

# **55 PORT STREET EAST |** SHADOW STUDY

2018-03-16



JUNE 21 [UTC -4] 7:07 AM



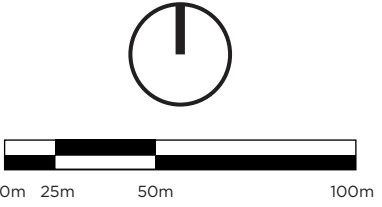
JUNE 21 [UTC -4] 7:20 AM

- LEGEND**

  - PROPOSED MASSING
  - PROPOSED SHADOW
  - AS OF RIGHT SHADOW
- PROPERTY LINE
  - AS OF RIGHT MASSING FOOTPRINT
  - EXISTING SHADOW

**\*NOTE:**  
- BEGINS 1.5 HRS AFTER SUNRISE AND ENDS 1.5 HRS BEFORE SUNSET AT 1 HR INTERVALS

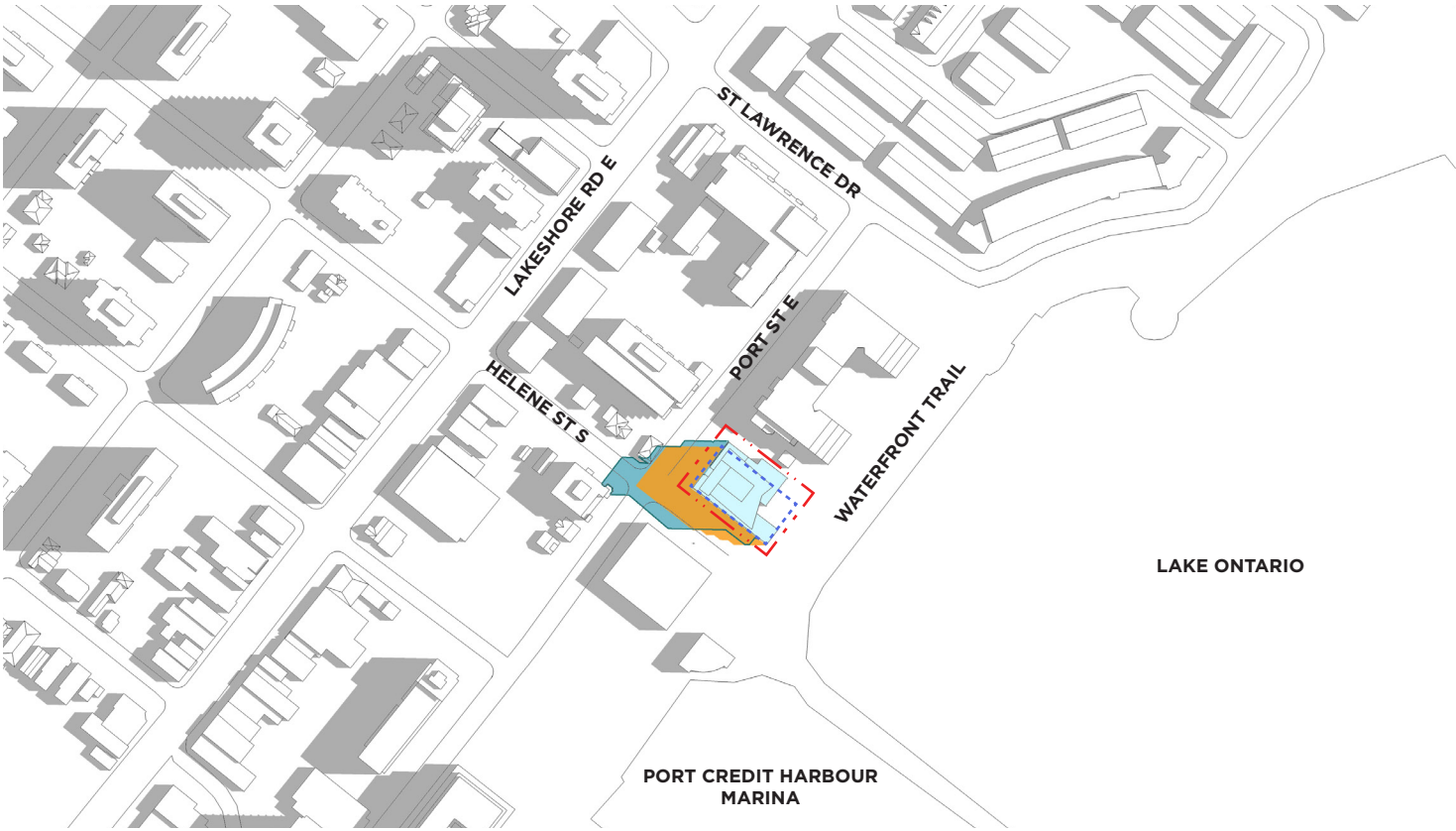
JUNE 21 SUNRISE: 5:37 AM  
JUNE 21 SUNSET: 9:03 PM



Giannone Petricone Associates



JUNE 21 [UTC -4] 8:20 AM

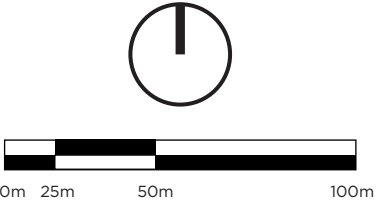


JUNE 21 [UTC -4] 9:20 AM

- LEGEND**
- PROPOSED MASSING
  - PROPOSED SHADOW
  - AS OF RIGHT SHADOW
  - PROPERTY LINE
  - AS OF RIGHT MASSING FOOTPRINT
  - EXISTING SHADOW

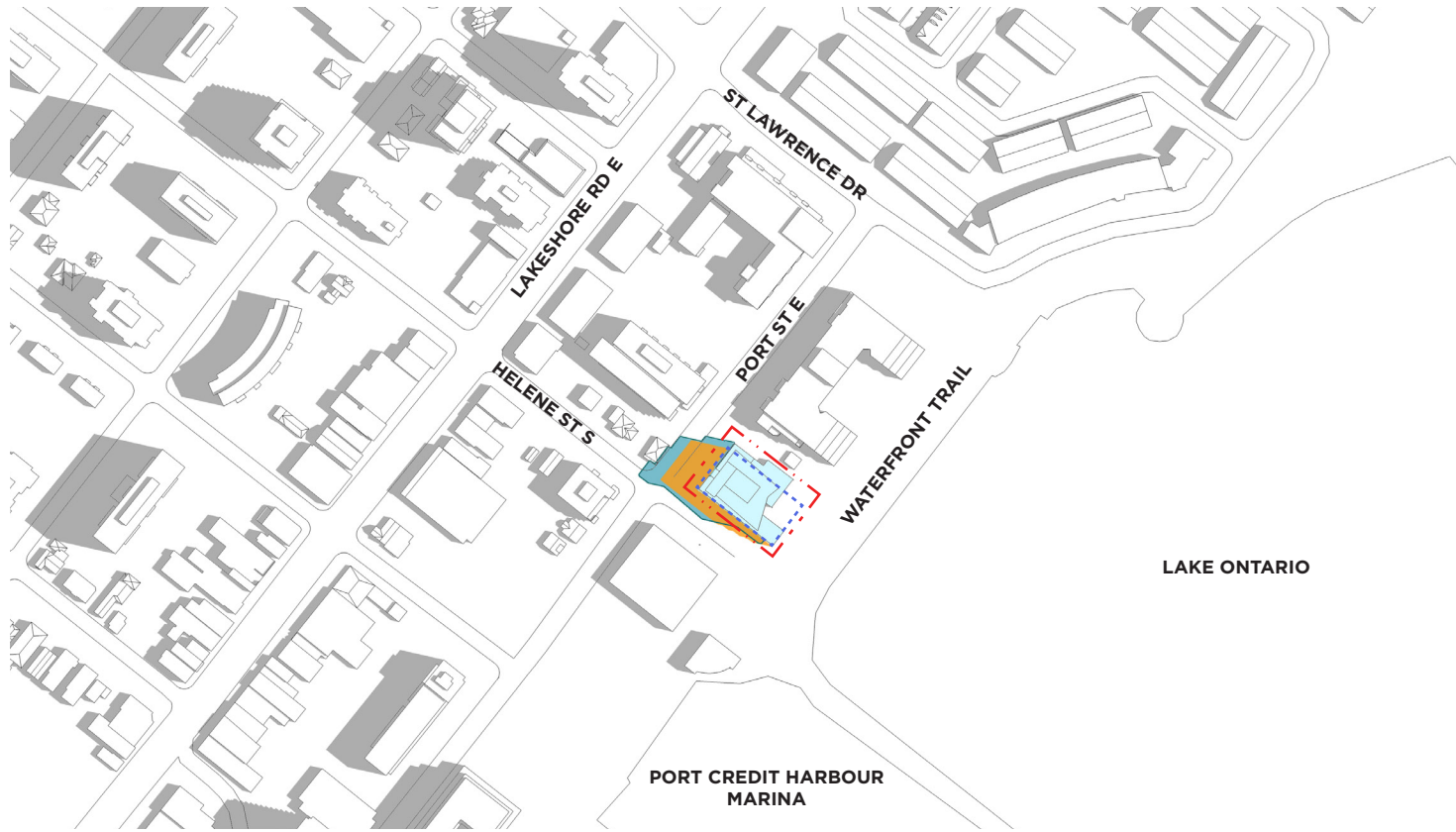
**\*NOTE:**  
- BEGINS 1.5 HRS AFTER SUNRISE AND ENDS 1.5 HRS BEFORE SUNSET AT 1 HR INTERVALS

JUNE 21 SUNRISE: 5:37 AM  
JUNE 21 SUNSET: 9:03 PM

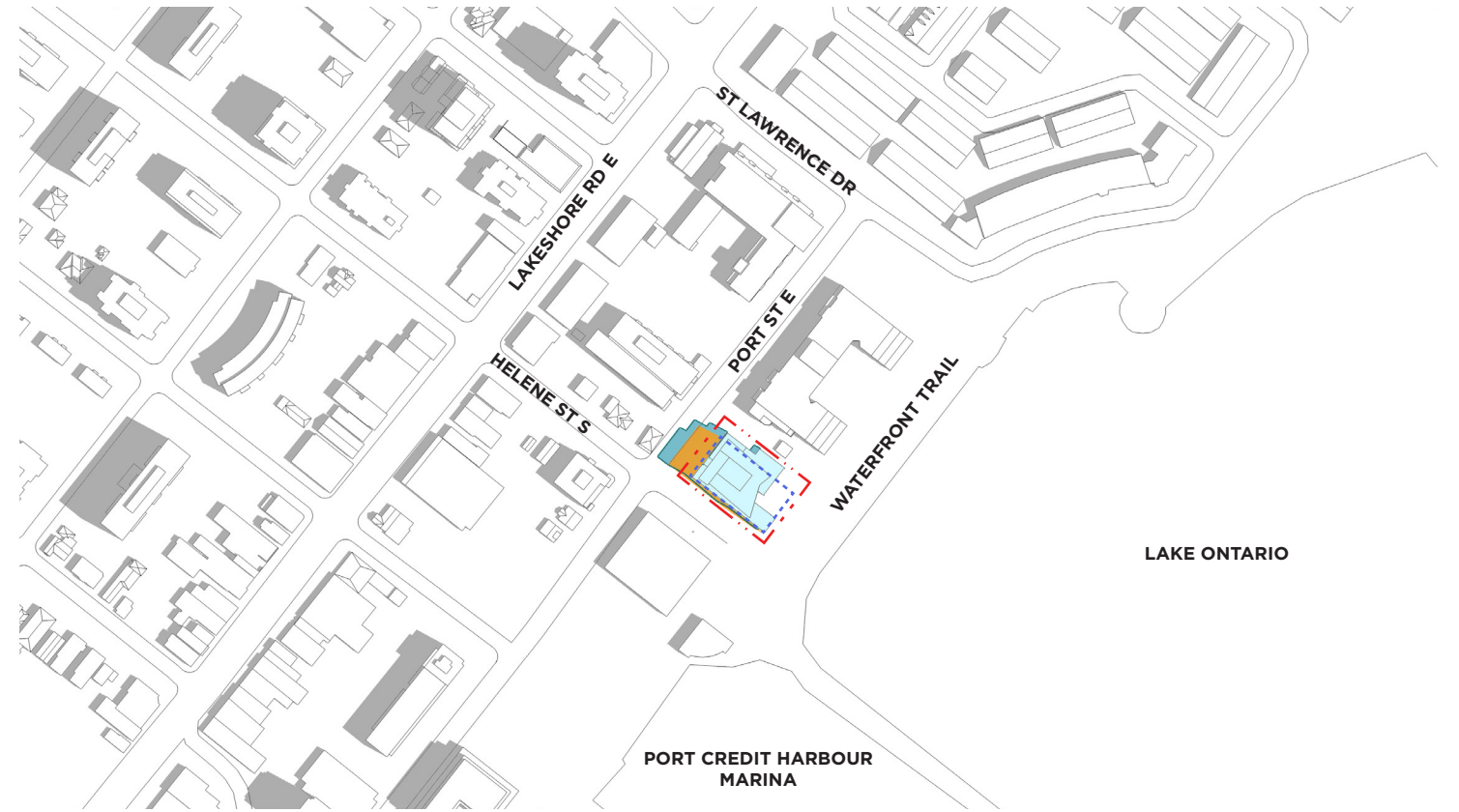


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JUNE 21 [UTC -4] 10:20 AM

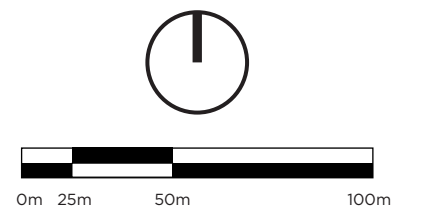


JUNE 21 [UTC -4] 11:20 AM

- LEGEND**
- PROPOSED MASSING
  - PROPOSED SHADOW
  - AS OF RIGHT SHADOW
  - PROPERTY LINE
  - AS OF RIGHT MASSING FOOTPRINT
  - EXISTING SHADOW

**\*NOTE:**  
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JUNE 21 SUNRISE: 5:37 AM  
JUNE 21 SUNSET: 9:03 PM



Giannone Petricone Associates

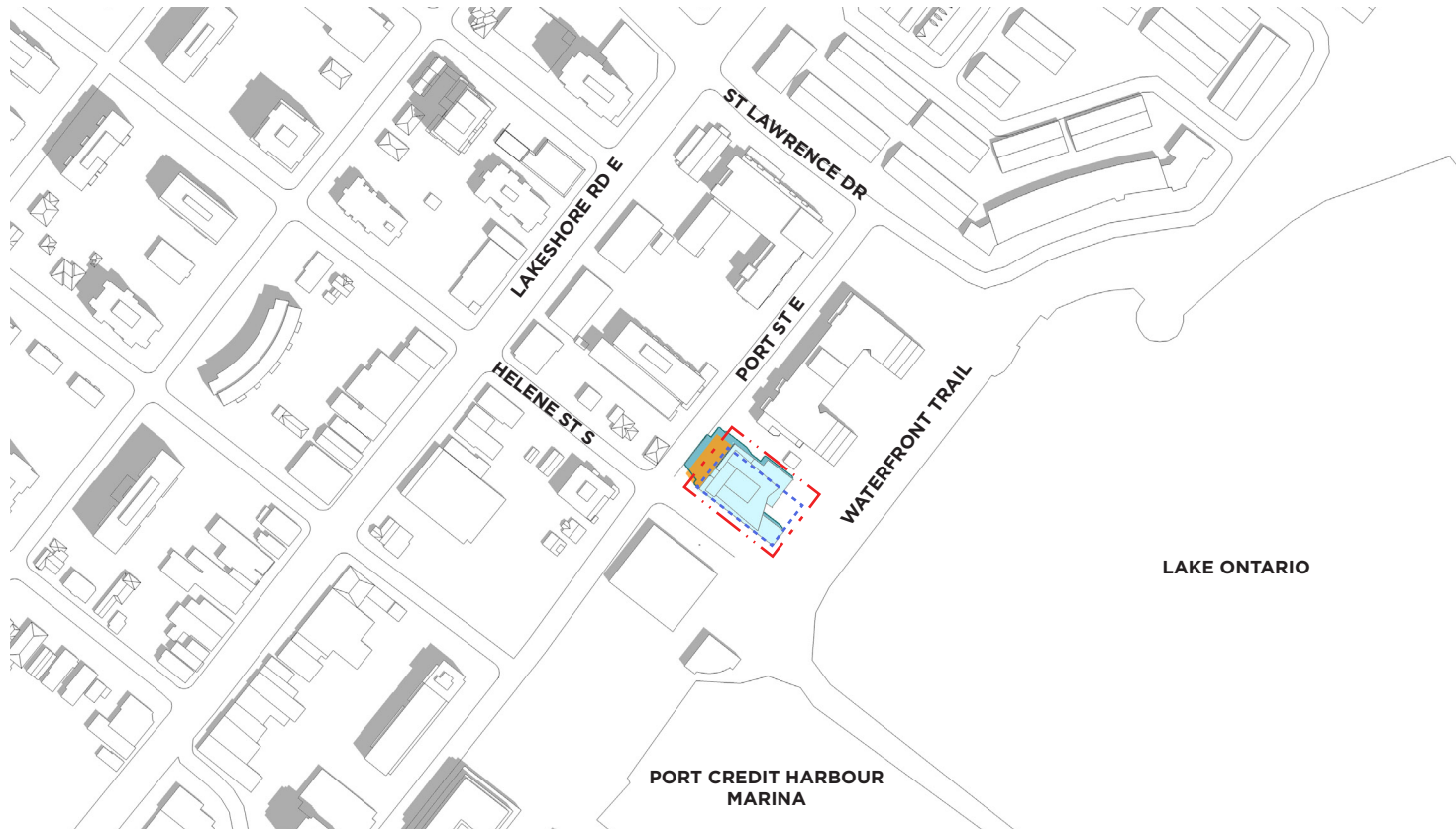
55 PORT STREET EAST

SHADOW STUDY: JUNE 21 [UTC -4]

