design Concept B is considered the most preferred design option due to increased surface area compared to Alternative Design Concept A. This increased surface area provides for more economic and social opportunities for the community at the wharf.</p> <p>While Concept B is expected to have a slightly longer construction duration due to the larger size of the concrete dock, this duration is not expected to be significant.</p>	

Potential Impacts and Mitigation

Like all significant infrastructure projects, there is the potential for impacts to the environment. However, measures will be put in place to mitigate them.

The table below identifies potential impacts from the project and suggested measures to mitigate them. The mitigation measures will be developed further during detailed design.

Potential Impact	Mitigation Measures
Impacts on Aquatic Habitat: <ul style="list-style-type: none"> • Construction and demolition debris spilling into the water • Suspension and settling of disturbed soil particles in the water column, creating turbidity and deposition of soil particles 	<ul style="list-style-type: none"> • Turbidity curtain to enclose the area during and immediately after work periods. • Ensuring all waste materials are contained, collected and removed off-site for disposal.
Disruption to barn swallows that may be nesting on-site	<ul style="list-style-type: none"> • Completing construction outside of the nesting timing window (May to August 31st); or • Putting measures in place to make sure the birds do not build nests in the area; monitoring of existing nests if being used.
Wharf will be unavailable for use by the community for approximately 35-40 weeks during construction.	<ul style="list-style-type: none"> • Timing the construction to minimize impacts to wharf users (as feasible). • Coordinating and communicating construction timing with local stakeholders and lease holders.
Construction nuisances, such as noise and dust. Noise will be generated when driving in the sheet pile wall.	<ul style="list-style-type: none"> • Application of dust suppressants as required to control dust during construction. • Limiting pile driving on weekdays between 8 am to 6 pm.
Traffic disruption	<ul style="list-style-type: none"> • Development of traffic management plan during detailed design. • Providing advance notification of construction scheduling and traffic disruptions in advance. • Signage
Conflicting uses between general public, commercial activities and community events	<ul style="list-style-type: none"> • Development of a wharf management plan, including a protocol to manage usage of wharf space



Next Steps

- Review comments from Public Open House.
- Based on feedback, confirm preferred alternative design.
- Prepare EA Report and circulate for 30-day public review.
- Address comments from review period.
- Prepare Detailed Design.
- Confirm funding and issue tender for construction.
- Undertake wharf construction.





We Want to Hear from You!

- Please take a comment sheet to fill in now or send in by **Wednesday, September 13, 2023.**
- E-mail or mail us your comments:
 - Kelly Champaigne
Project Manager
Municipality of Killarney
 - 32 Commissioner Street
Killarney, ON P0M 2A0
 - kchampaigne@municipalityofkillarney.ca



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