



SUN-SHADOW STUDY

4933 VICTORIA AVENUE NORTH

TOWN OF LINCOLN
NIAGARA REGION

PREPARED FOR:
4933 VIC COURT GLOBIZEN LP ("GLOBIZEN")

PREPARED BY:
gh3* Inc
55 OSSINGTON AVE
TORONTO, ON M6J 2Y9

FEBRUARY 2024



4933 VICTORIA AVE N
VINELAND STATION, ON
LOR 2E0

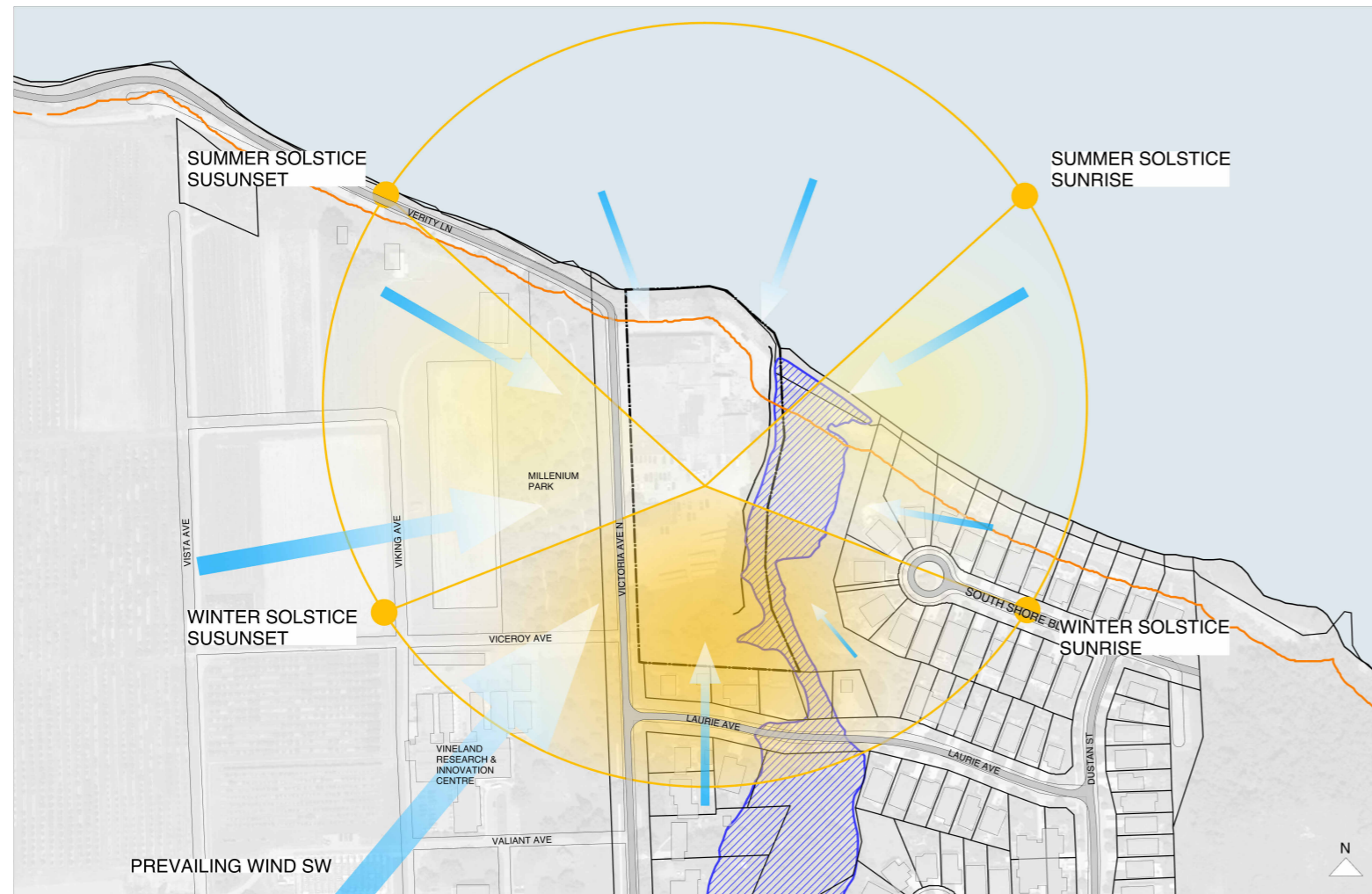
43° 11' 36" N, 79° 23' 41" W

EXECUTIVE SUMMARY

This report is a sun-shadow study for a proposed mixed-use development located at 4933 Victoria Avenue North in Lincoln, Ontario. Using 3d massing designed by gh3* Architects, site information found on the site survey provided by JD Barnes, and additional context information available from NPCA and the Town of Lincoln, the study investigates shadow impact of the proposed built development on the site as well as the neighbouring context.

Based on the sun-shadow study results on key dates of April 21st, June 21st, September 21st, and December 21st, the project has a limited impact on the neighbouring sites, with adjacent sites east and west receiving a minimum 6h of uninterrupted day light through all year around. The massing distribution and stepping also ensures the publically accessible landscaped area and lookout along the lake shore receives nearly uninterrupted daylight for 3 seasons of the year.

The report has been prepared according to the Town of Lincoln's Sun/Shadow draft Terms of Reference dated August 4, 2023.