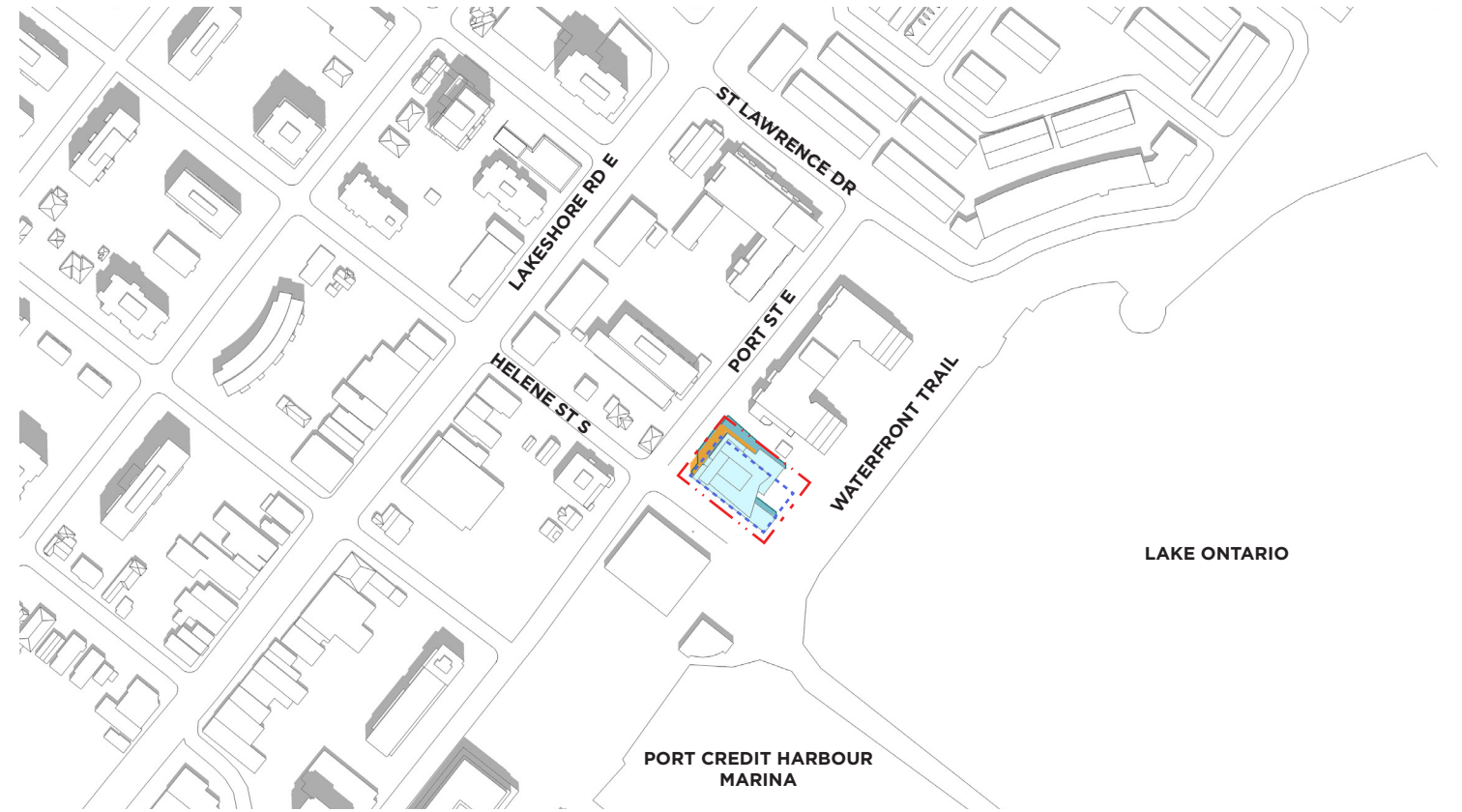
05

2018-03-16





JUNE 21 [UTC -4] 12:20 PM



JUNE 21 [UTC -4] 01:20 PM

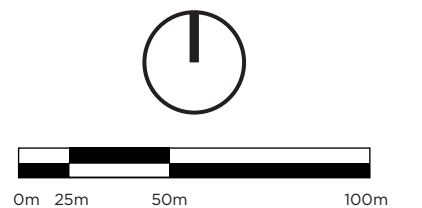
#### LEGEND

- |  |   |
|--|---|
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #ADD8E6; border: 1px solid black;"></span> PROPOSED MASSING   | <span style="display: inline-block; width: 20px; height: 1px; background-color: red; border-top: 1px dashed red;"></span> PROPERTY LINE                   |
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #4682B4; border: 1px solid black;"></span> PROPOSED SHADOW    | <span style="display: inline-block; width: 20px; height: 1px; background-color: blue; border-top: 1px dashed blue;"></span> AS OF RIGHT MASSING FOOTPRINT |
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #FF8C00; border: 1px solid black;"></span> AS OF RIGHT SHADOW | <span style="display: inline-block; width: 20px; height: 1px; background-color: gray; border: 1px solid black;"></span> EXISTING SHADOW                   |

#### \*NOTE:

- BEGINS 1.5 HRS AFTER SUNRISE AND ENDS 1.5 HRS BEFORE SUNSET AT 1 HR INTERVALS

JUNE 21 SUNRISE: 5:37 AM  
JUNE 21 SUNSET: 9:03 PM



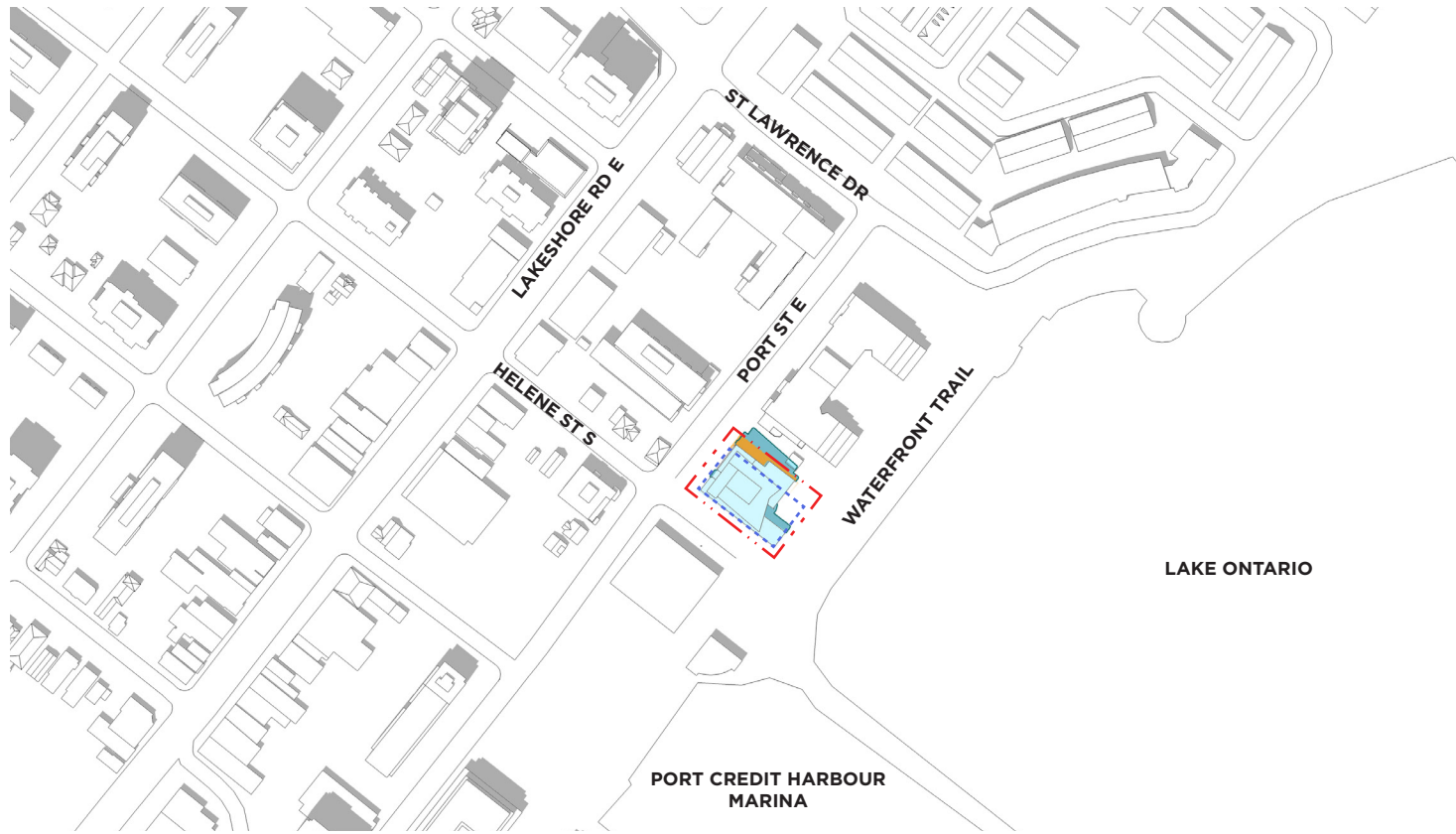
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55 PORT STREET EAST

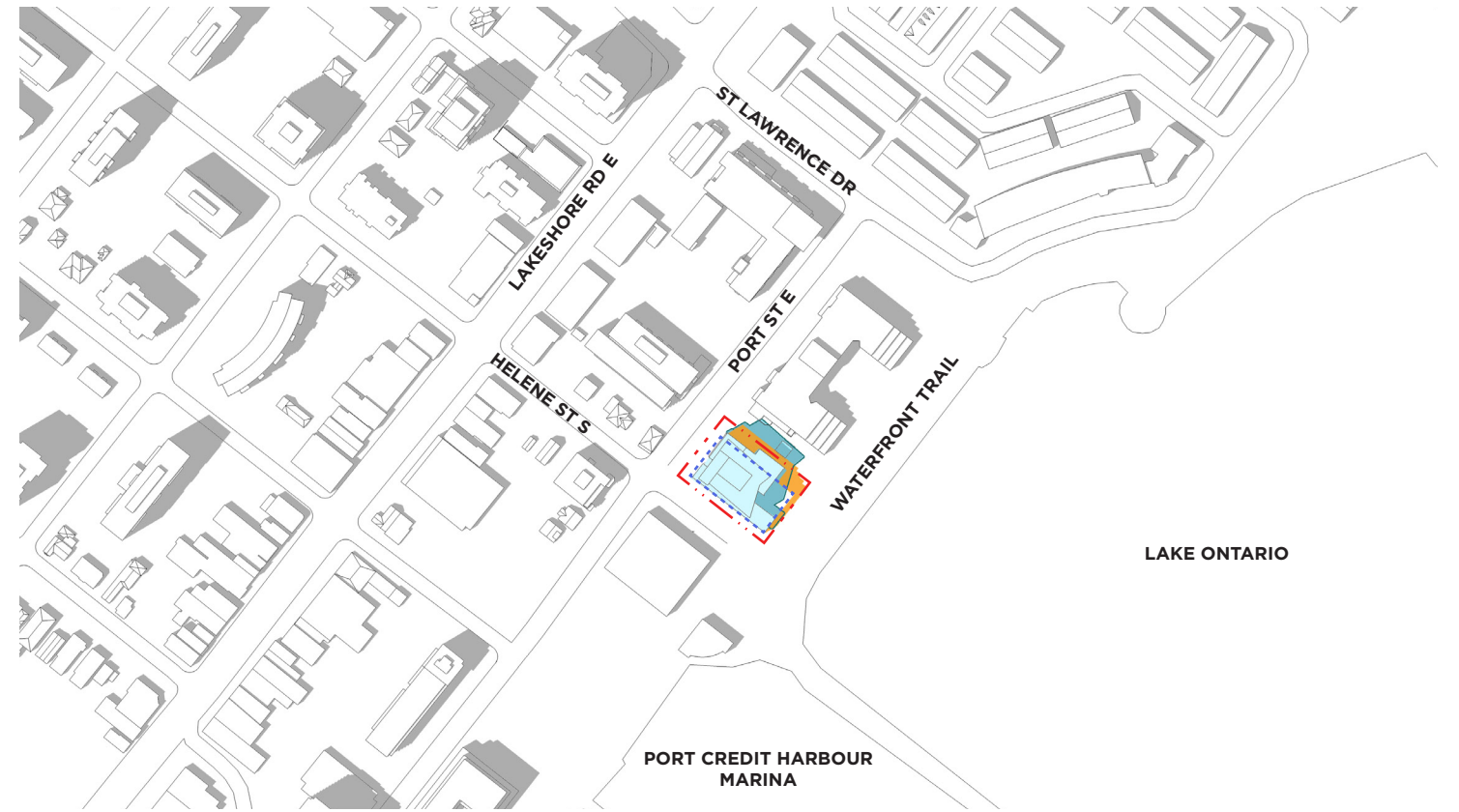
SHADOW STUDY: JUNE 21 [UTC -4]

06

2018-03-16



JUNE 21 [UTC -4] 02:20 PM



JUNE 21 [UTC -4] 03:20 PM

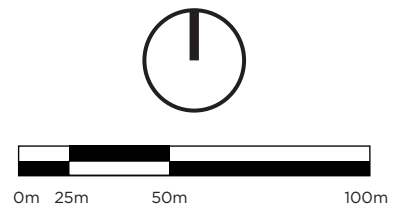
**LEGEND**

- |  |   |
|--|---|
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #ADD8E6; border: 1px solid black;"></span> PROPOSED MASSING   | <span style="display: inline-block; width: 20px; height: 10px; border: 2px dashed red;"></span> PROPERTY LINE                               |
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #FFA500; border: 1px solid black;"></span> PROPOSED SHADOW    | <span style="display: inline-block; width: 20px; height: 10px; border: 2px dashed blue;"></span> AS OF RIGHT MASSING FOOTPRINT              |
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #FFD700; border: 1px solid black;"></span> AS OF RIGHT SHADOW | <span style="display: inline-block; width: 20px; height: 10px; background-color: #808080; border: 1px solid black;"></span> EXISTING SHADOW |

**\*NOTE:**

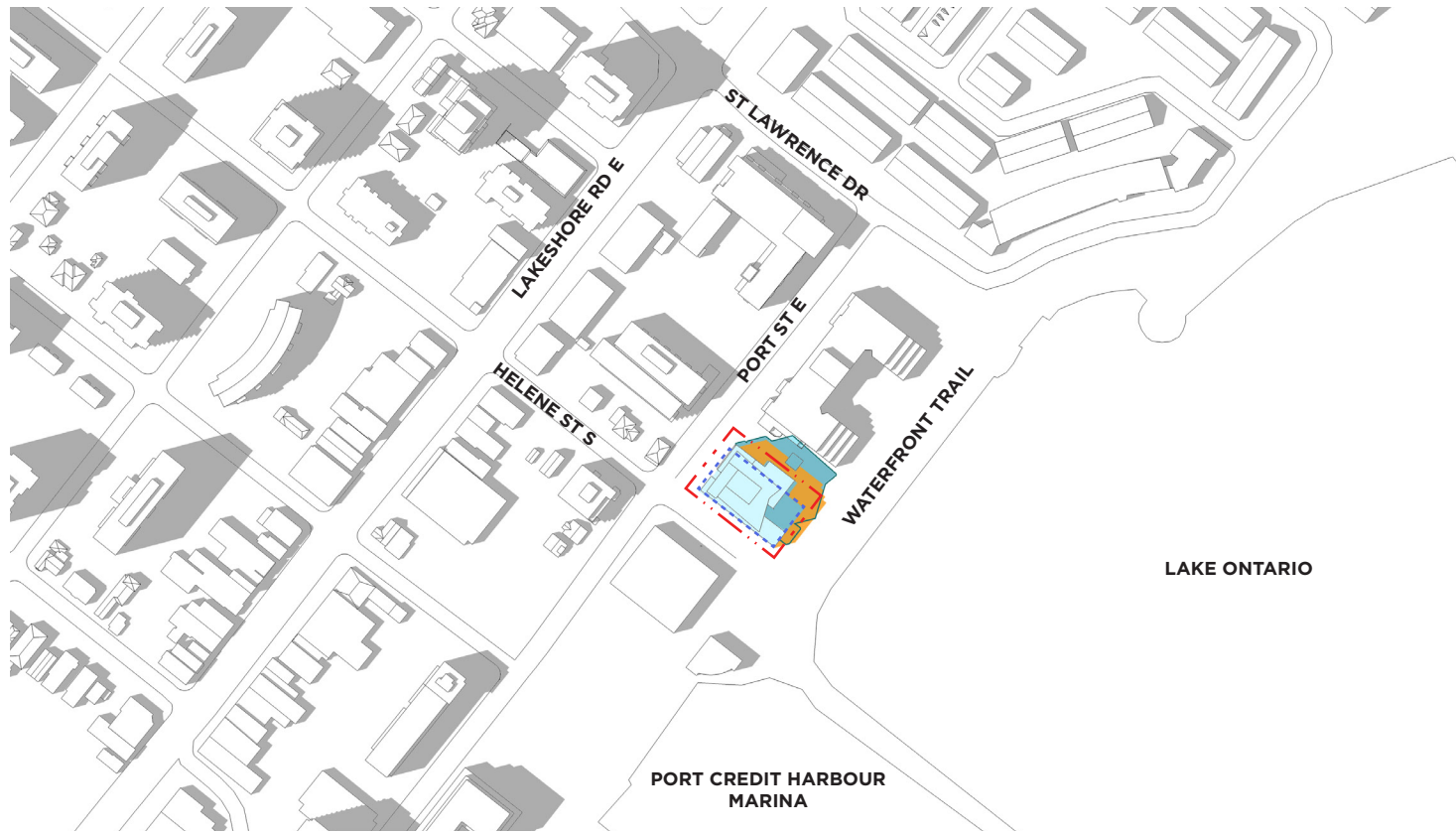
- BEGINS 1.5 HRS AFTER SUNRISE AND ENDS 1.5 HRS BEFORE SUNSET AT 1 HR INTERVALS

JUNE 21 SUNRISE: 5:37 AM  
JUNE 21 SUNSET: 9:03 PM

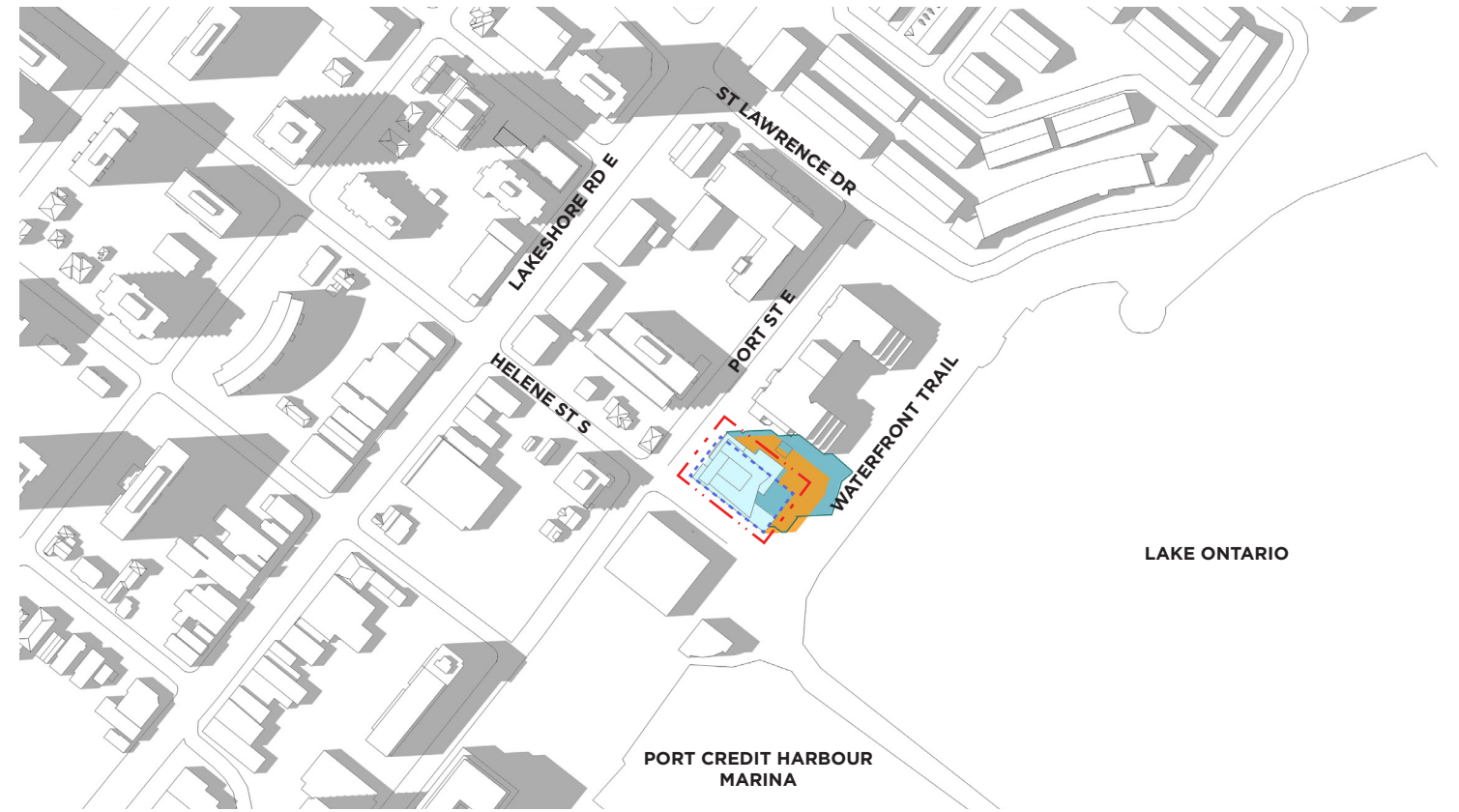


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JUNE 21 [UTC -4] 04:20 PM



JUNE 21 [UTC -4] 05:20 PM

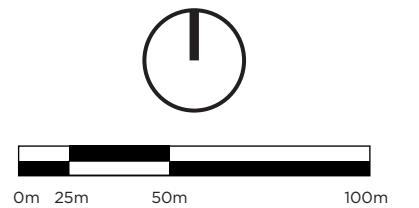
**LEGEND**

- |   |   |
|---|---|
| <span style="display:inline-block; width:20px; height:10px; background-color:lightblue; border:1px solid black;"></span> PROPOSED MASSING | <span style="display:inline-block; width:20px; height:10px; border:2px dashed red;"></span> PROPERTY LINE                           |
| <span style="display:inline-block; width:20px; height:10px; background-color:orange; border:1px solid black;"></span> PROPOSED SHADOW     | <span style="display:inline-block; width:20px; height:10px; border:2px dashed blue;"></span> AS OF RIGHT MASSING FOOTPRINT          |
| <span style="display:inline-block; width:20px; height:10px; background-color:yellow; border:1px solid black;"></span> AS OF RIGHT SHADOW  | <span style="display:inline-block; width:20px; height:10px; background-color:grey; border:1px solid black;"></span> EXISTING SHADOW |

**\*NOTE:**

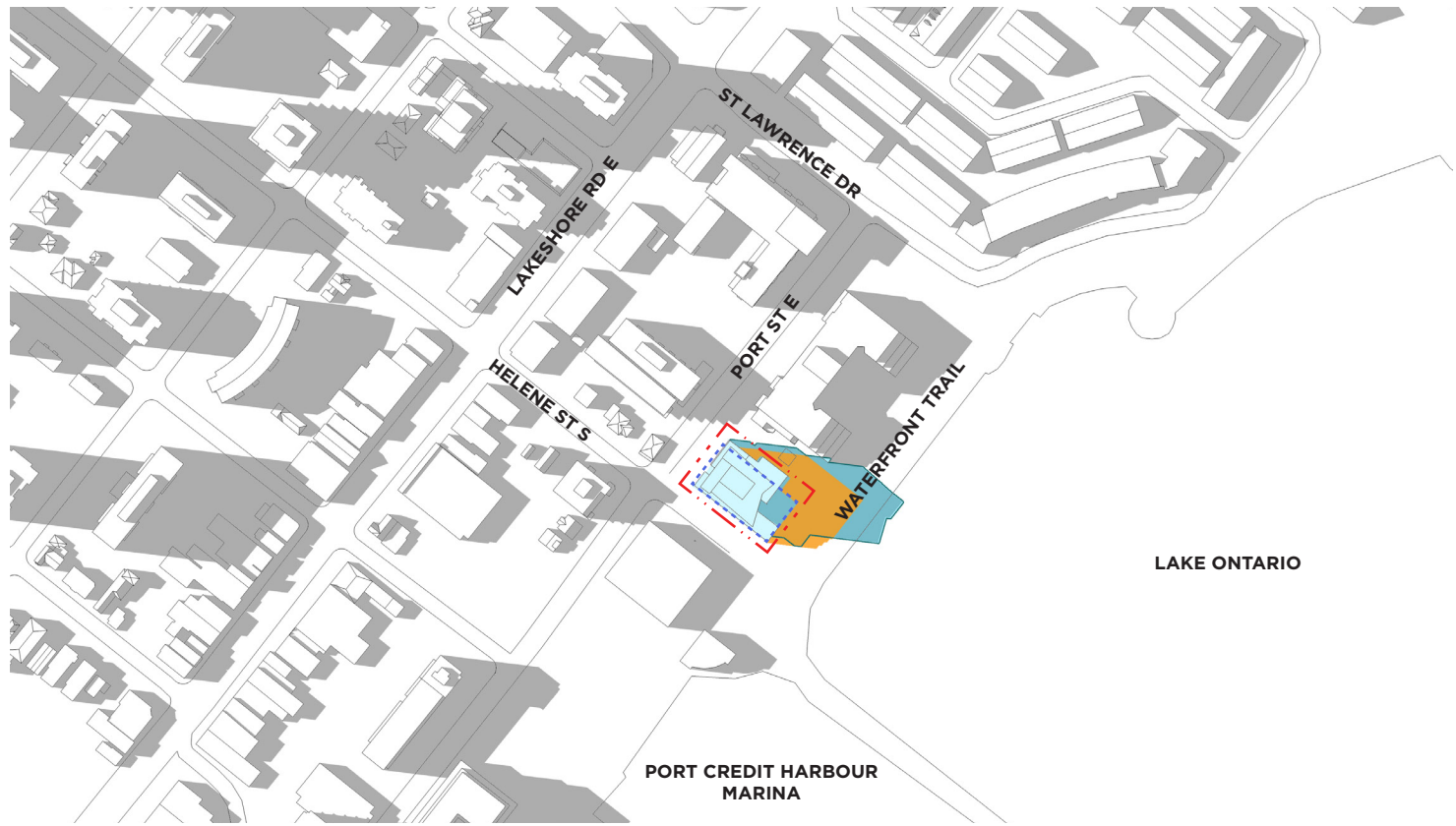
- BEGINS 1.5 HRS AFTER SUNRISE AND ENDS 1.5 HRS BEFORE SUNSET AT 1 HR INTERVALS

JUNE 21 SUNRISE: 5:37 AM  
JUNE 21 SUNSET: 9:03 PM



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JUNE 21 [UTC -4] 06:20 PM



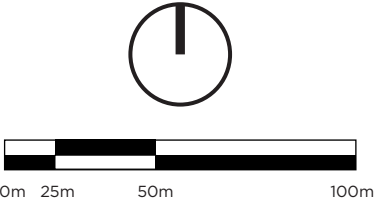
JUNE 21 [UTC -4] 07:20 PM

- LEGEND**

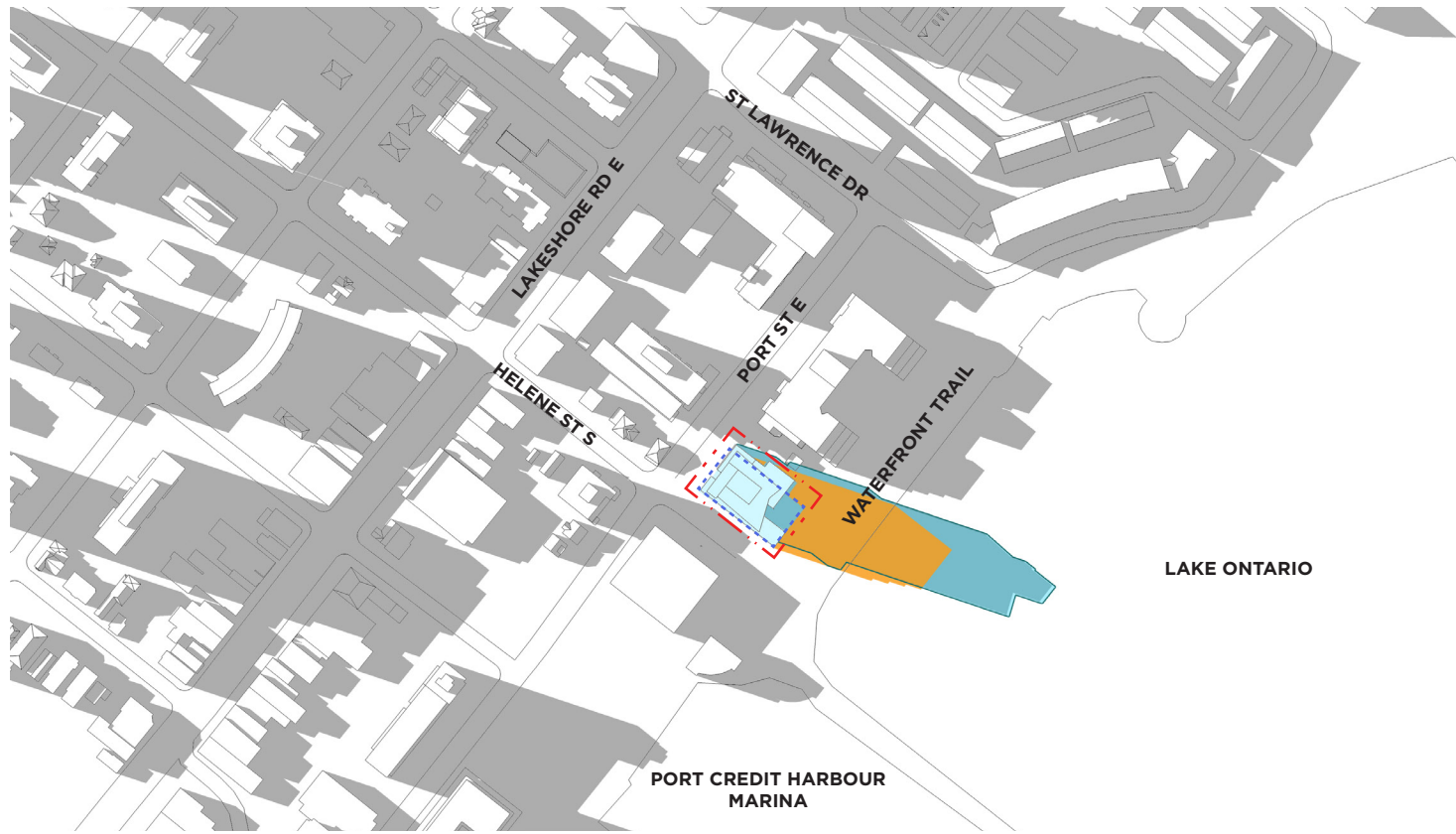
  - PROPOSED MASSING
  - PROPOSED SHADOW
  - AS OF RIGHT SHADOW
- PROPERTY LINE
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  - EXISTING SHADOW