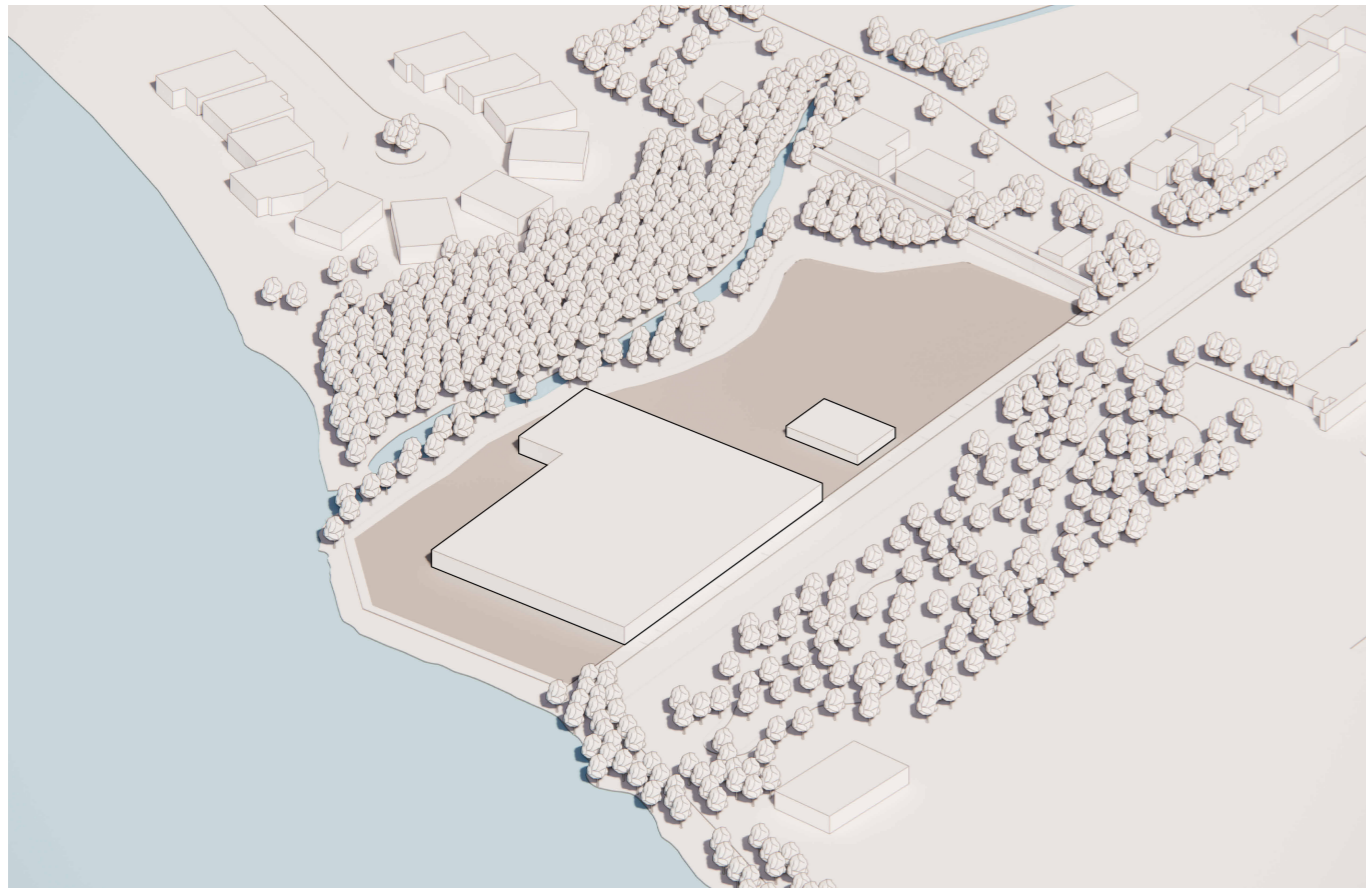


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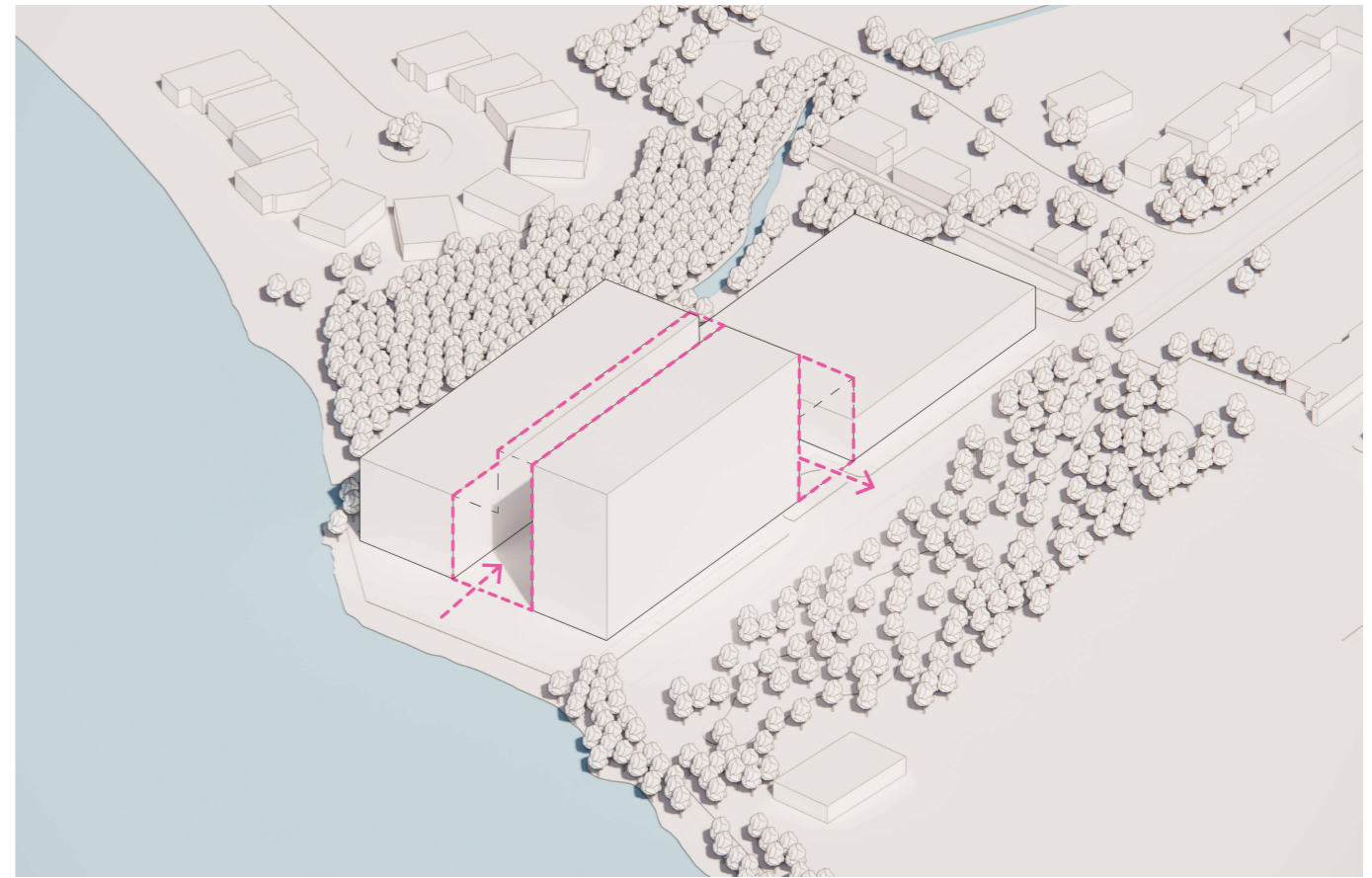
43° 11' 36" N, 79° 23' 41" W

The subject site is located on the north termination of Victoria Ave N. To the east of the property, there is an Prudhomme Creek, Victoria Shores Park, and a low density residential cul-de-sac. To the south of the property are 3 detached houses. To the west is the Millenium Park and farmland beyond. To the north is the Lake Ontario.

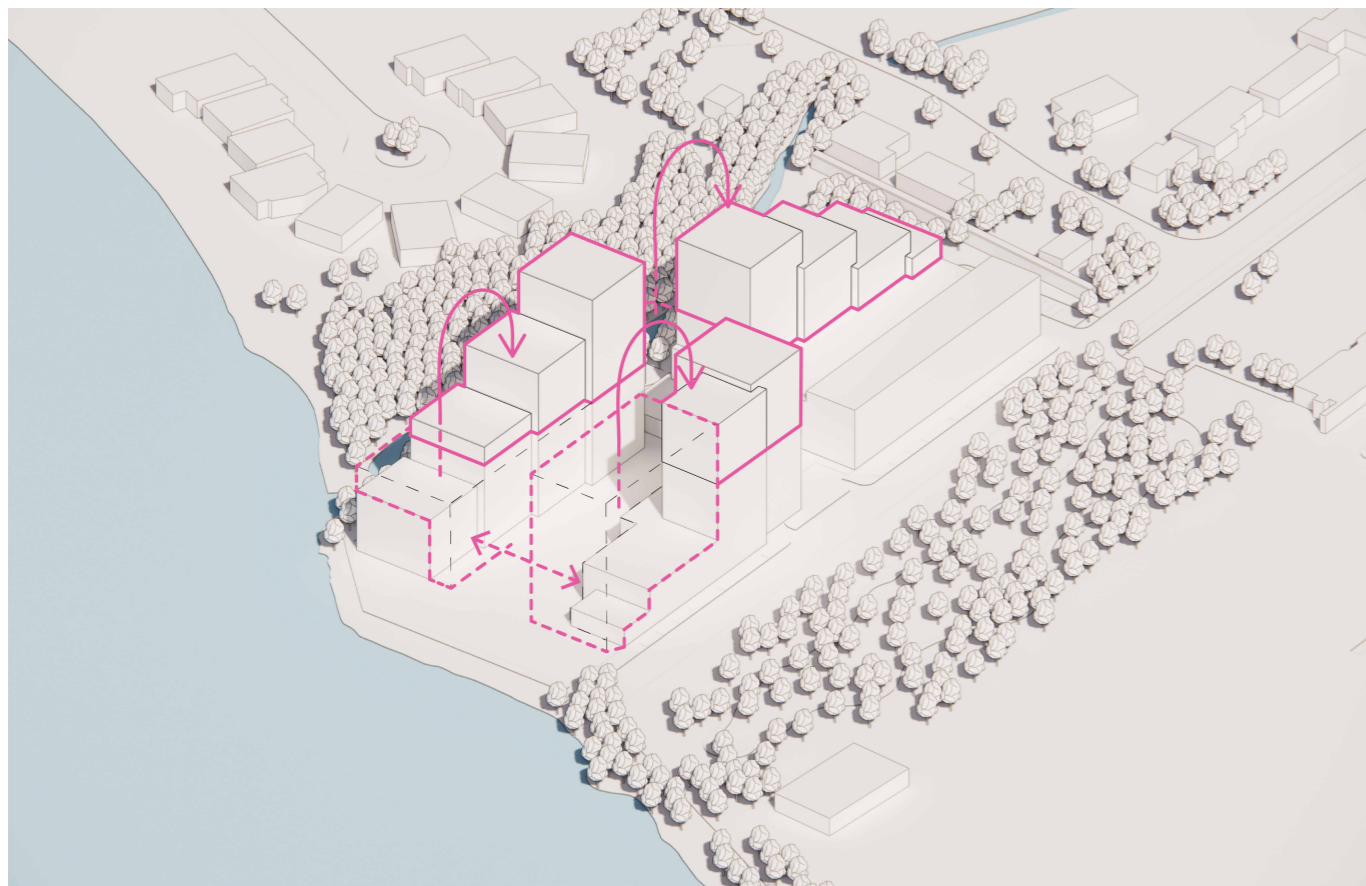
The site is designated under Prudhommes Secondary Plan as Mixed-Use. The previously existing 1 storey industrial building has been demolished and the site is currently undeveloped. The net site area is 16,299m², with proposed structures of 15 and 14 storey residentials, 15 Storey Hotel/Commercial, and a 5 storey at-grade residential. Majority of the parking is within the structure, to maximize publically accessible landscaped areas along the north shoreline. The massing carefully distributes built elements to promote daylight deep into the site, while minimizing impact on the adjacent Victoria Shores Park and residential dwellings to the east.