**\*NOTE:**  
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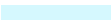
JUNE 21 SUNRISE: 5:37 AM  
 JUNE 21 SUNSET: 9:03 PM



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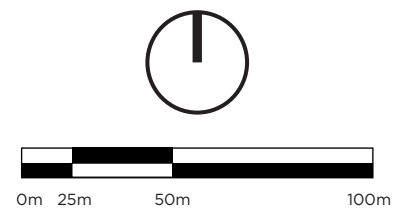


JUNE 21 [UTC -4] 07:33 PM

LEGEND		PROPOSED MASSING		PROPERTY LINE
		PROPOSED SHADOW		AS OF RIGHT MASSING FOOTPRINT
		AS OF RIGHT SHADOW		EXISTING SHADOW

**\*NOTE:**  
- BEGINS 1.5 HRS AFTER SUNRISE AND ENDS 1.5 HRS BEFORE SUNSET AT 1 HR INTERVALS

JUNE 21 SUNRISE: 5:37 AM  
JUNE 21 SUNSET: 9:03 PM



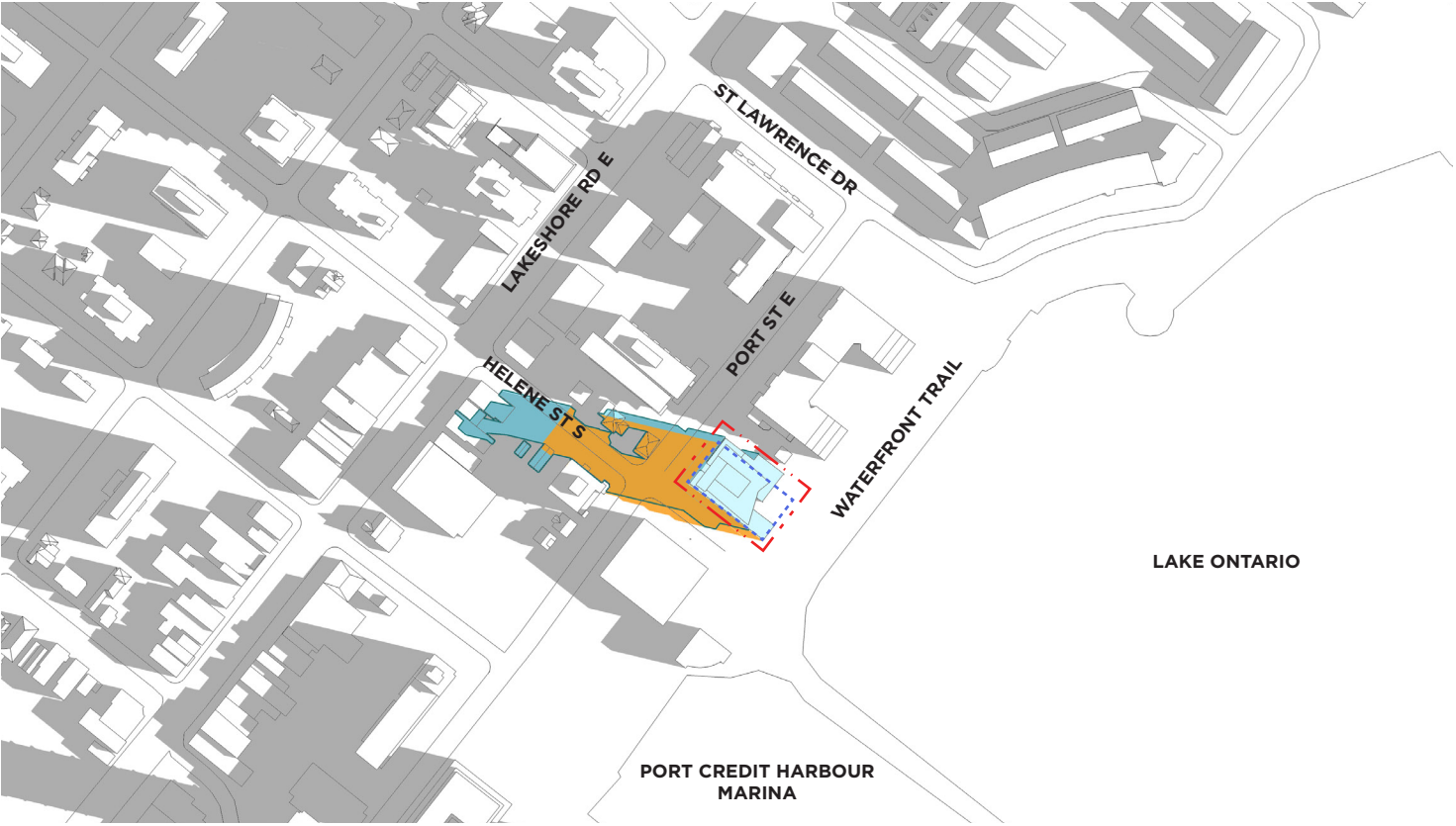
Giannone Petricone Associates

55 PORT STREET EAST

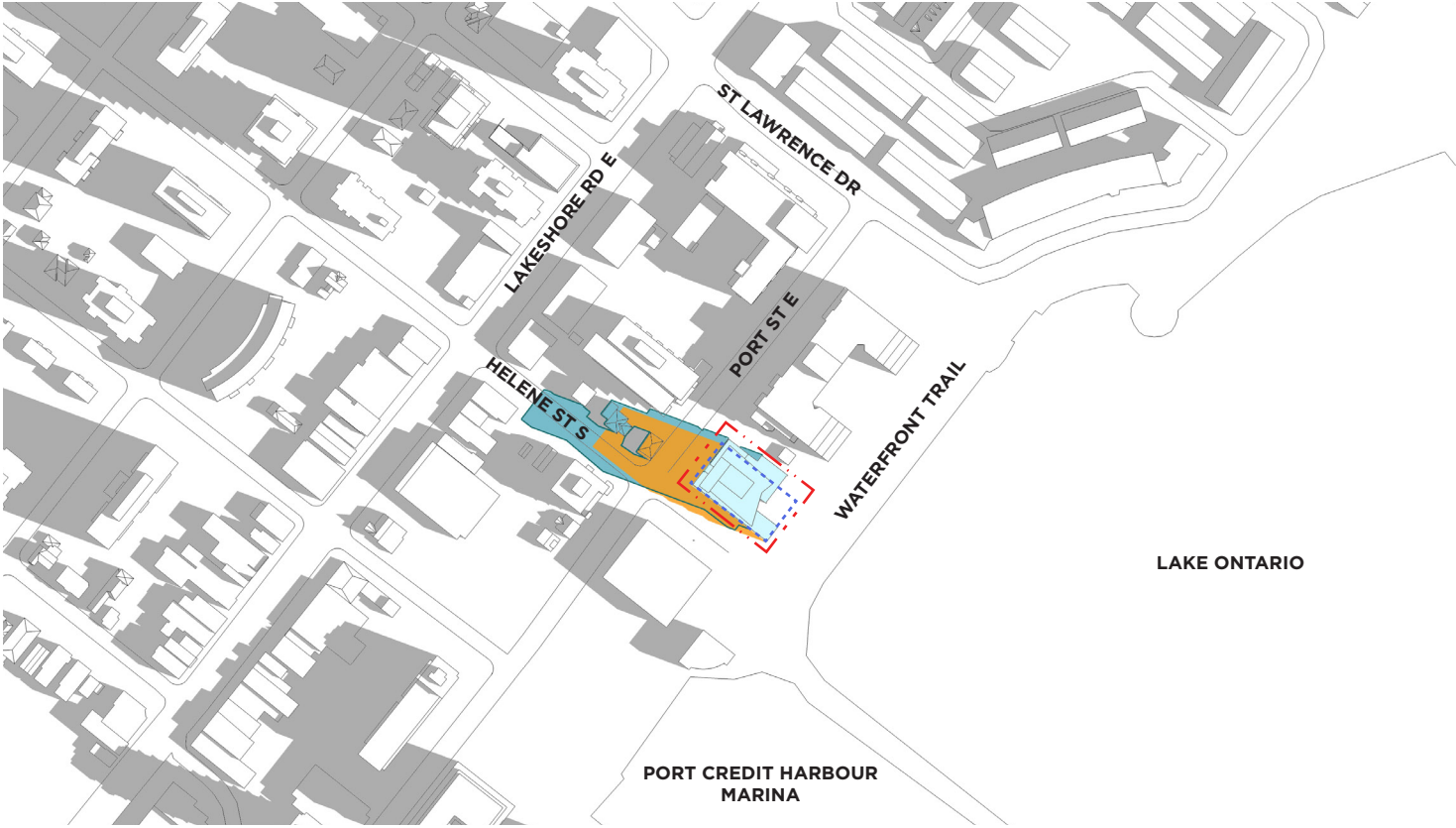
SHADOW STUDY: JUNE 21 [UTC -4]

10

2018-03-16



SEPTEMBER 21 [UTC -4] 08:35 AM

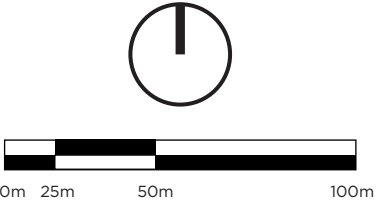


SEPTEMBER 21 [UTC -4] 09:12 AM

- LEGEND**
- PROPOSED MASSING
  - PROPOSED SHADOW
  - AS OF RIGHT SHADOW
  - PROPERTY LINE
  - AS OF RIGHT MASSING FOOTPRINT
  - EXISTING SHADOW

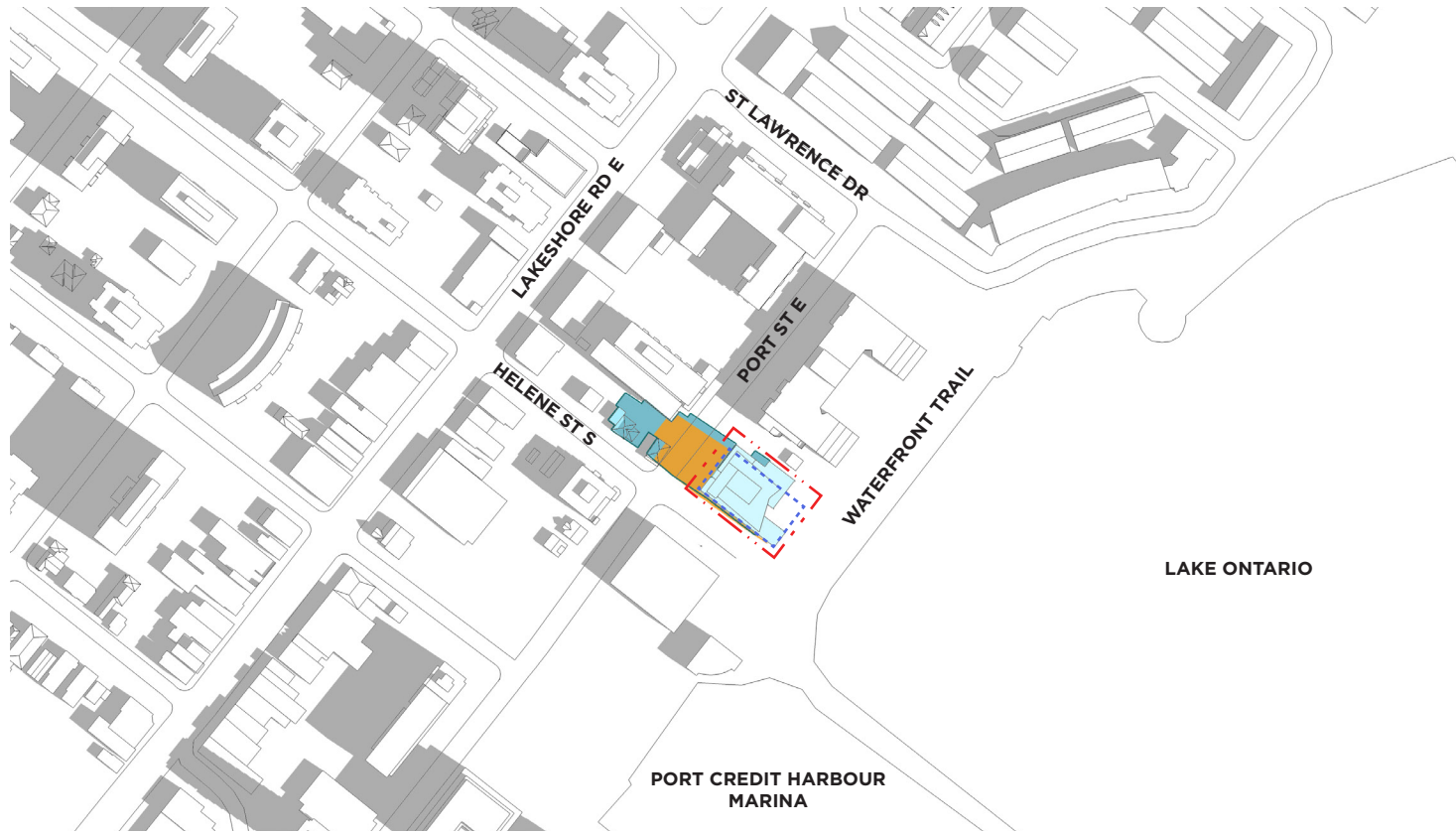
**\*NOTE:**  
 - BEGINS 1.5 HRS AFTER SUNRISE AND ENDS 1.5 HRS BEFORE SUNSET AT 1 HR INTERVALS

SEPTEMBER 21 SUNRISE: 7:05 AM  
 SEPTEMBER 21 SUNSET: 7:18 PM

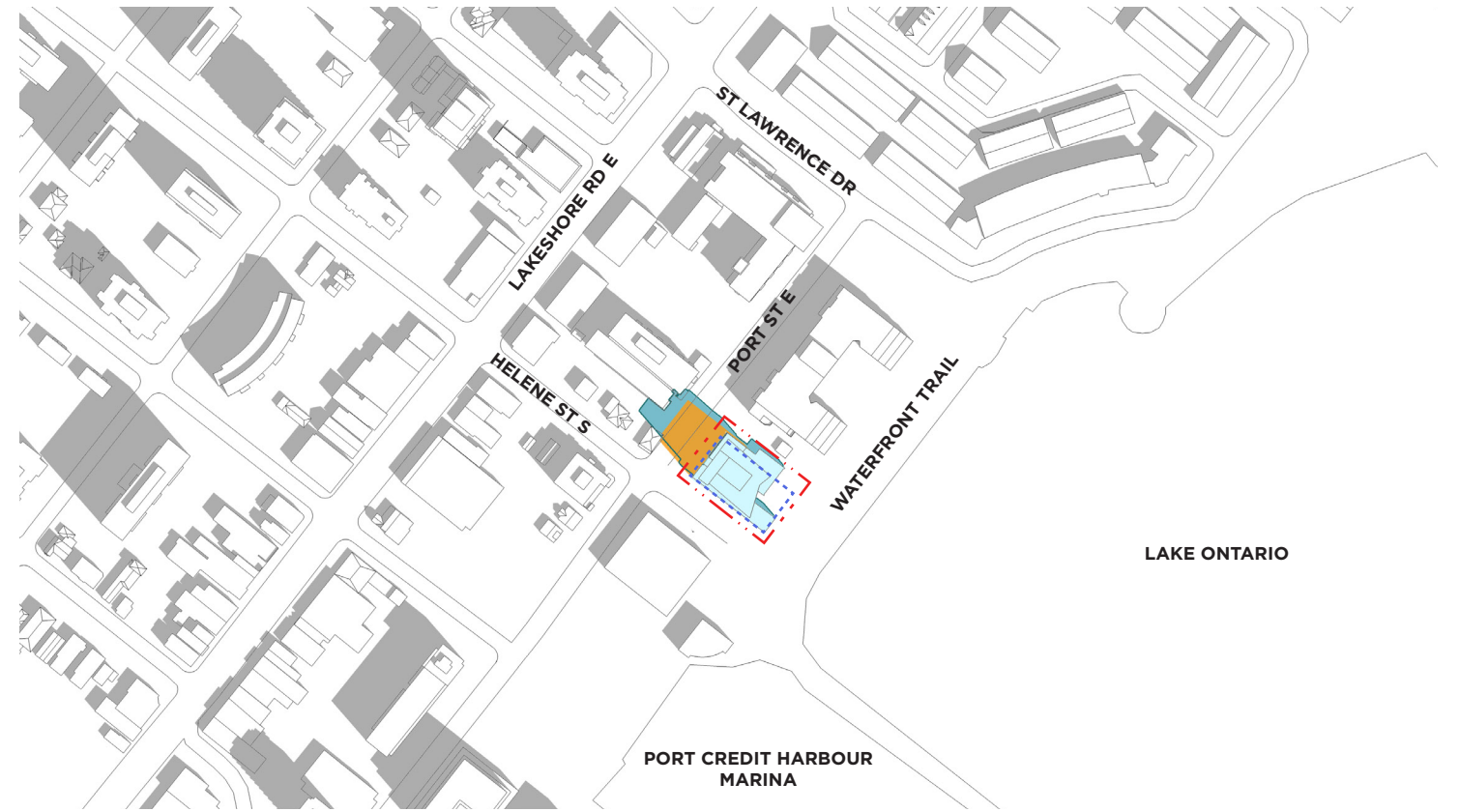


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SEPTEMBER 21 [UTC -4] 10:12 AM