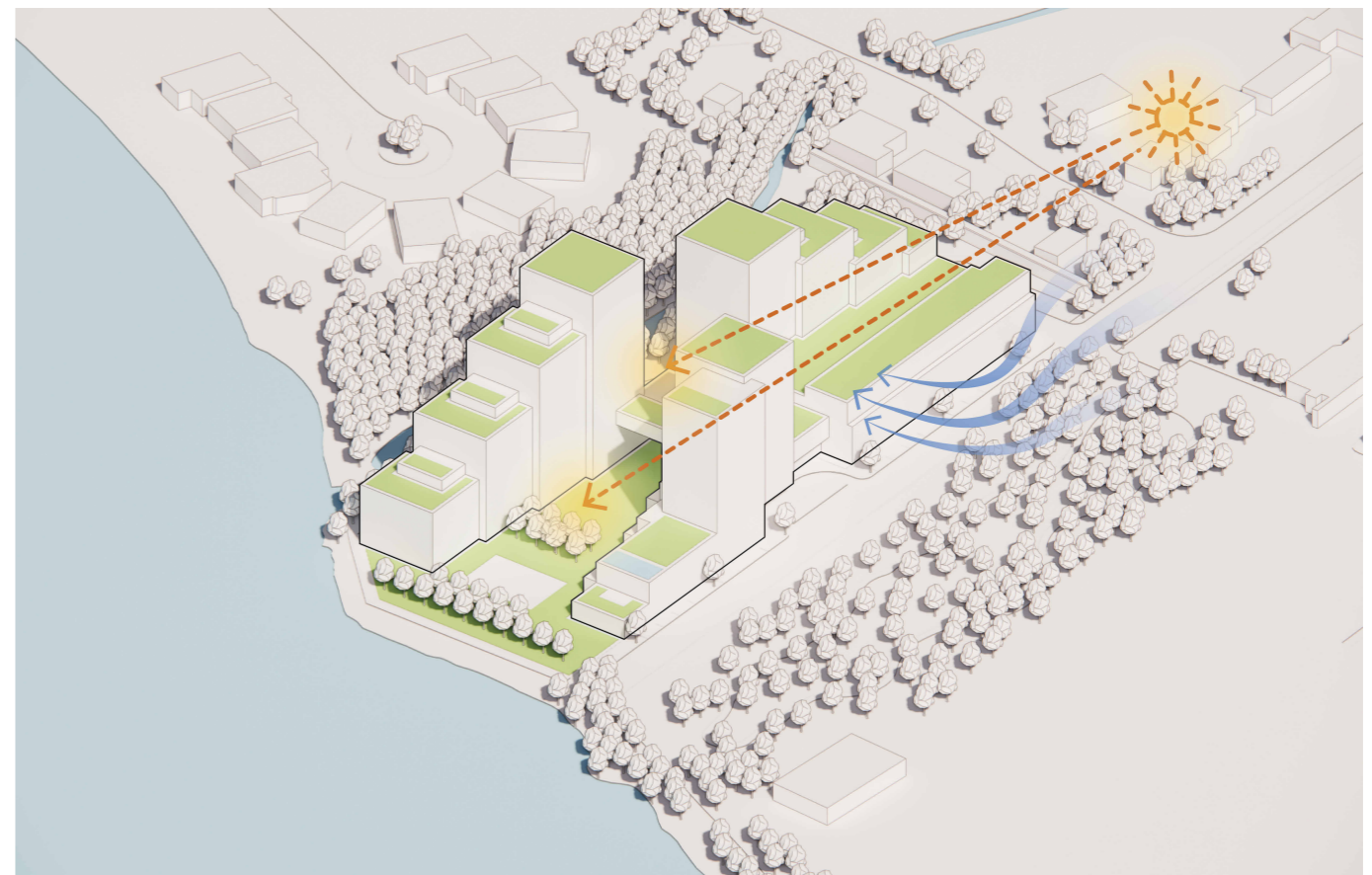
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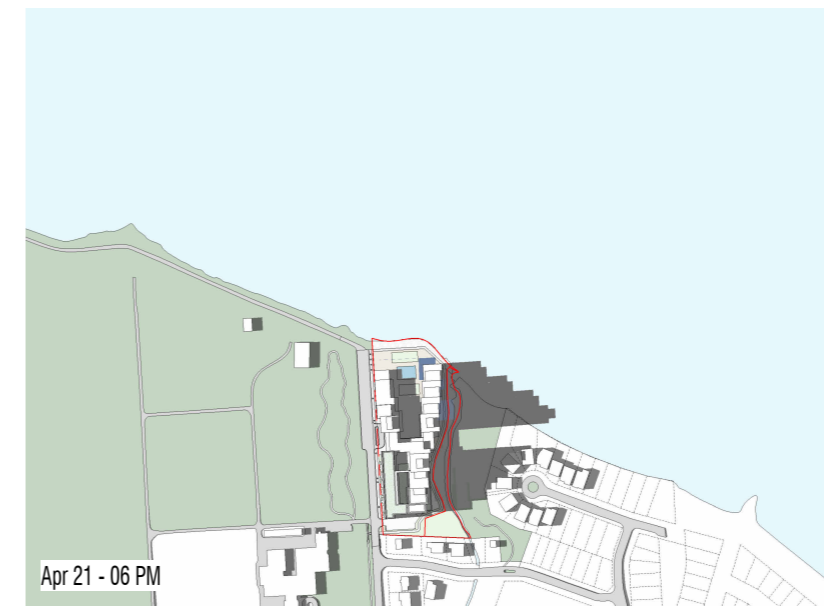
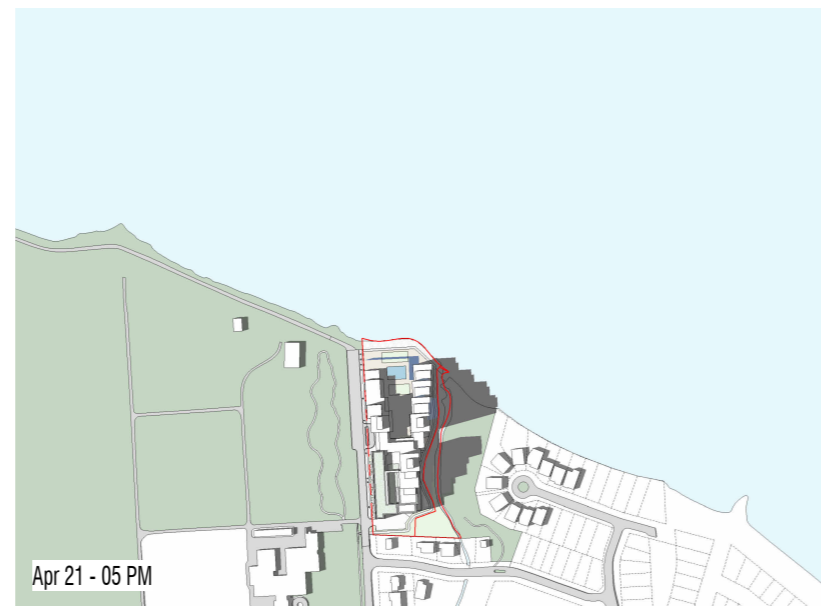
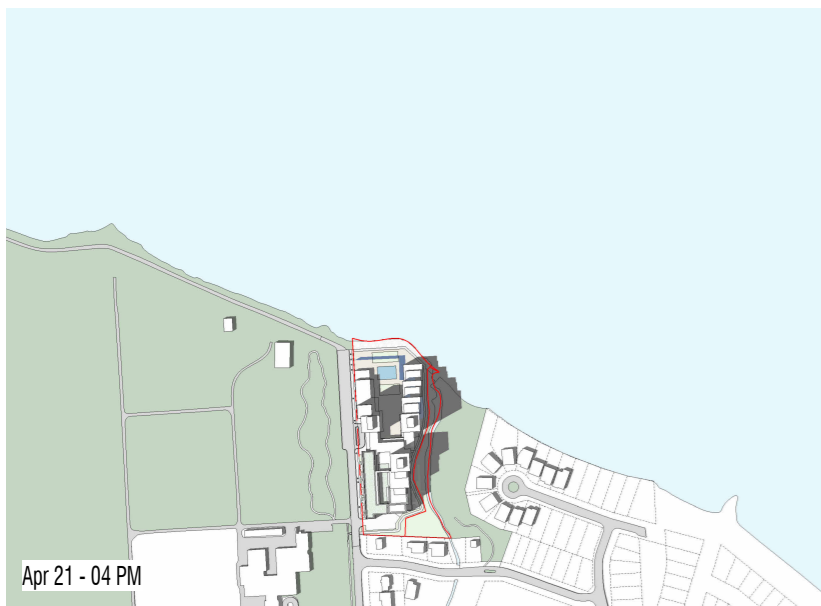
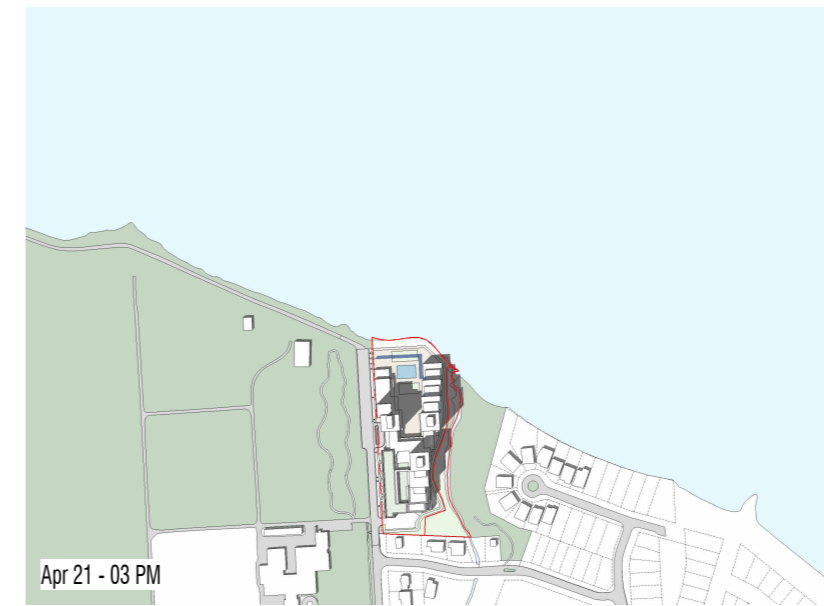
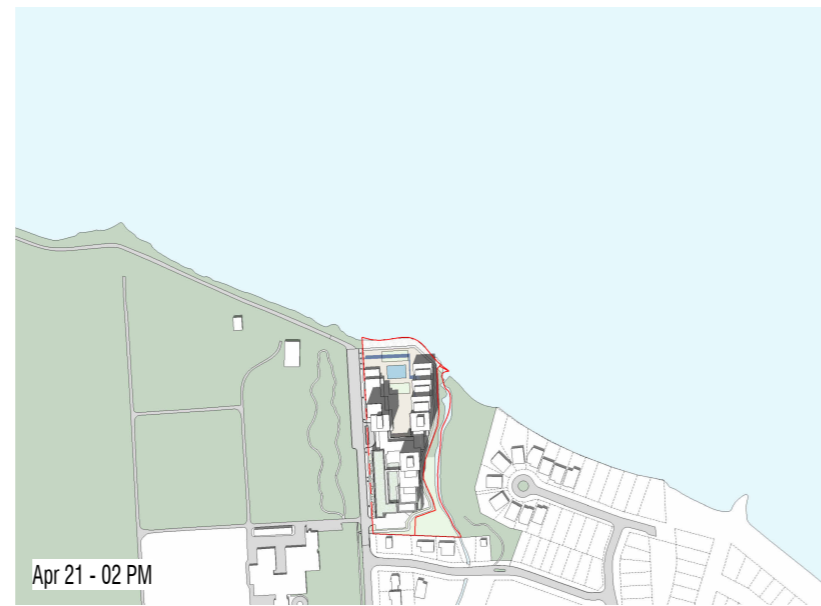
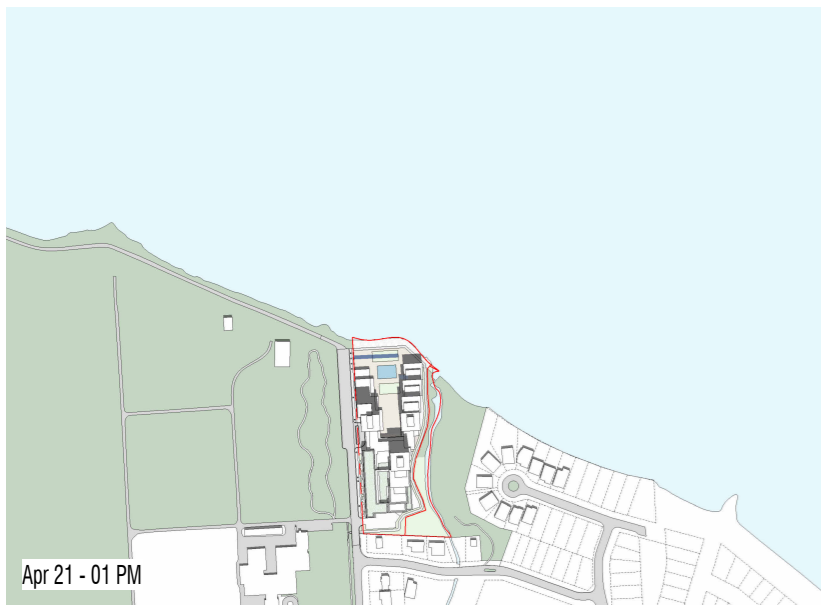
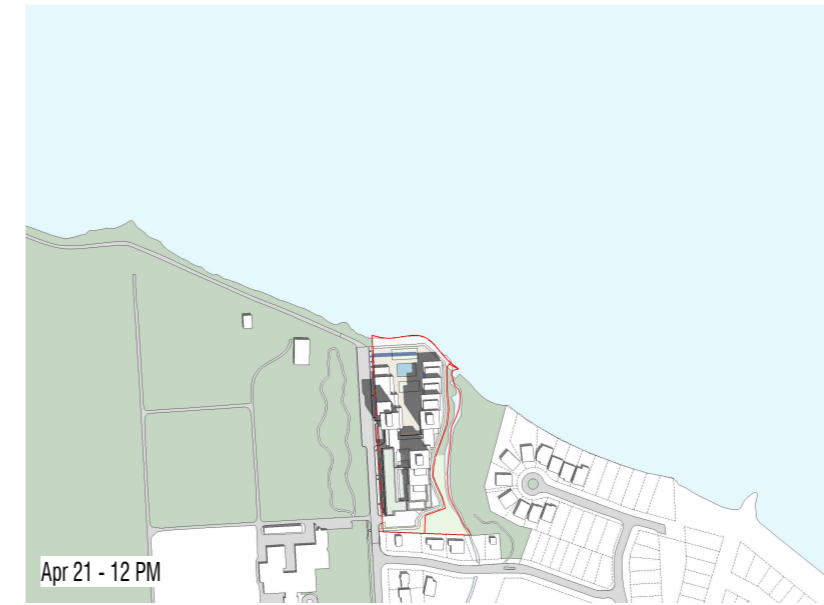
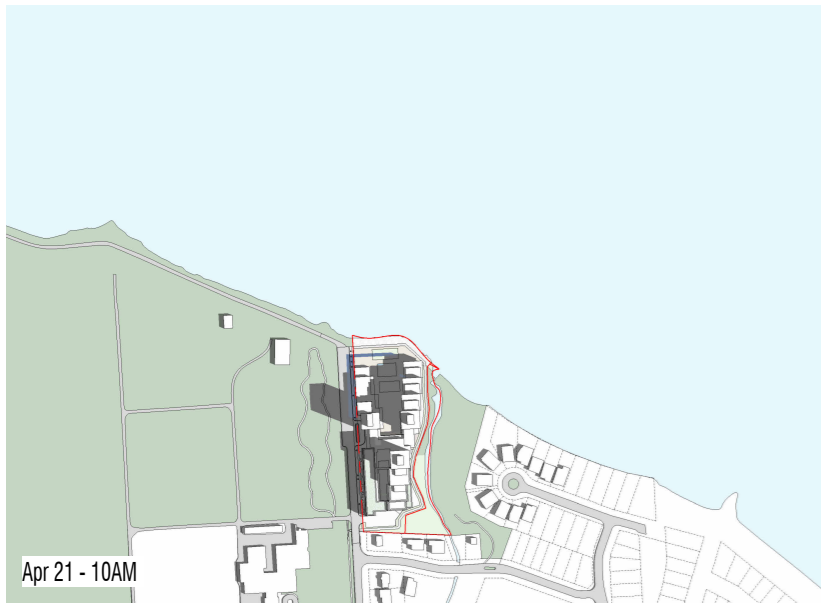
2. INITIAL MASSING PER SECONDARY PLAN SCHEDULE B-2 PRE-STUDY HEIGHT



3. REDISTRIBUTION OF MASSING TO BRING DAYLIGHT INTO OUTDOOR PUBLIC AREAS



4. MASSING APPROACH OPTIMIZING DAYLIGHTING AND MICRO-CLIMATE STRATEGIES



APRIL 21

Based on the shadow study for April 21st, the development does not have adverse impact on surrounding private and public realms including:

Private Realm

Outdoor Amenity on adjacent properties - all properties on the S Shores Blvd receive a minimum of 6 hours of daylight between 10am - 6pm. Shadows reach the rear boundary of the residential lots starting at 6pm.

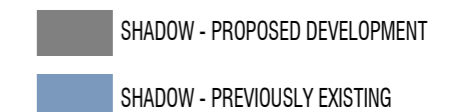
Outdoor Amenity on private amenity areas within the proposed development include patios, and common rooftops. The majority of private amenity areas will receive a minimum of 4 hours of daylight between 10am - 6pm.

Public Realm

Public outdoor spaces along the shoreline to the north will receive a continuous daylight between 10am - 6pm. Public outdoor courtyard space located in the middle of the site between the towers will receive a minimum of 3h of daylight between 10am - 6pm, suitable for passive and programmed amenity opportunities for spill-out activities.

The design of the Victoria Avenue North streetscape is proposed to be improved through the proposed redevelopment including the introduction of sidewalks. The proposed development will not adversely impact the sun access to the street, as a minimum of 4 hours of daylight will be achieved. Furthermore, the trees of the Millenium Forest Park across the street will not be adversely impacted, as limited shadow impacts are only between 10-11 am

Impacts to Victoria Sores Park are mitigated as the park will have a continuous sunlight access from 10am - 4 pm. Shadows start at 4pm at the most westerly end of the park and gradually increase until 6pm.



JUNE 21

Based on the shadow study for June 21st, the development does not have adverse impact on surrounding private and public realms including:

Private Realm

Outdoor Amenity on adjacent properties - all properties on the S Shores Blvd receive a minimum of 6 hours of daylight between 10am - 6pm. Shadows reach the rear boundary of the residential lots starting at 6pm.