SEPTEMBER 21 [UTC -4] 11:12 AM

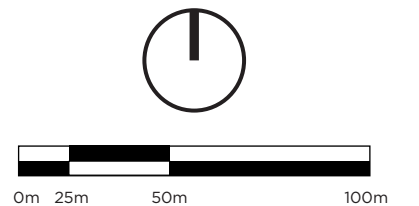
**LEGEND**

- |  |   |
|--|---|
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #ADD8E6; border: 1px solid black;"></span> PROPOSED MASSING   | <span style="display: inline-block; width: 20px; height: 1px; background-color: red; border-top: 1px dashed red;"></span> PROPERTY LINE                   |
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #4682B4; border: 1px solid black;"></span> PROPOSED SHADOW    | <span style="display: inline-block; width: 20px; height: 1px; background-color: blue; border-top: 1px dashed blue;"></span> AS OF RIGHT MASSING FOOTPRINT |
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #FF8C00; border: 1px solid black;"></span> AS OF RIGHT SHADOW | <span style="display: inline-block; width: 20px; height: 1px; background-color: grey; border: 1px solid black;"></span> EXISTING SHADOW                   |

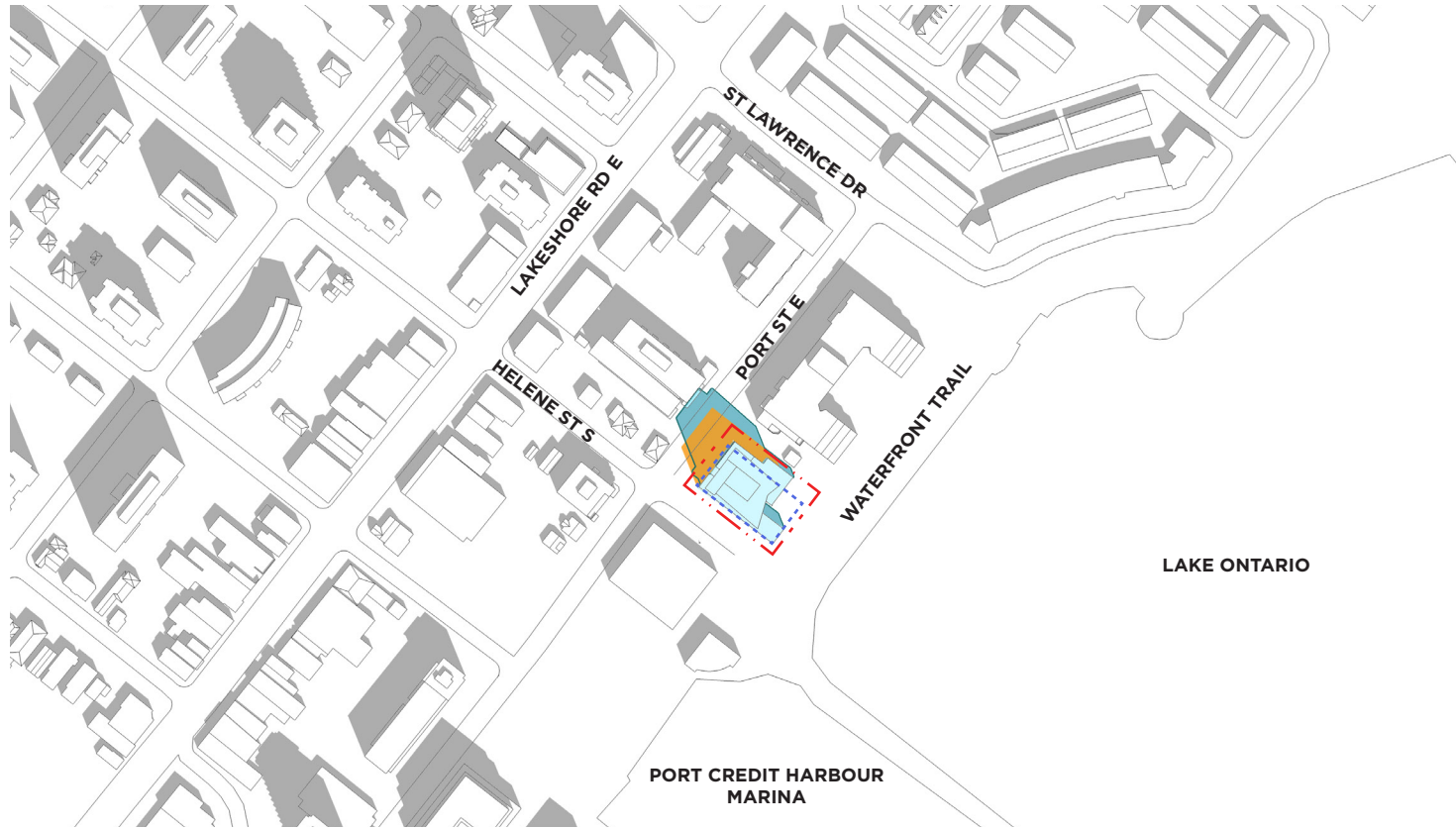
**\*NOTE:**

- BEGINS 1.5 HRS AFTER SUNRISE AND ENDS 1.5 HRS BEFORE SUNSET AT 1 HR INTERVALS

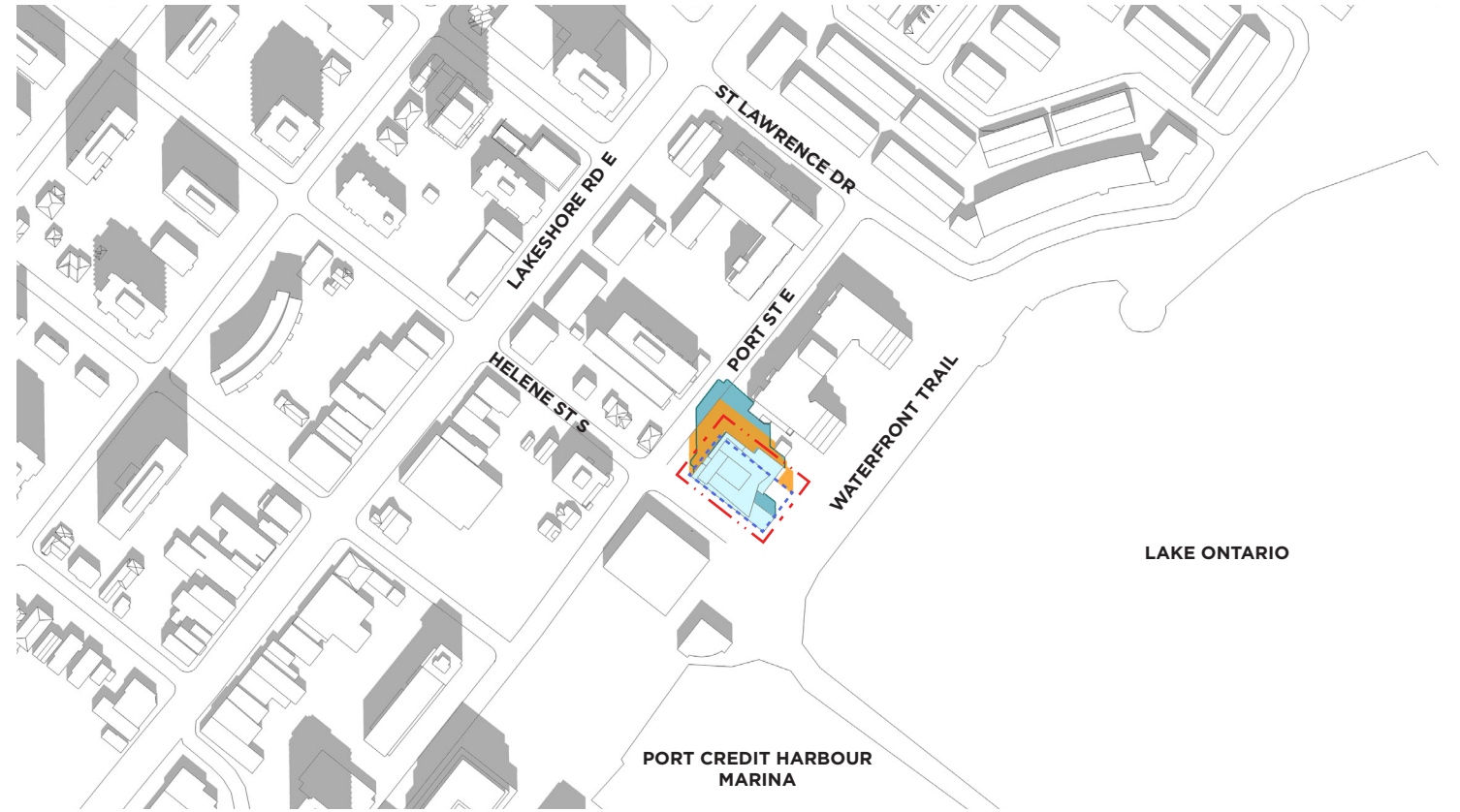
SEPTEMBER 21 SUNRISE: 7:05 AM  
SEPTEMBER 21 SUNSET: 7:18 PM



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SEPTEMBER 21 [UTC -4] 12:12 PM

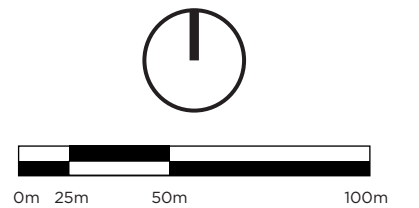


SEPTEMBER 21 [UTC -4] 01:12 PM

- LEGEND**
- |   |   |
|---|---|
| <span style="display:inline-block; width:20px; height:10px; background-color:lightblue; border:1px solid black;"></span> PROPOSED MASSING | <span style="display:inline-block; width:20px; height:10px; border:2px dashed red;"></span> PROPERTY LINE                           |
| <span style="display:inline-block; width:20px; height:10px; background-color:blue; border:1px solid black;"></span> PROPOSED SHADOW       | <span style="display:inline-block; width:20px; height:10px; border:2px dashed blue;"></span> AS OF RIGHT MASSING FOOTPRINT          |
| <span style="display:inline-block; width:20px; height:10px; background-color:orange; border:1px solid black;"></span> AS OF RIGHT SHADOW  | <span style="display:inline-block; width:20px; height:10px; background-color:gray; border:1px solid black;"></span> EXISTING SHADOW |