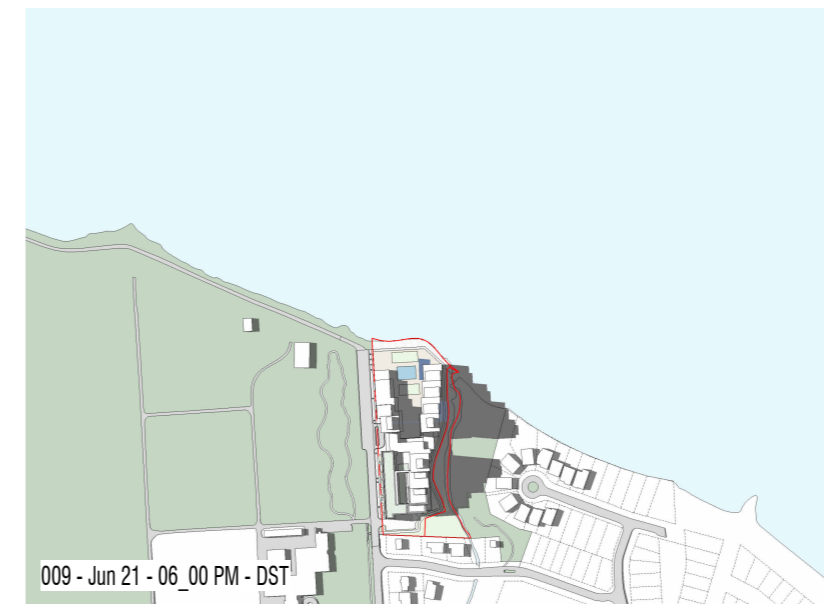
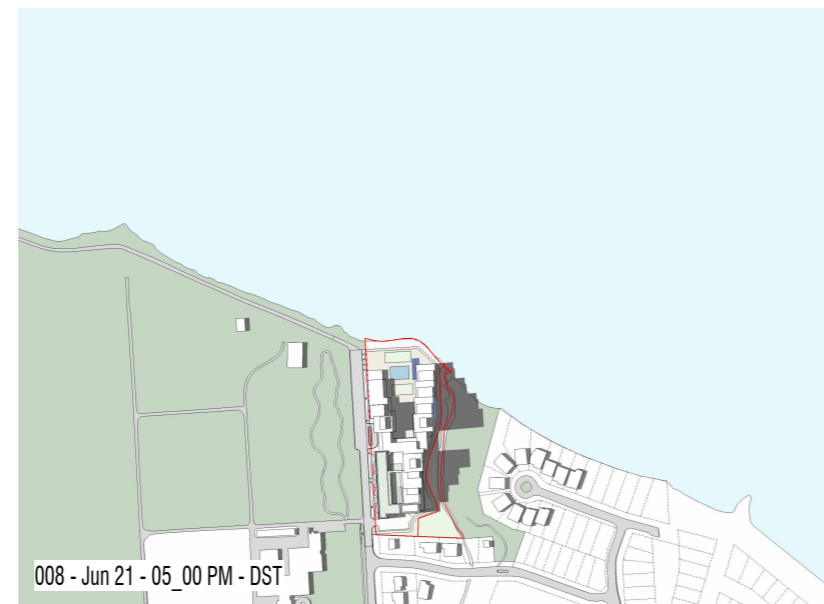
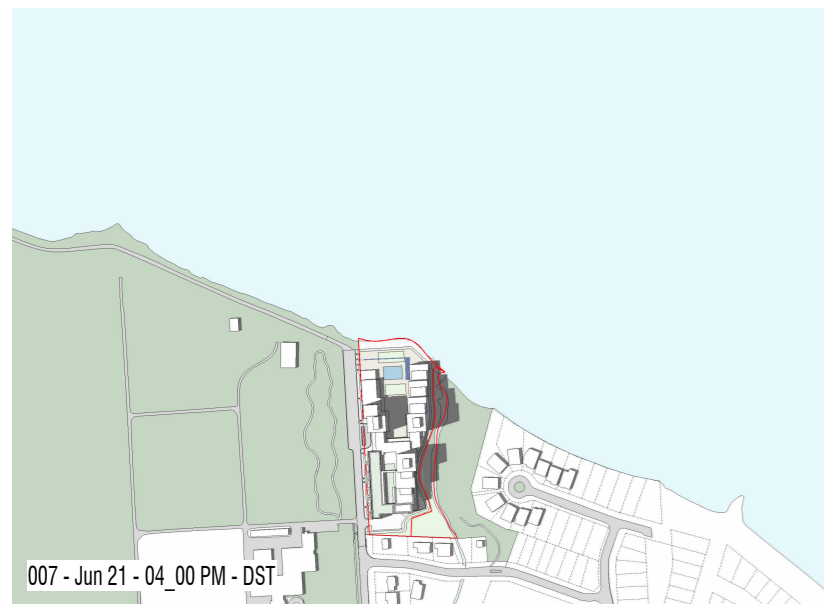
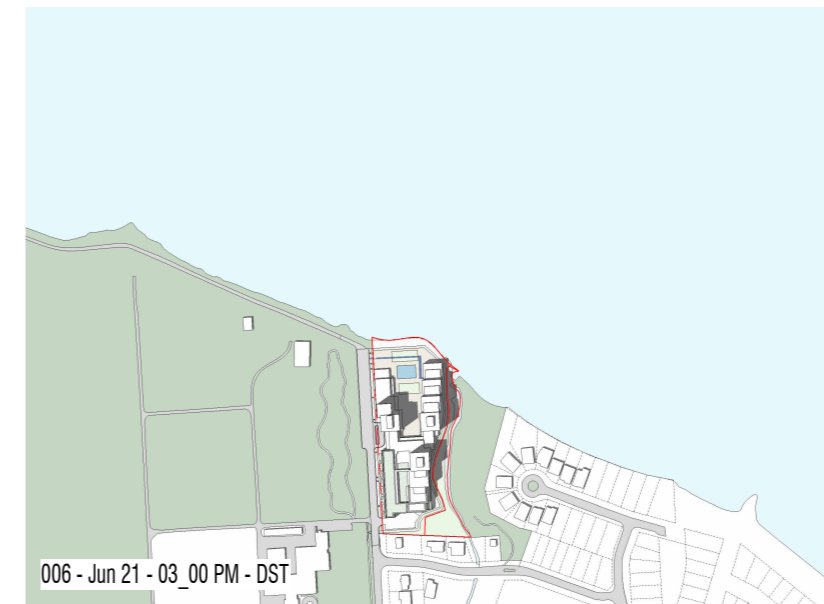
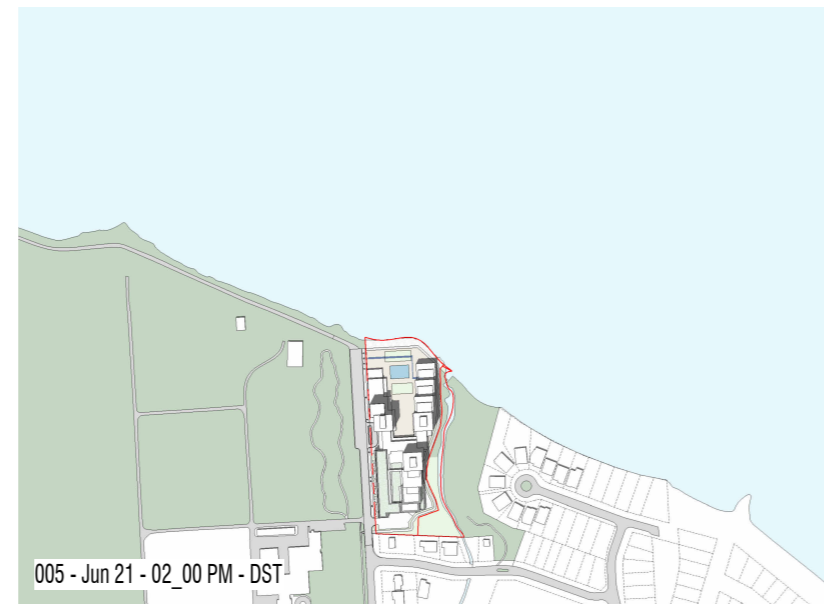
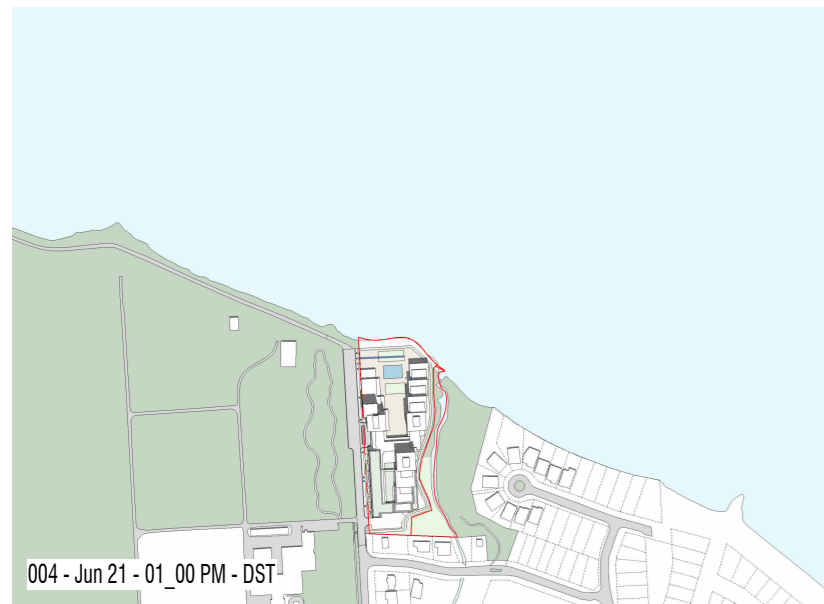
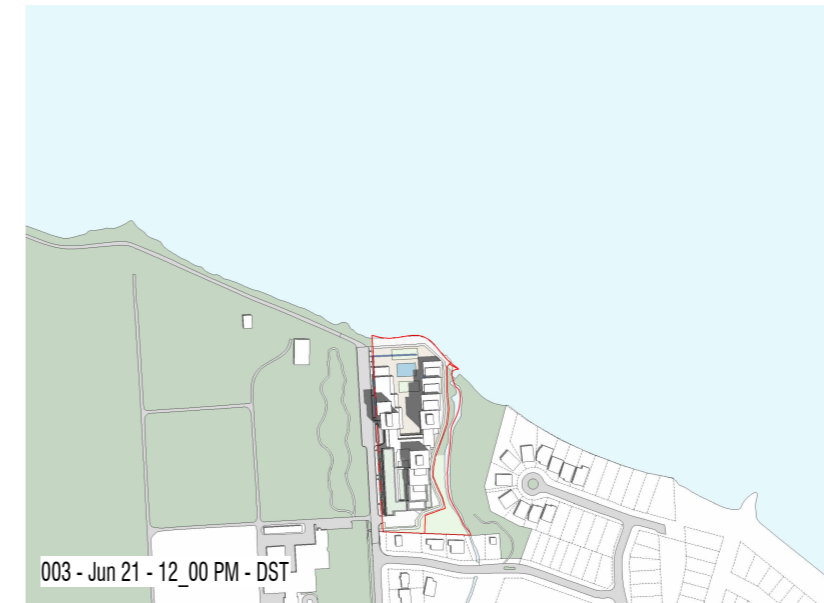
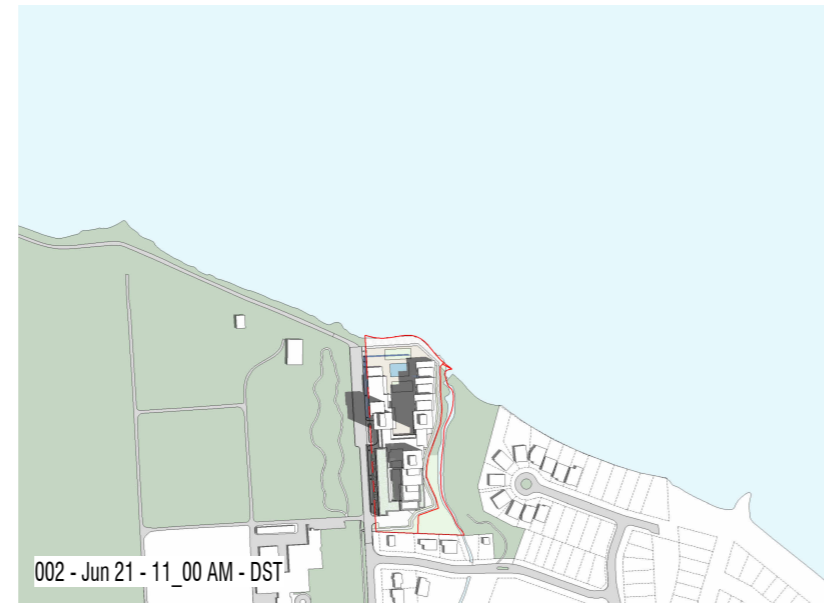
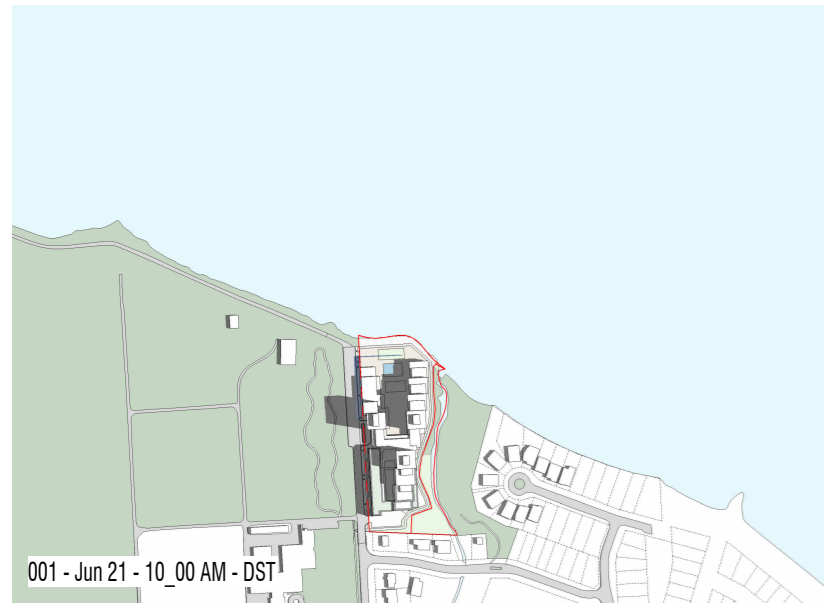
Outdoor Amenity on private amenity areas within the proposed development include patios, and common rooftops. The majority of private amenity areas will receive a minimum of 4 hours of daylight between 10am - 6pm.

Public Realm

Public outdoor spaces along the shoreline to the north will receive a continuous daylight between 10am - 6pm. Public outdoor courtyard space located in the middle of the site between the towers will receive a minimum of 4h of daylight between 10am - 6pm.

The design of the Victoria Avenue North streetscape is proposed to be improved through the proposed redevelopment including the introduction of sidewalks. The proposed development will not adversely impact the sun access to the street, as a minimum of 4 hours of daylight will be achieved. Furthermore, the trees of the Millenium Forest Park across the street will not be adversely impacted, as limited shadow impacts are only between 10-11 am

Impacts to Victoria Sores Park are mitigated as the park will have a continuous sunlight access from 10am - 4 pm. Shadows start at 4pm at the most westerly end of the park and gradually increase until 6pm.



- SHADOW - PROPOSED DEVELOPMENT
- SHADOW - PREVIOUSLY EXISTING

SEPTEMBER 21

Based on the shadow study for September 21st (the equinox), the development does not have adverse impact on surrounding private and public realms including:

Private Realm

Outdoor Amenity on adjacent properties - all properties on the S Shores Blvd receive a minimum of 6 hours of daylight between 10am - 6pm. Shadows reach the rear boundary of the residential lots starting at 6pm.

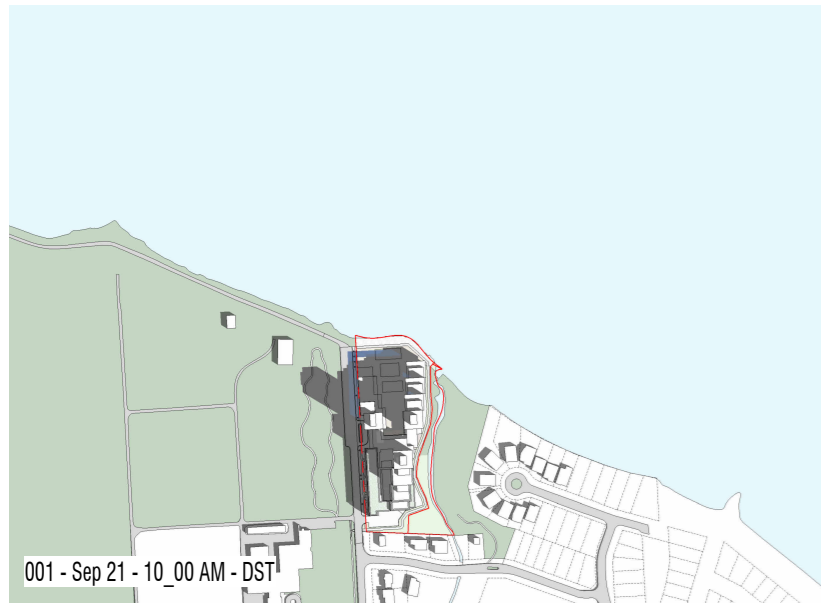
Outdoor Amenity on private amenity areas within the proposed development include patios, and common rooftops. The majority of private amenity areas will receive a minimum of 4 hours of daylight between 10am - 6pm.