**\*NOTE:**  
 - BEGINS 1.5 HRS AFTER SUNRISE AND ENDS 1.5 HRS BEFORE SUNSET AT 1 HR INTERVALS

SEPTEMBER 21 SUNRISE: 7:05 AM  
 SEPTEMBER 21 SUNSET: 7:18 PM



**Giannone Petricone Associates**

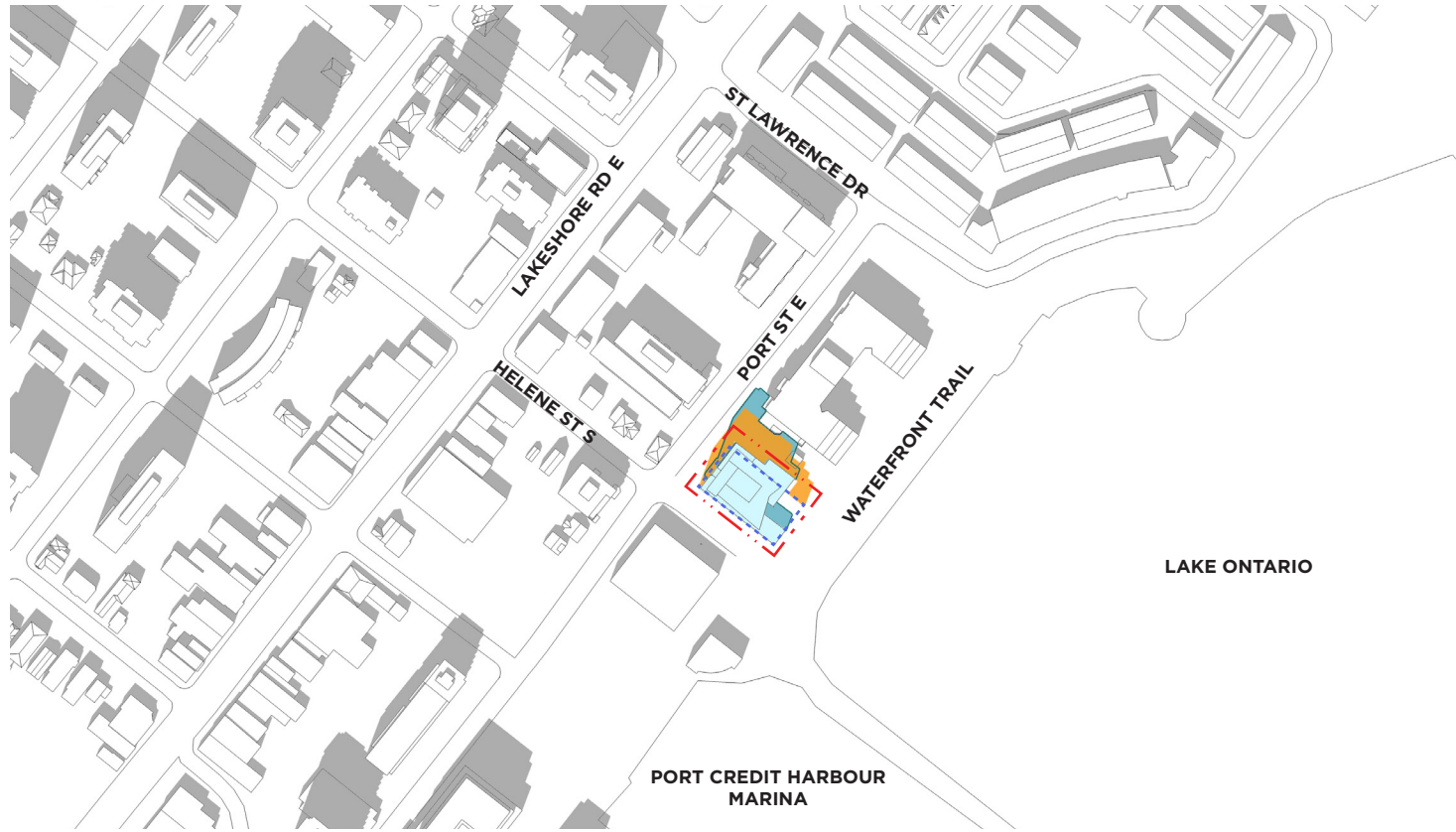
**55 PORT STREET EAST**

**SHADOW STUDY: SEPTEMBER 21 [UTC -4]**

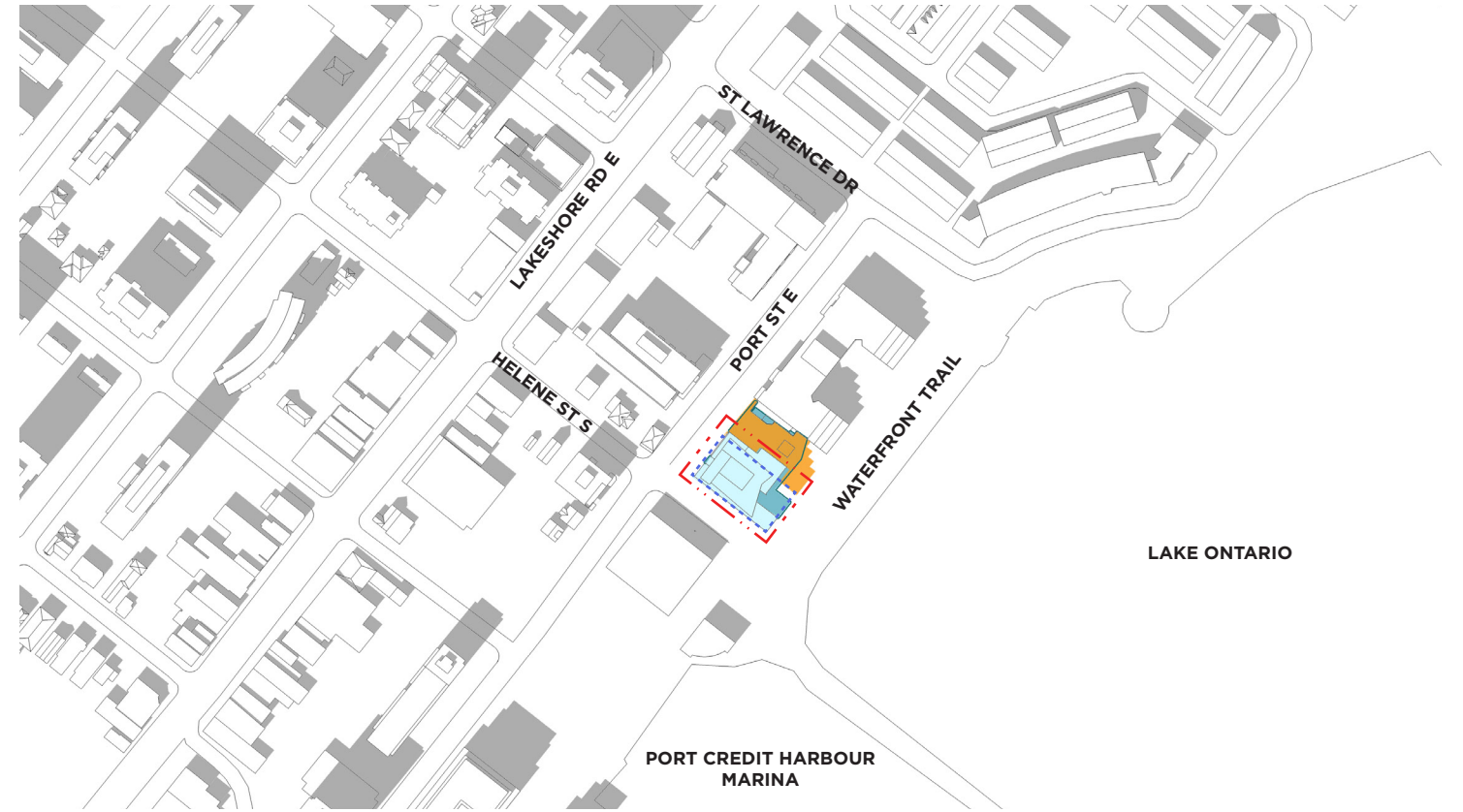
**13**

2018-03-16





SEPTEMBER 21 [UTC -4] **02:12 PM**

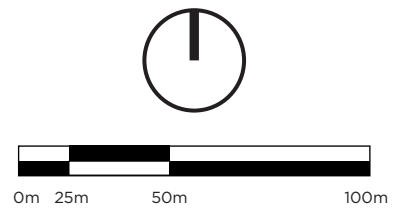


SEPTEMBER 21 [UTC -4] **03:12 PM**

- LEGEND**
- |   |   |
|---|---|
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| <span style="display:inline-block; width:20px; height:10px; background-color:blue; border:1px solid black;"></span> PROPOSED SHADOW       | <span style="display:inline-block; width:20px; height:10px; border:2px dashed blue;"></span> AS OF RIGHT MASSING FOOTPRINT          |
| <span style="display:inline-block; width:20px; height:10px; background-color:orange; border:1px solid black;"></span> AS OF RIGHT SHADOW  | <span style="display:inline-block; width:20px; height:10px; background-color:grey; border:1px solid black;"></span> EXISTING SHADOW |

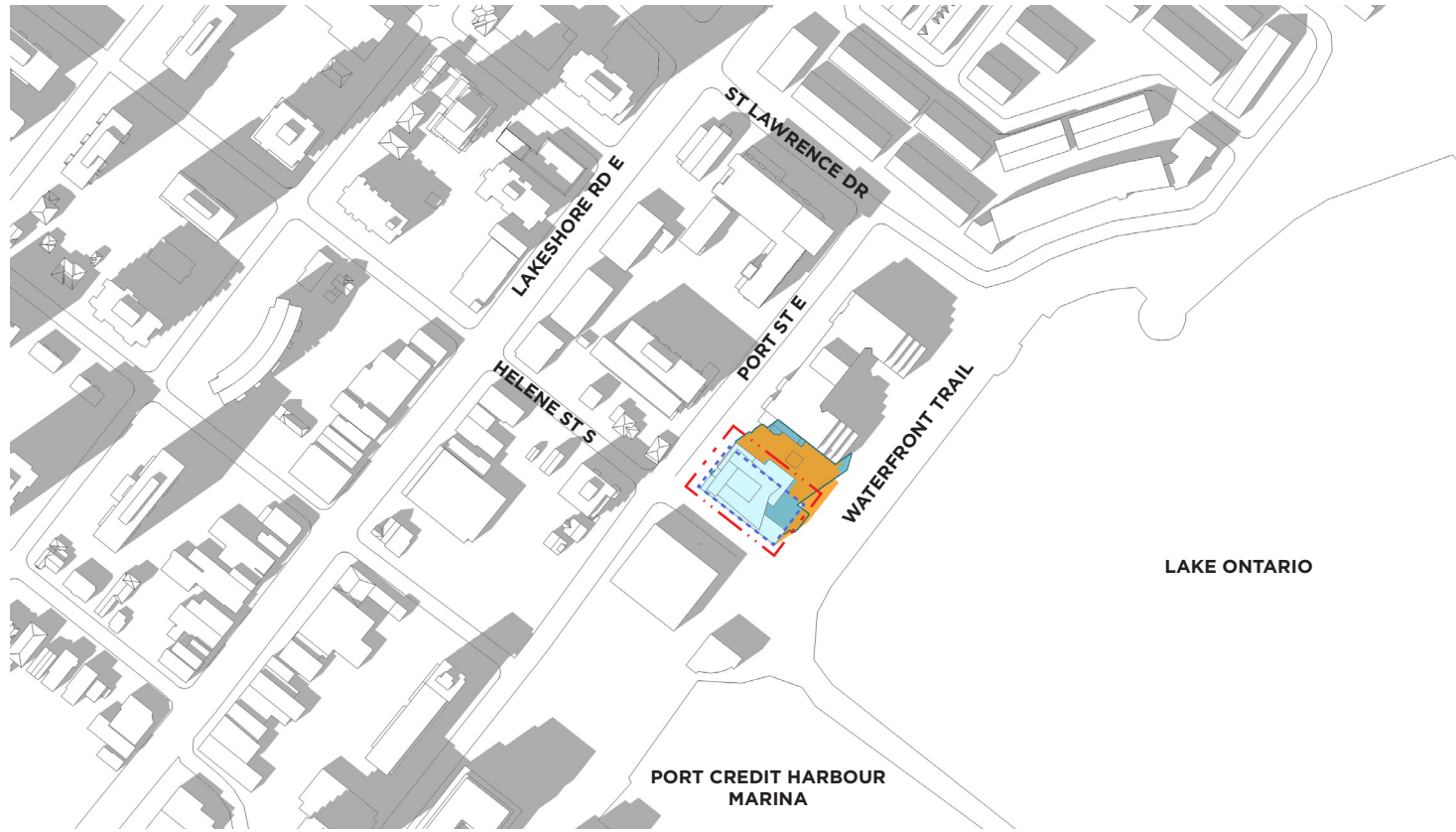
**\*NOTE:**  
- BEGINS 1.5 HRS AFTER SUNRISE AND ENDS 1.5 HRS BEFORE SUNSET AT 1 HR INTERVALS

SEPTEMBER 21 SUNRISE: **7:05 AM**  
SEPTEMBER 21 SUNSET: **7:18 PM**



**Giannone Petricone Associates**





SEPTEMBER 21 [UTC -4] **04:12 PM**



SEPTEMBER 21 [UTC -4] **05:12 PM**

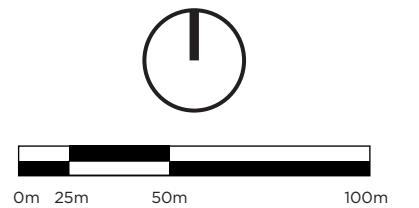
**LEGEND**

- |  |   |
|--|---|
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #ADD8E6; border: 1px solid black;"></span> PROPOSED MASSING   | <span style="display: inline-block; width: 20px; border-top: 2px dashed red;"></span> PROPERTY LINE   |
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #FFD700; border: 1px solid black;"></span> PROPOSED SHADOW    | <span style="display: inline-block; width: 20px; border-top: 2px dashed blue;"></span> AS OF RIGHT MASSING FOOTPRINT                        |
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #FFA500; border: 1px solid black;"></span> AS OF RIGHT SHADOW | <span style="display: inline-block; width: 20px; height: 10px; background-color: #808080; border: 1px solid black;"></span> EXISTING SHADOW |

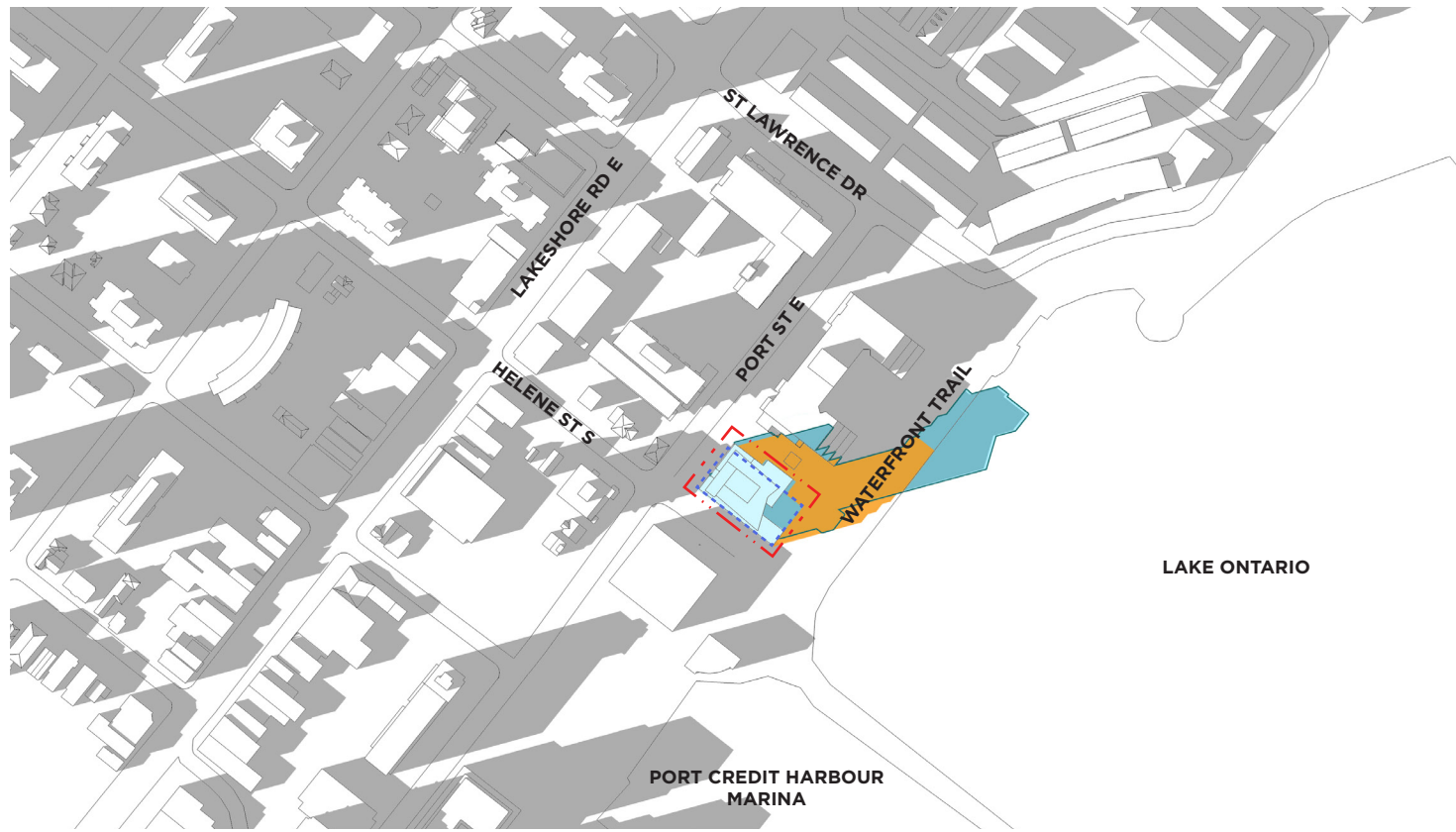
**\*NOTE:**

- BEGINS 1.5 HRS AFTER SUNRISE AND ENDS 1.5 HRS BEFORE SUNSET AT 1 HR INTERVALS

SEPTEMBER 21 SUNRISE: **7:05 AM**  
SEPTEMBER 21 SUNSET: **7:18 PM**



**Giannone Petricone Associates**



SEPTEMBER 21 [UTC -4] 05:48 PM

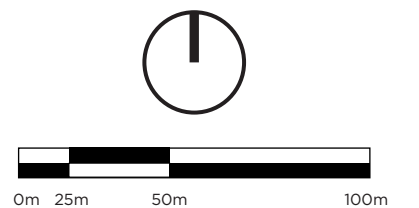
**LEGEND**

- |  |   |
|--|---|
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #ADD8E6; border: 1px solid black;"></span> PROPOSED MASSING   | <span style="display: inline-block; width: 20px; height: 1px; background-color: red; border-top: 1px dashed red;"></span> PROPERTY LINE                   |
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #4682B4; border: 1px solid black;"></span> PROPOSED SHADOW    | <span style="display: inline-block; width: 20px; height: 1px; background-color: blue; border-top: 1px dashed blue;"></span> AS OF RIGHT MASSING FOOTPRINT |
| <span style="display: inline-block; width: 20px; height: 10px; background-color: #FF8C00; border: 1px solid black;"></span> AS OF RIGHT SHADOW | <span style="display: inline-block; width: 20px; height: 1px; background-color: grey;"></span> EXISTING SHADOW  |