Public Realm

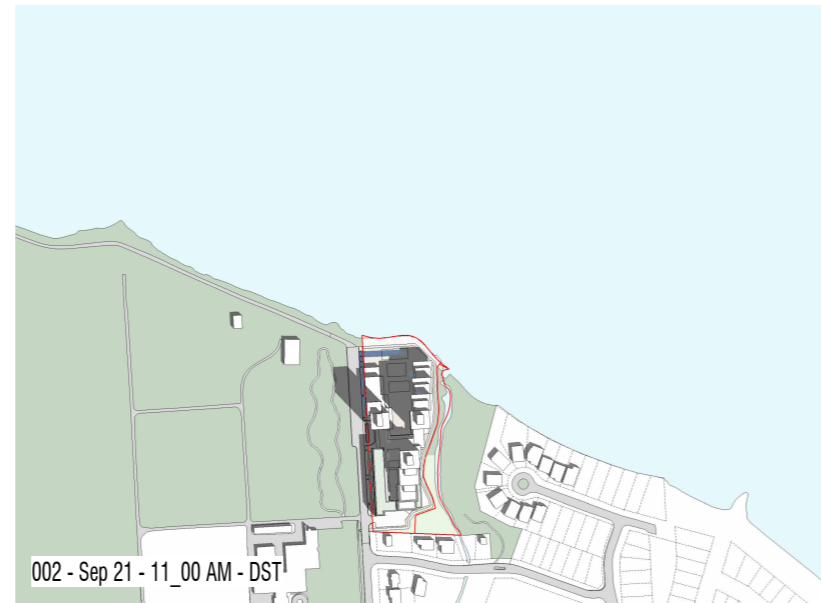
Public outdoor spaces along the shoreline to the north will receive a continuous daylight between 10am - 6pm. Public outdoor courtyard space located in the middle of the site between the towers will receive a minimum of 3h of daylight between 10am - 6pm, suitable for passive and programmed amenity opportunities for spill-out activities.

The design of the Victoria Avenue North streetscape is proposed to be improved through the proposed redevelopment including the introduction of sidewalks. The proposed development will not adversely impact the sun access to the street, as a minimum of 4 hours of daylight will be achieved. Furthermore, the trees of the Millenium Forest Park across the street will not be adversely impacted, as limited shadow impacts are only between 10-11 am

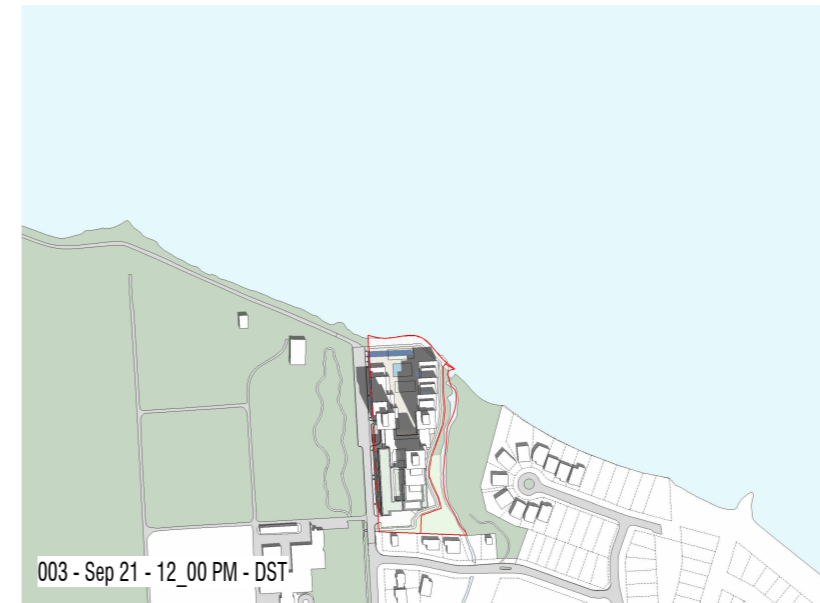
Impacts to Victoria Sores Park are mitigated as the park will have a continuous sunlight access from 10am - 4pm. Shadows start at 4pm at the most westerly end of the park and gradually increase until 6pm.



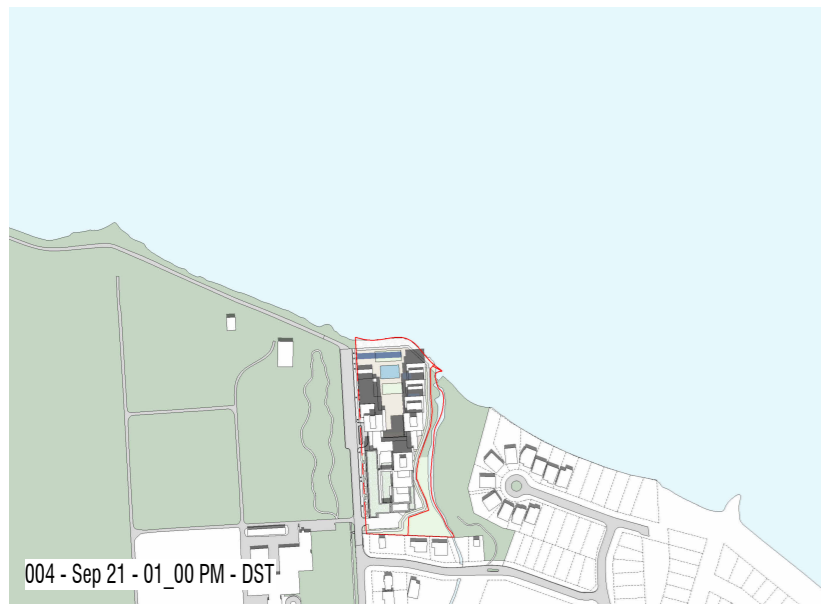
001 - Sep 21 - 10_00 AM - DST



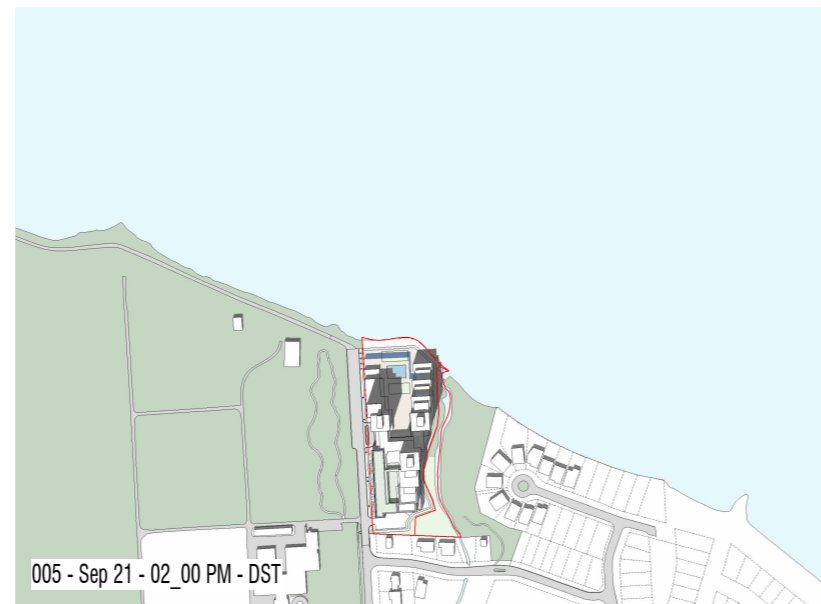
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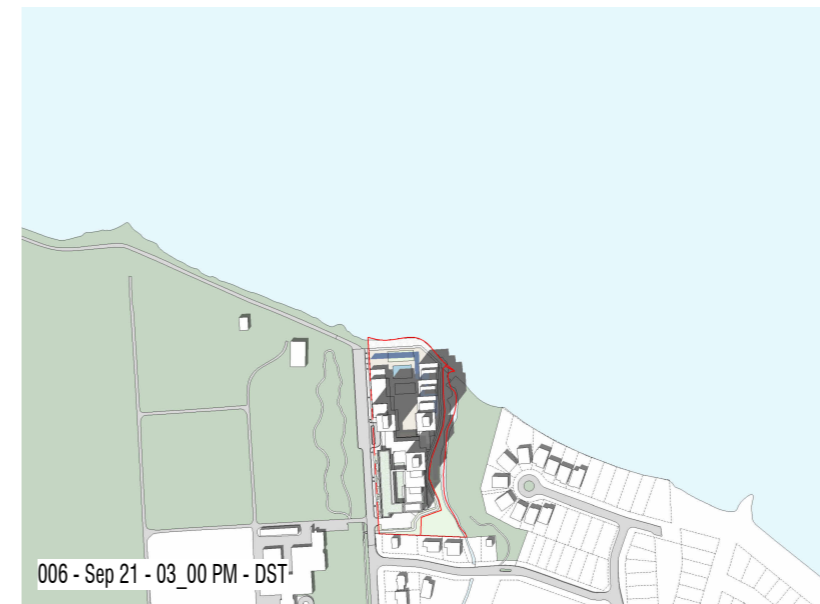
003 - Sep 21 - 12_00 PM - DST