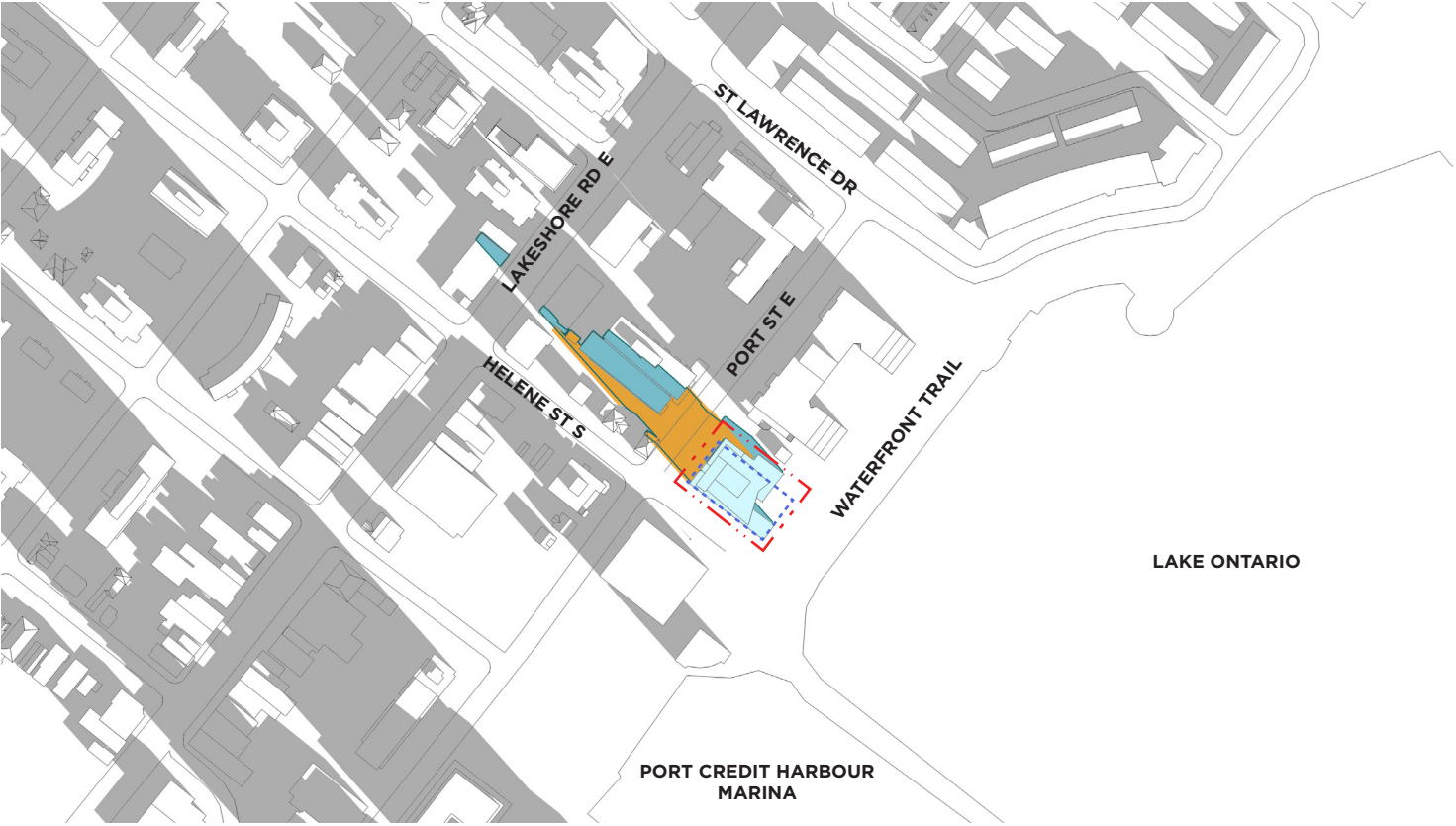
**\*NOTE:**

- BEGINS 1.5 HRS AFTER SUNRISE AND ENDS 1.5 HRS BEFORE SUNSET AT 1 HR INTERVALS

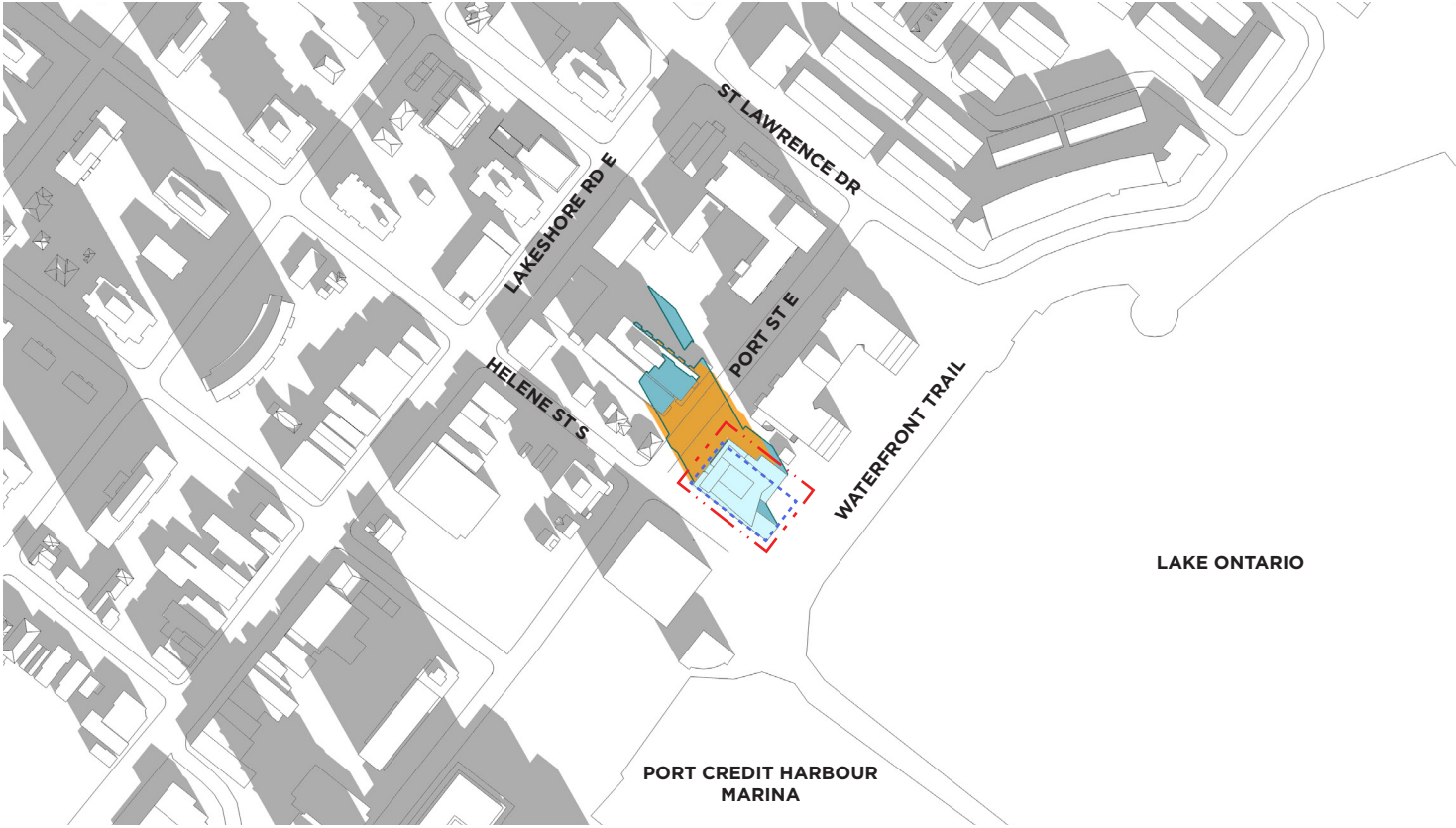
SEPTEMBER 21 SUNRISE: **7:05 AM**  
SEPTEMBER 21 SUNSET: **7:18 PM**



**Giannone Petricone Associates**



DECEMBER 21 [UTC -5] 09:19 AM

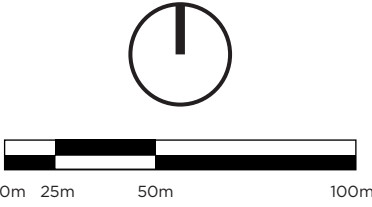


DECEMBER 21 [UTC -5] 10:17 AM

- LEGEND**
- |   |                    |   |                               |
|---|--------------------|---|-------------------------------|
|  | PROPOSED MASSING   |  | PROPERTY LINE                 |
|  | PROPOSED SHADOW    |  | AS OF RIGHT MASSING FOOTPRINT |
|  | AS OF RIGHT SHADOW |  | EXISTING SHADOW               |

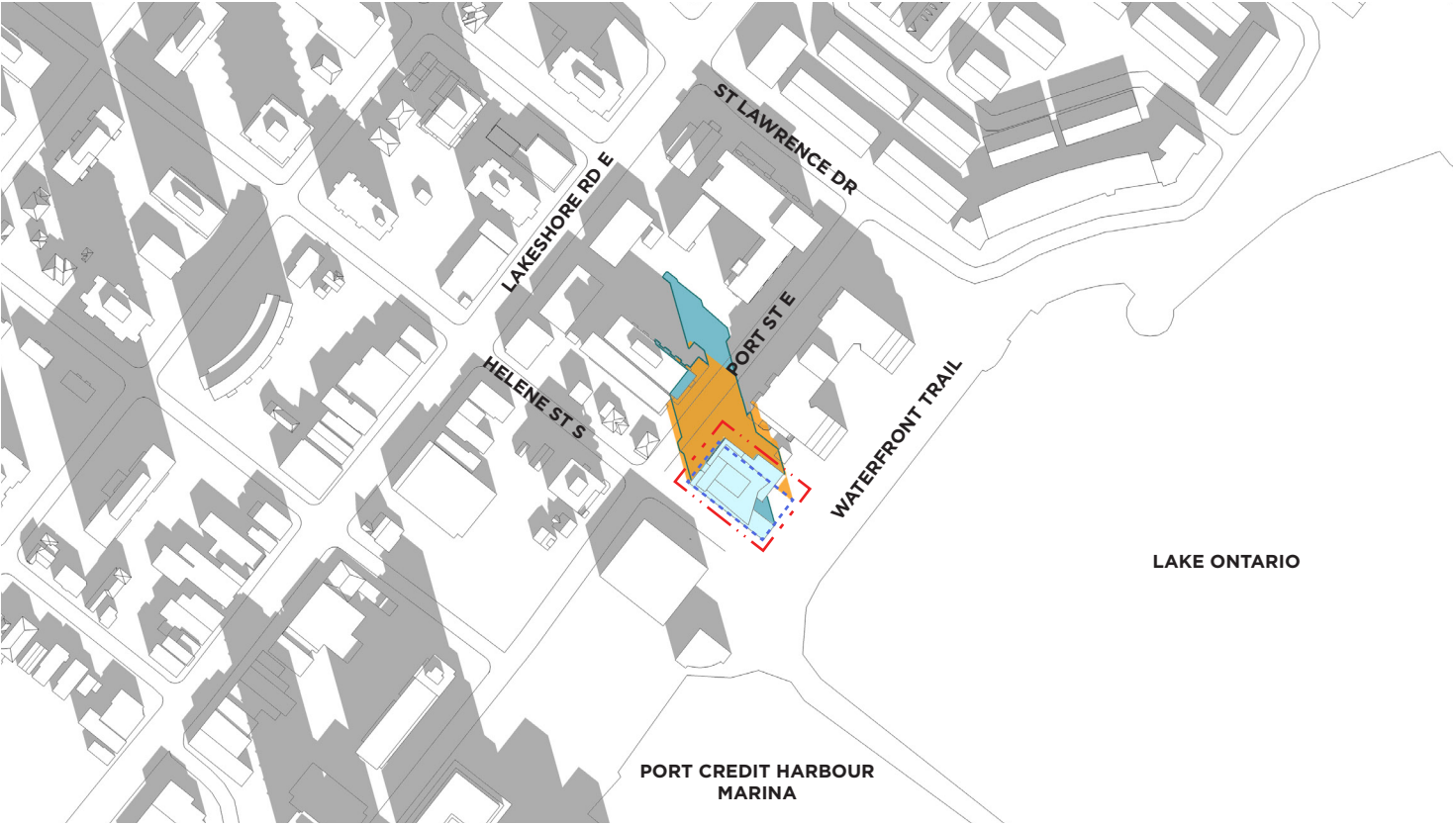
**\*NOTE:**  
- BEGINS 1.5 HRS AFTER SUNRISE AND ENDS 1.5 HRS BEFORE SUNSET AT 1 HR INTERVALS

DECEMBER 21 SUNRISE: 7:49 AM  
DECEMBER 21 SUNSET: 4:45 PM

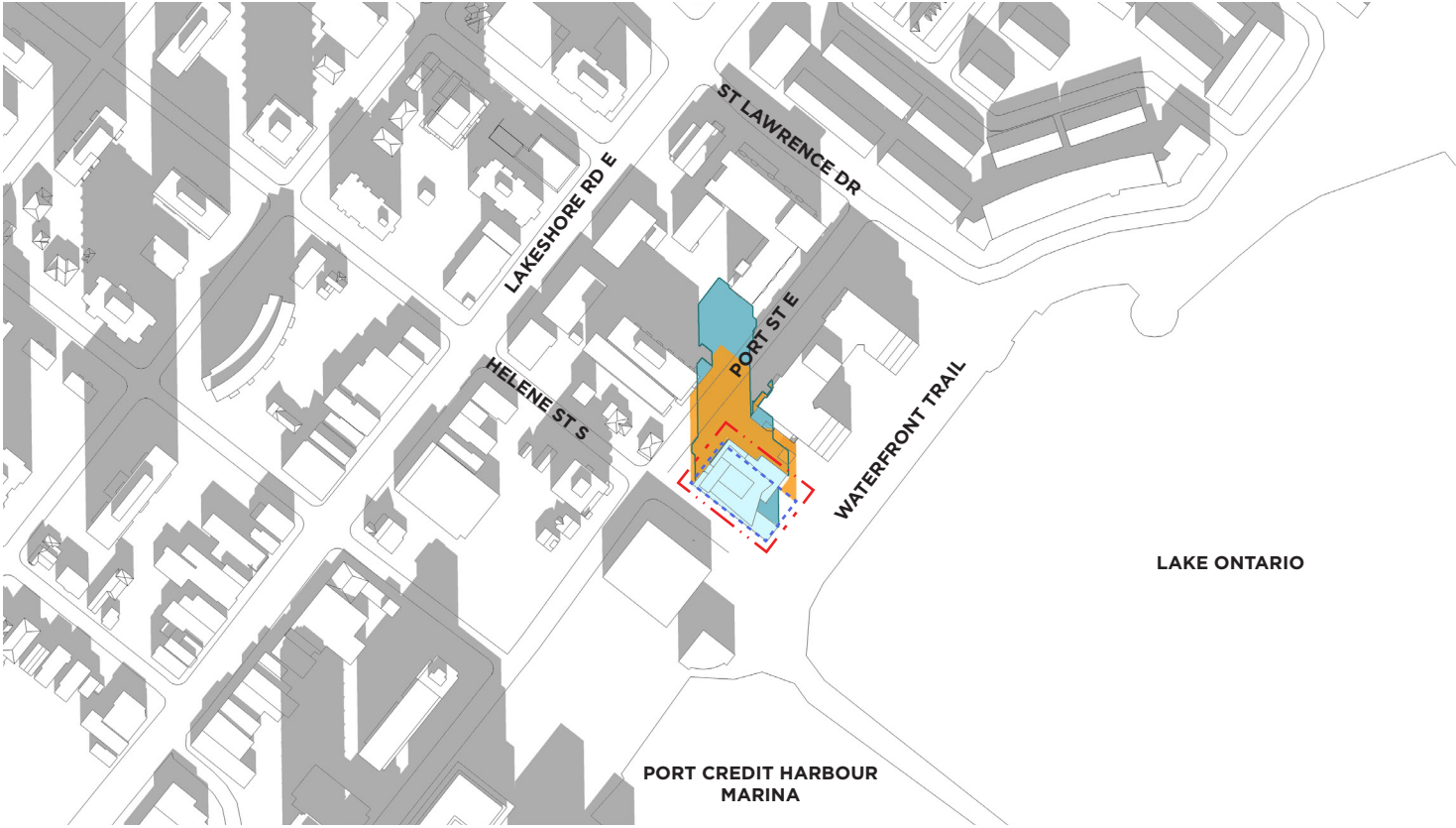


Giannone Petricone Associates





DECEMBER 21 [UTC -5] 11:17 AM



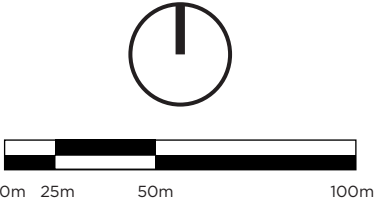
DECEMBER 21 [UTC -5] 12:17 PM

- LEGEND**

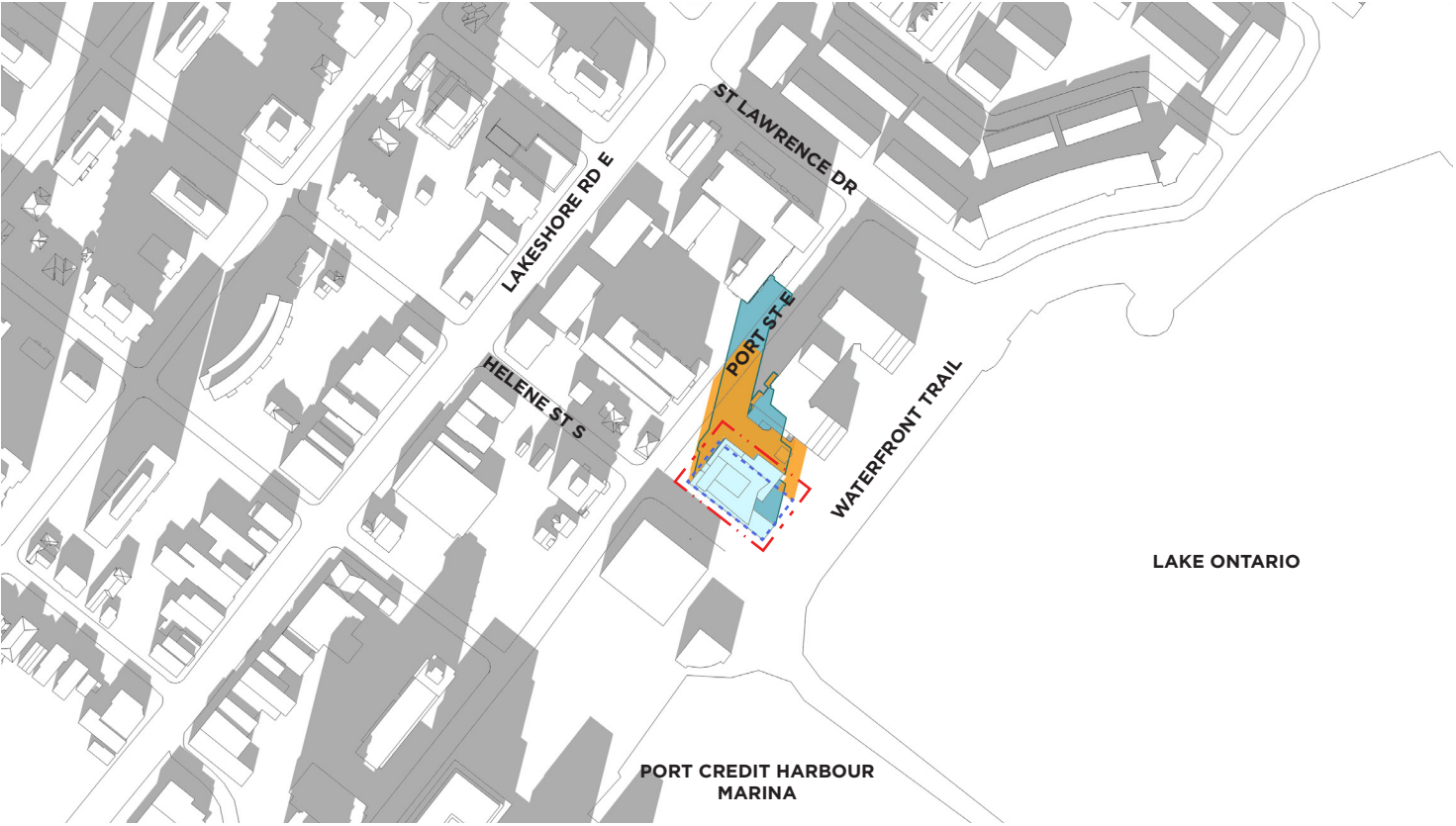
  - PROPOSED MASSING
  - PROPOSED SHADOW
  - AS OF RIGHT SHADOW
- PROPERTY LINE
  - AS OF RIGHT MASSING FOOTPRINT
  - EXISTING SHADOW