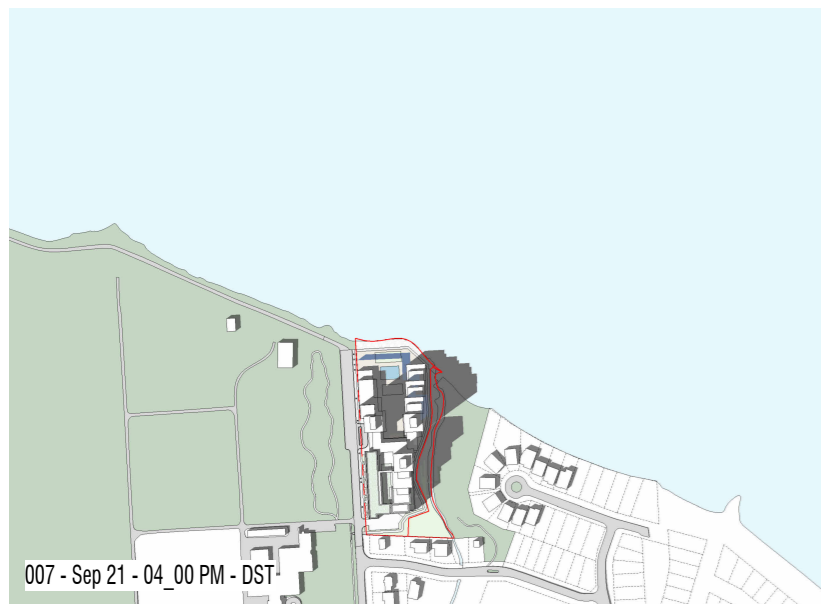
004 - Sep 21 - 01_00 PM - DST



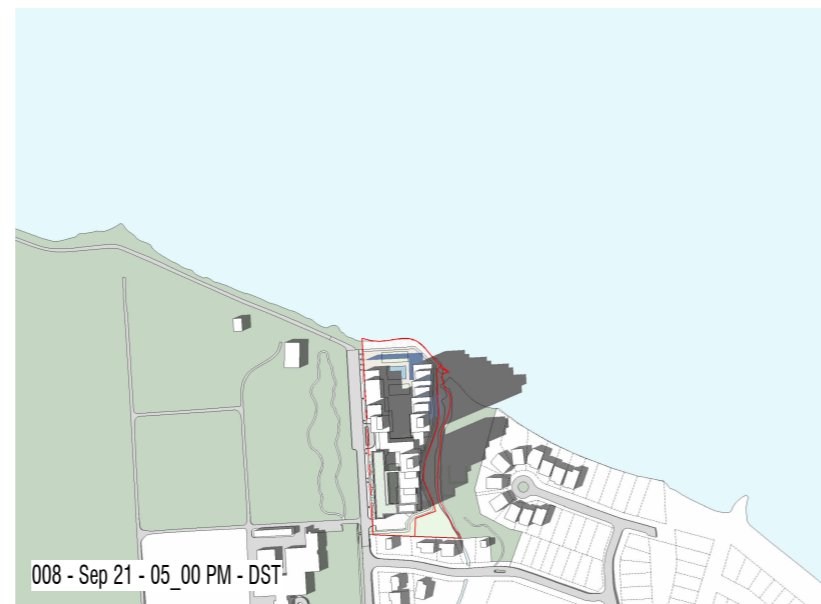
005 - Sep 21 - 02_00 PM - DST



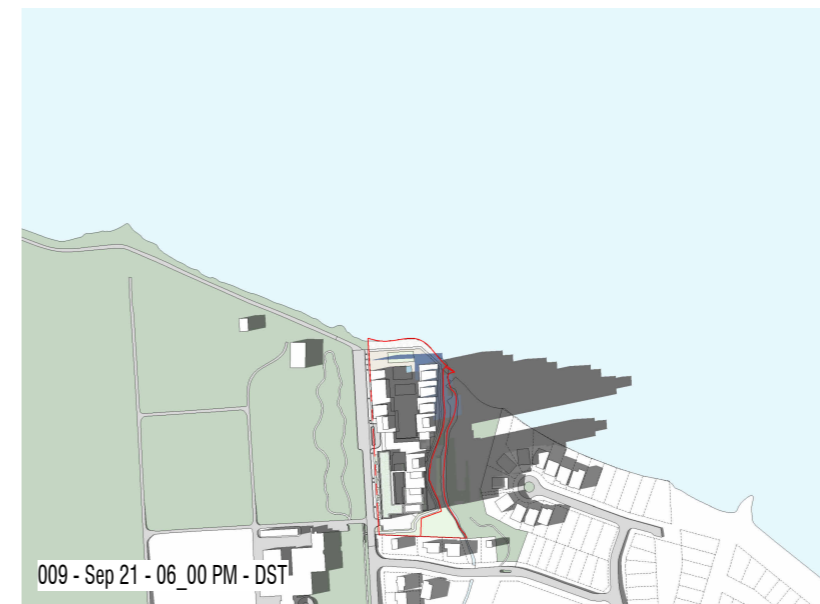
006 - Sep 21 - 03_00 PM - DST



007 - Sep 21 - 04_00 PM - DST

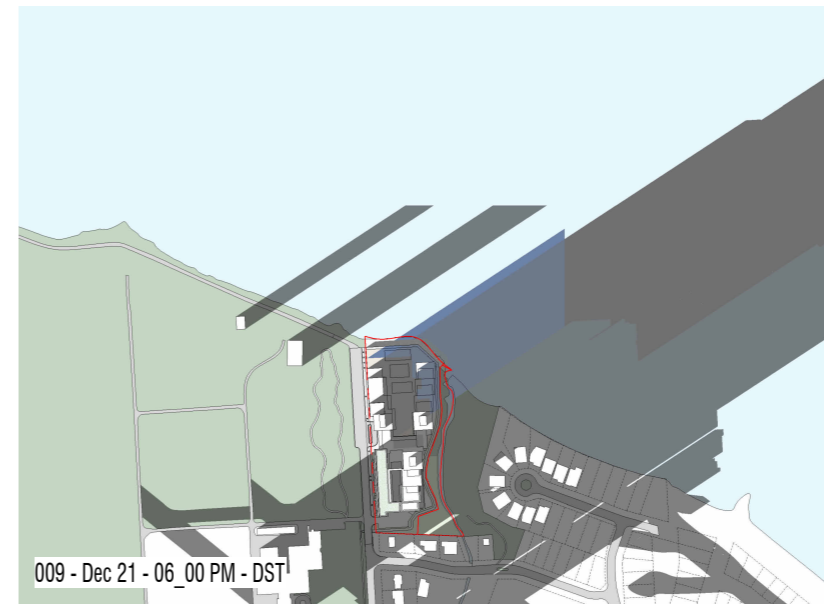
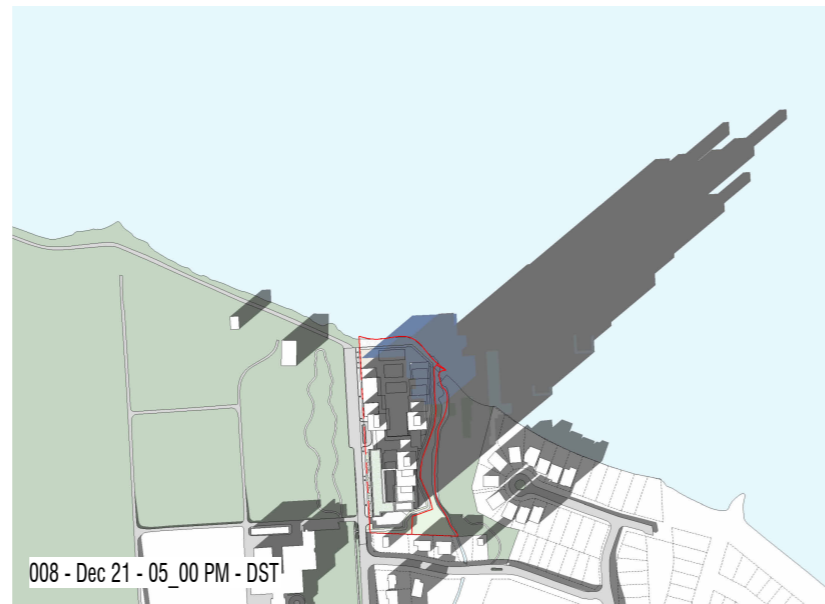
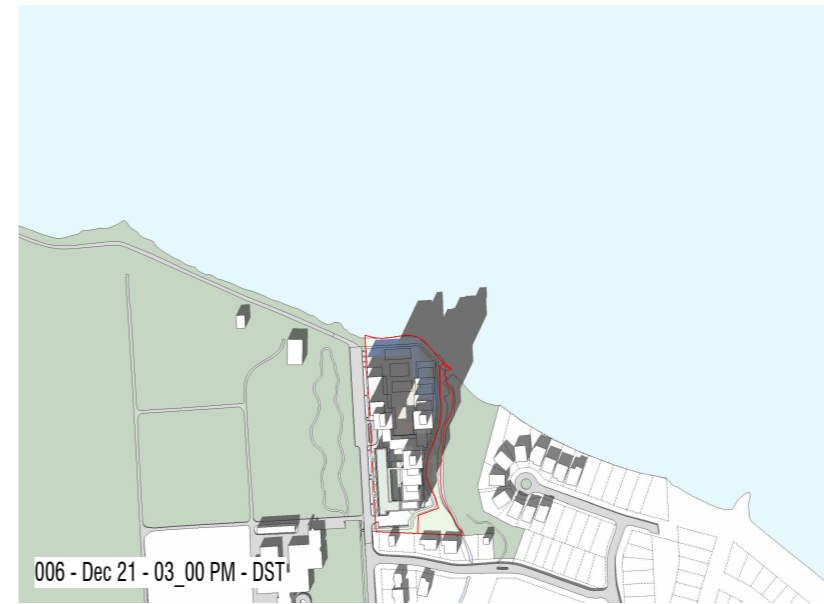
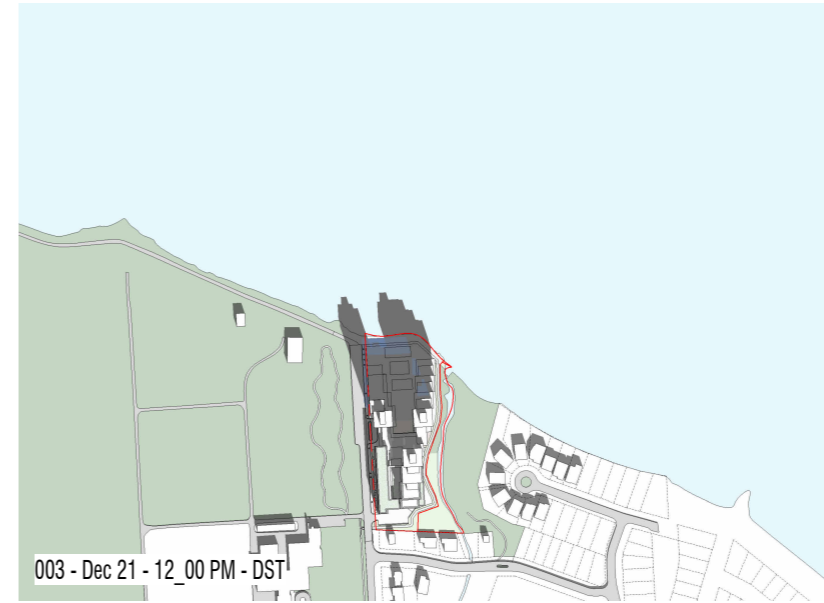


008 - Sep 21 - 05_00 PM - DST



009 - Sep 21 - 06_00 PM - DST

- SHADOW - PROPOSED DEVELOPMENT
- SHADOW - PREVIOUSLY EXISTING



DECEMBER 21

The Terms of Reference for December shadows is specific to protecting access to sunlight on school yards and children's play areas. The subject lands are not within the proximity to those uses. Regardless of the ToR, the sun-shadow study for December 21 illustrates that the proposed development mitigates adverse shadowing impact on adjacent public and private realms:

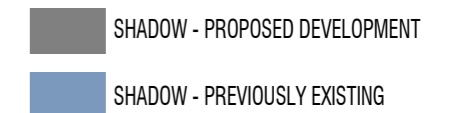
Private Realm

Outdoor Amenity on adjacent properties - all properties on the S Shores Blvd receive a minimum of 6 hours of daylight between 10am - 6pm. Shadows reach the rear boundary of the residential lots starting at 5pm. As such, the residential yards will receive a full day of daylight during the shorter winter days.