**\*NOTE:**  
 - BEGINS 1.5 HRS AFTER SUNRISE AND ENDS 1.5 HRS BEFORE SUNSET AT 1 HR INTERVALS

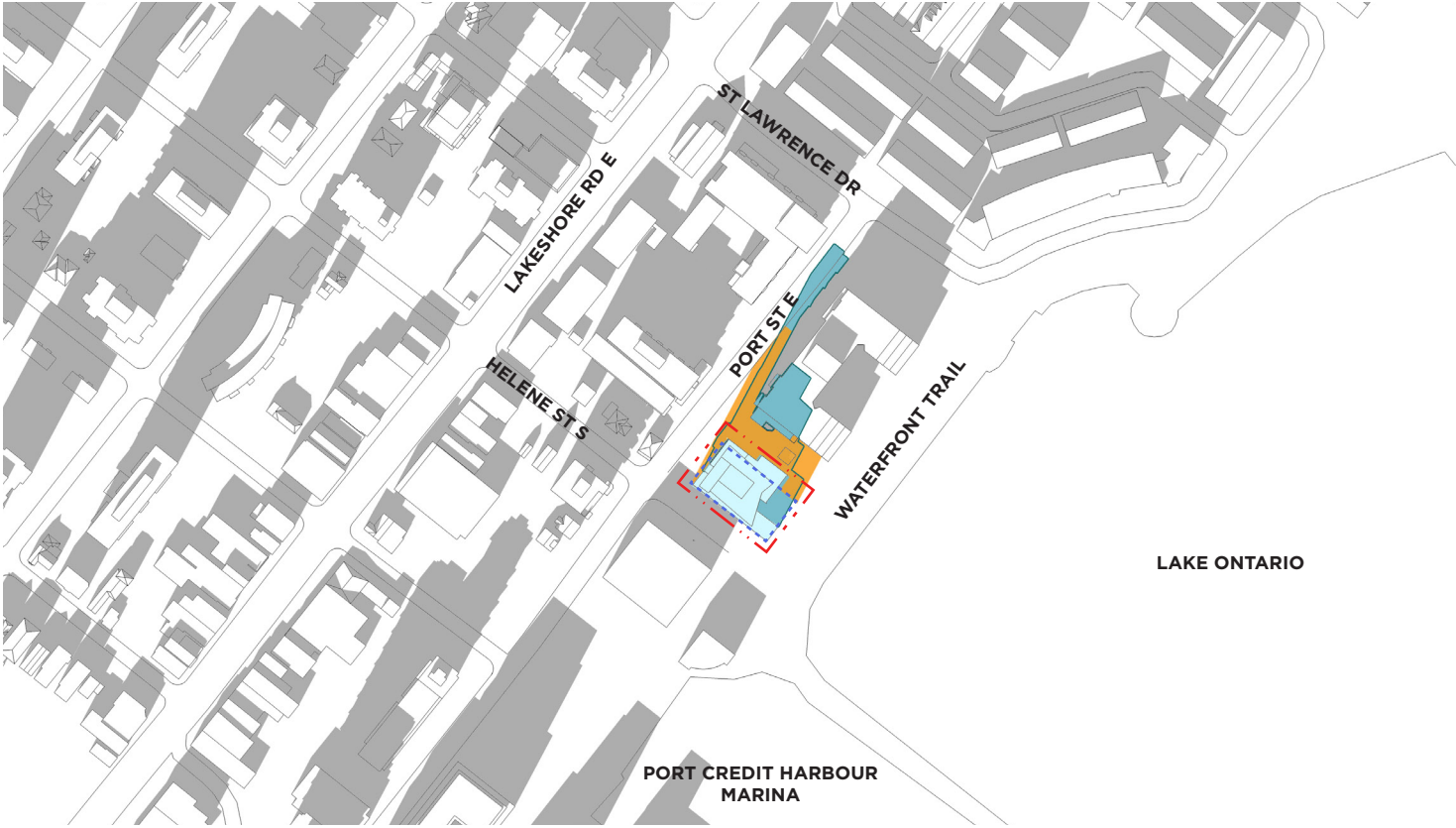
DECEMBER 21 SUNRISE: 7:49 AM  
 DECEMBER 21 SUNSET: 4:45 PM




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DECEMBER 21 [UTC -5] 01:17 PM

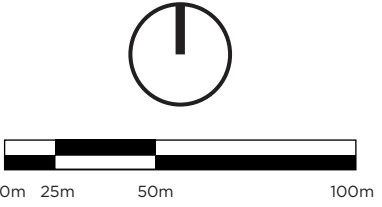


DECEMBER 21 [UTC -5] 02:17 PM

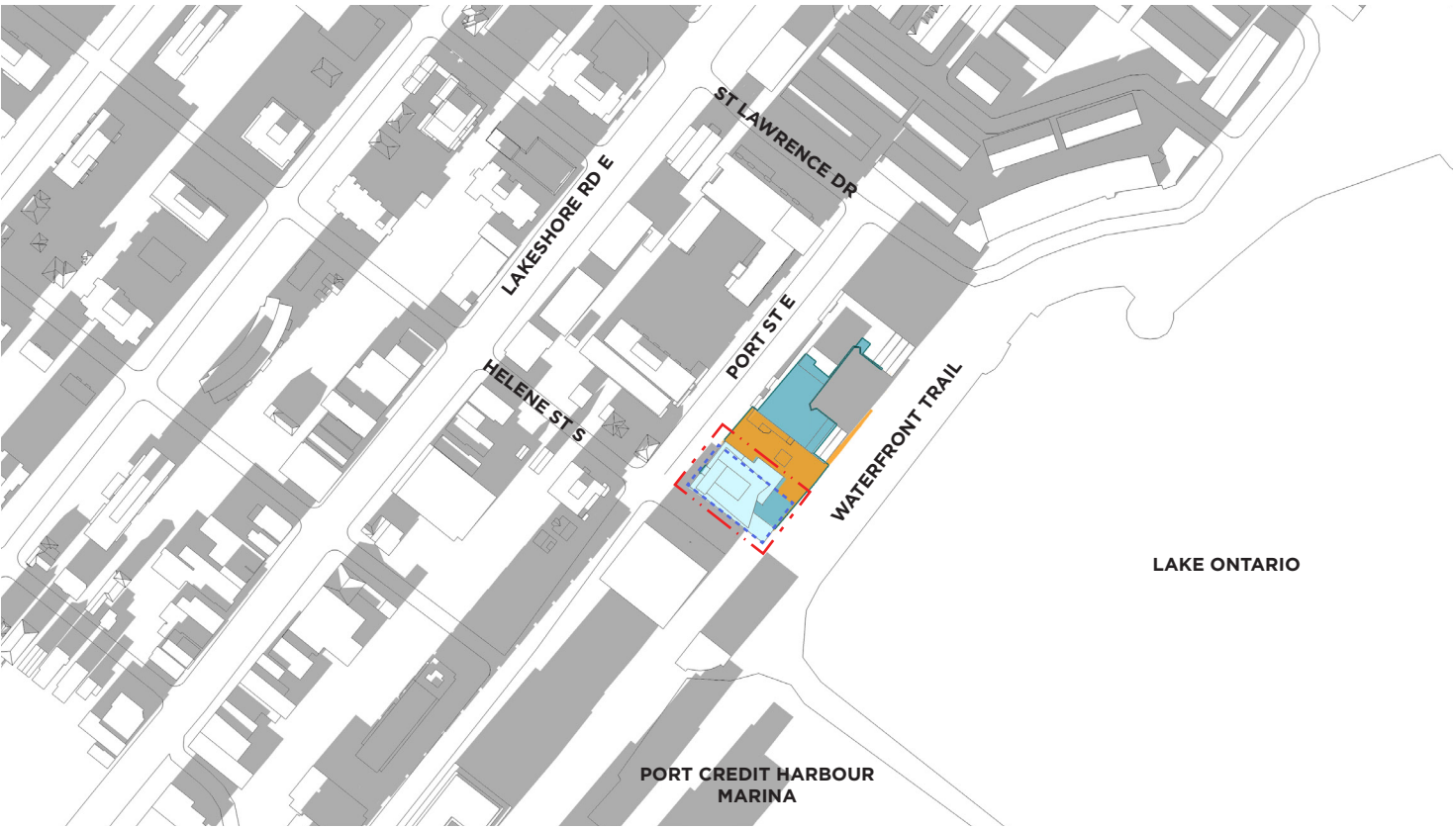
- LEGEND**
- |   |                    |   |                               |
|---|--------------------|---|-------------------------------|
|  | PROPOSED MASSING   |  | PROPERTY LINE                 |
|  | PROPOSED SHADOW    |  | AS OF RIGHT MASSING FOOTPRINT |
|  | AS OF RIGHT SHADOW |  | EXISTING SHADOW               |

**\*NOTE:**  
- BEGINS 1.5 HRS AFTER SUNRISE AND ENDS 1.5 HRS BEFORE SUNSET AT 1 HR INTERVALS

DECEMBER 21 SUNRISE: 7:49 AM  
DECEMBER 21 SUNSET: 4:45 PM

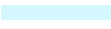




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DECEMBER 21 [UTC -5] 03:15 PM

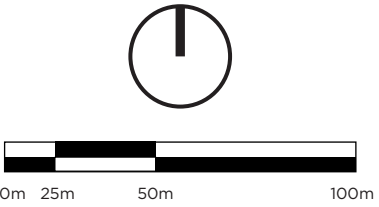
**LEGEND**

- |   |                    |   |                               |
|---|--------------------|---|-------------------------------|
|  | PROPOSED MASSING   |  | PROPERTY LINE                 |
|  | PROPOSED SHADOW    |  | AS OF RIGHT MASSING FOOTPRINT |
|  | AS OF RIGHT SHADOW |  | EXISTING SHADOW               |

**\*NOTE:**

- BEGINS 1.5 HRS AFTER SUNRISE AND ENDS 1.5 HRS BEFORE SUNSET AT 1 HR INTERVALS

DECEMBER 21 SUNRISE: 7:49 AM  
DECEMBER 21 SUNSET: 4:45 PM



Giannone Petricone Associates



June		September		December	
Time	% Shaded Amenity	Time	% Shaded Amenity	Time	% Shaded Amenity
7:07 AM	0%	8:35 AM	0%	9:19 AM	0%
7:20 AM	0%	9:12 AM	0%	10:17 AM	0%
8:20 AM	0%	10:12 AM	0%	11:17 AM	0%
9:20 AM	0%	11:12 AM	0%	12:17 PM	4%
10:20 AM	0%	12:12 PM	0%	1:17 PM	16%
11:20 AM	0%	1:12 PM	1%	2:17 PM	47%
12:20 PM	0%	2:12 PM	7%	3:15 PM	77%
1:20 PM	0%	3:12 PM	19%		
2:20 PM	0%	4:12 PM	73%		
3:20 PM	24%	5:12 PM	100%		
4:20 PM	97%	5:48 PM	100%		
5:20 PM	100%				
6:20 PM	100%				
7:20 PM	100%				
7:33 PM	100%				

Shaded Avg.
35%

Shaded Avg.
27%

Shaded Avg.
21%

**Purpose of the Shadow Study**

A Shadow Study is required in support of this development application. Mississauga’s terms of reference for Shadow Studies require development proponents to meet five criteria for the dates of June 21, September 21, and December 21.

**Criteria 1: Ensure adequate sunlight on residential private outdoor amenity spaces**

This criterion is met if there is shadow impact for no more than two consecutive hourly test times within the space between the exterior wall of the dwelling that abuts the amenity space and the line of impact assessment on June 21 and September 21.

Properties to the north and west are zoned C4 – Mainstreet commercial. The zoning essentially allows 100 % lot coverage to a height of 3 stories or 12.5 m to the top of a flat roof. Given C4 zoning the as-of right massing for these properties the criteria does not apply. The property to the east, 65 Port Street is zoned RA2-33 – the proposed development meets the criteria with respect to this property.

**Criteria 2: Ensure adequate sunlight on communal outdoor amenity areas including, children’s play areas, school yards, tot lots, and park features such as sandboxes, wading pools etc., and outdoor amenity areas used by seniors and those associated with commercial and employment areas during spring, summer, fall and winter.**

This criterion, which applies to public amenity areas that are part of the proposed development, is met if the sun access factor is at least 50% or 0.5 on June 21, September 21, and December 21.

The building’s outdoor amenity space is located in the south east corner of the property. The attached analysis demonstrates that the outdoor amenity space has a sun access factor of .65 in June, .73 in September and .79 in December, therefore the criteria is met.

**Criteria 3: Ensure adequate sunlight on the public realm including sidewalks, open spaces, parks and plazas to maximize their use during the shoulder seasons (spring and fall).**

This criterion is met if there is no incremental shade from the proposed development at 9:12 a.m., 10:12a.m. and 11:12 a.m., and at 3:12 p.m., 4:12 p.m. and 5:12 p.m. on low and medium density residential streets; at 12:12 p.m., 1:12 p.m. and 2:12 p.m., and three consecutive times either 9:12 a.m., 10:12 a.m. and 11:12 a.m. or 3:12 p.m., 4:12 p.m. and 5:12 p.m. on mixed use, commercial, employment, and high density residential streets; and provides a sun access factor of at least 50% on public open spaces, parks and plazas on September 21.

The shadow study diagrams demonstrate that the proposed built form results in minimal shadow impact on the north side of Port Street at 12:12pm for less than 1 hour. The shadow impact clears before 1:12 pm and is clear for the remainder of the day. The waterfront trail/park to the south is clear of shadow from 9:12am to approximately 4:12pm when a minimal shadow impact begins to appear on the park.

**Criteria 4: Ensure adequate sunlight on turf and flower gardens in public parks.**

This criterion is met if full sun is provided on any 7 test times on September 21, from 1.5 hours after sunrise to 1.5 hours before sunset.

The shadow study diagrams indicate that the criteria is met as the waterfront trail/park is clear of shadow from sun 8:35 am to approximately 4:12 pm.

**Criteria 5: Ensure adequate sunlight on building faces to allow for the possibility of using solar energy.**

This criterion is met if there is shadow impact for no more than two consecutive hourly test times in the “No Impact Zone” i.e. the space between the front, rear and exterior side walls of the adjacent low-rise residential buildings and the respective lines of impact assessment.

As mentioned in Criteria 1, properties to the north and west are zoned C4 and therefore this criteria does not apply. The criteria does not apply to the property to the east, 65 Port Street, as the building is 6 storeys in height.