Public Realm

The proposed development will not adversely impact the sun access to the street as a minimum of 4 hours of daylight will be achieved. Furthermore, the trees of the Millenium Forest Park across the street will not be adversely impacted, as limited shadow impacts are only between 10-11am.

Impacts to Victoria Sores Park are mitigated as the park will have a continuous sunlight access from 10am - 3pm. Shadows start at 3pm at the most westerly end of the park and gradually increase until 6pm.





The proposed massing has been strategically designed with daylighting and prevailing wind in mind.

The buildings have been set back from the northern shoreline provisioned for publically accessible landscaped plaza with landscaped amenities, furniture, and plantings to provide a unique waterfront experience in the Vineland region. The hotel building is set back further from the north to maximize afternoon daylight onto the waterfront lookout and the plaza. This massing strategy allows for a continuous uninterrupted daylight along the shoreline for 3 seasons of the year.

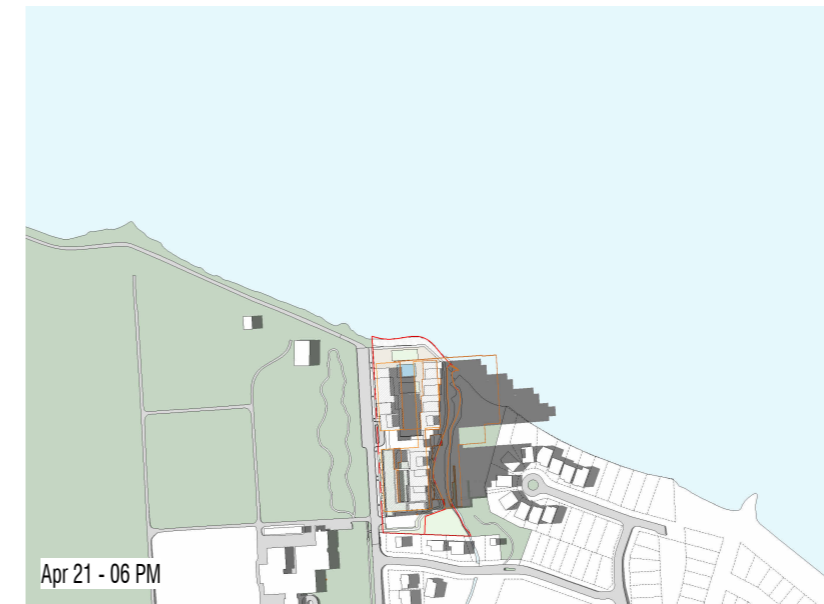
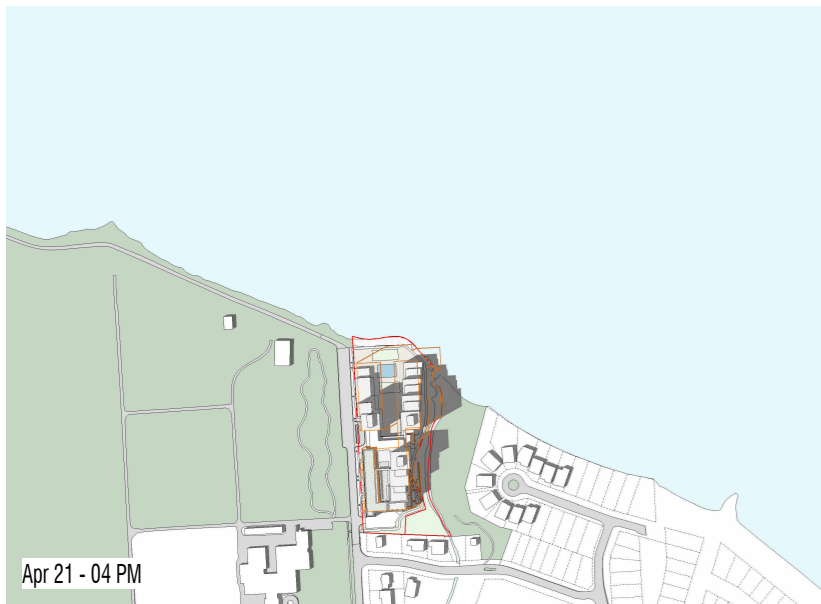
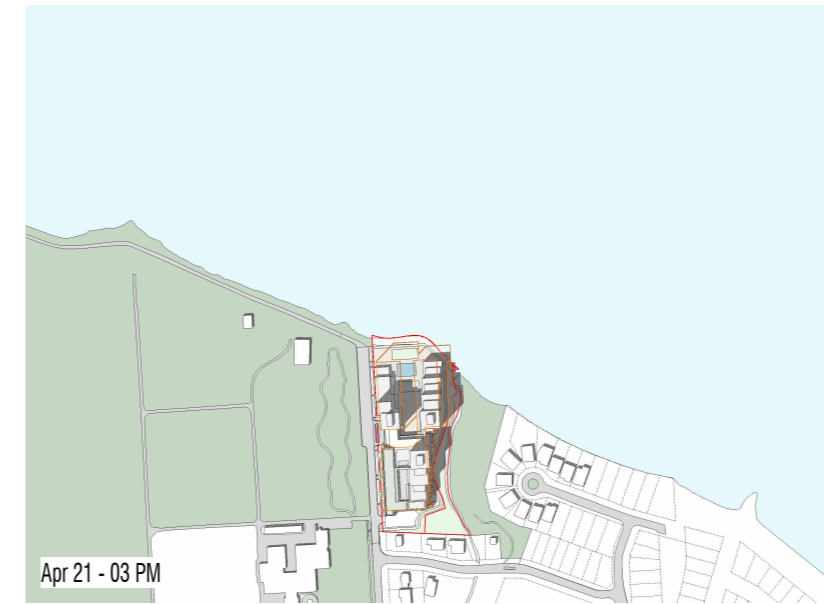
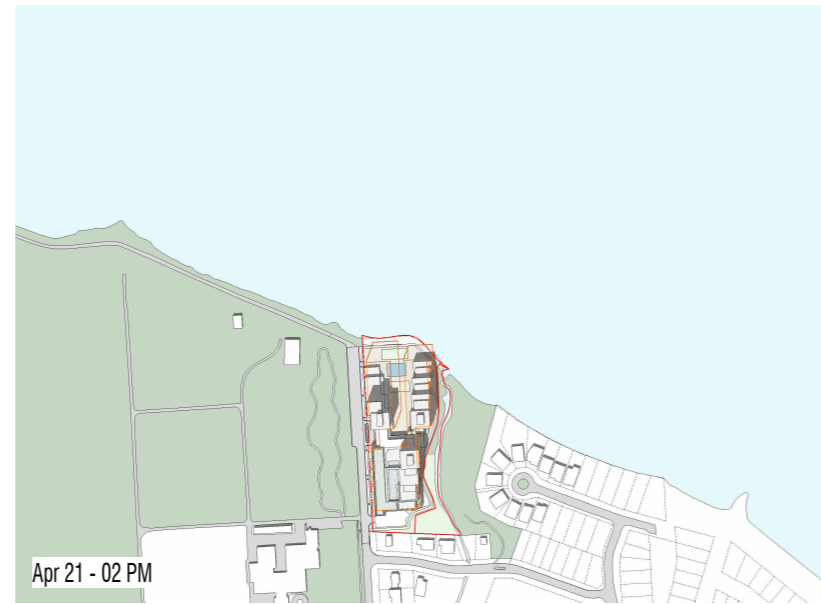
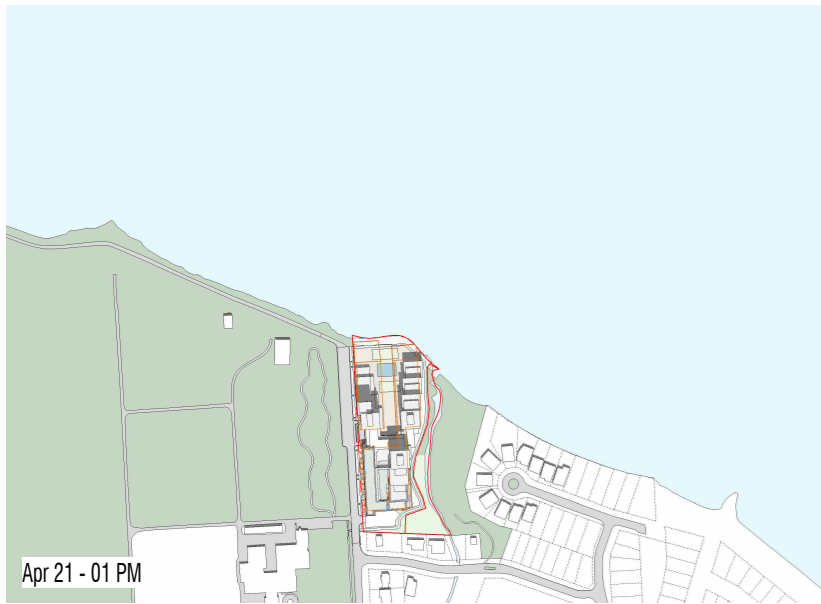
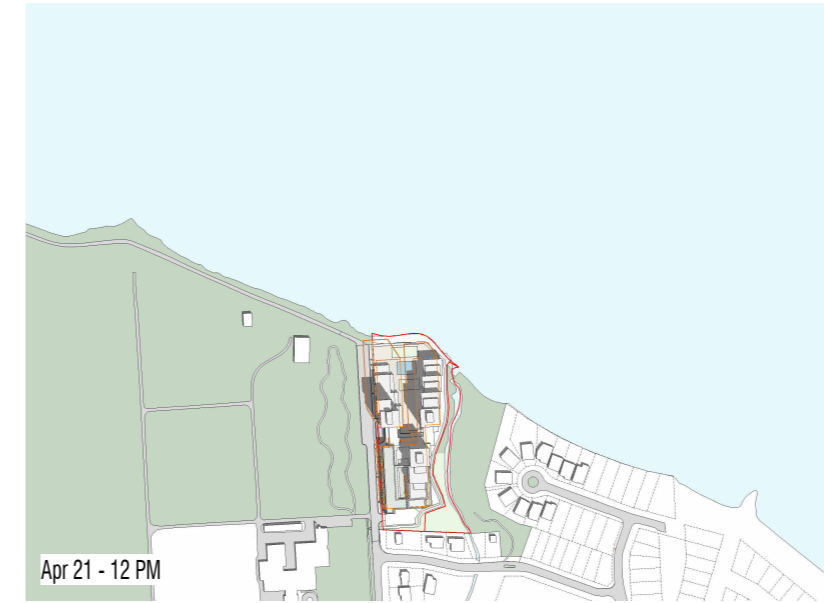
The residential towers have their maximum height at the center of the site, reducing shadow impact on the adjacent Victoria Shores Park and the residential to the east. This ensures the adjacent park and the residential to the east receive a minimum 6h of daylight all year around.

Based on the sun-shadow study, the proposed massing and its shadow satisfies the requirements set in Terms of Reference.



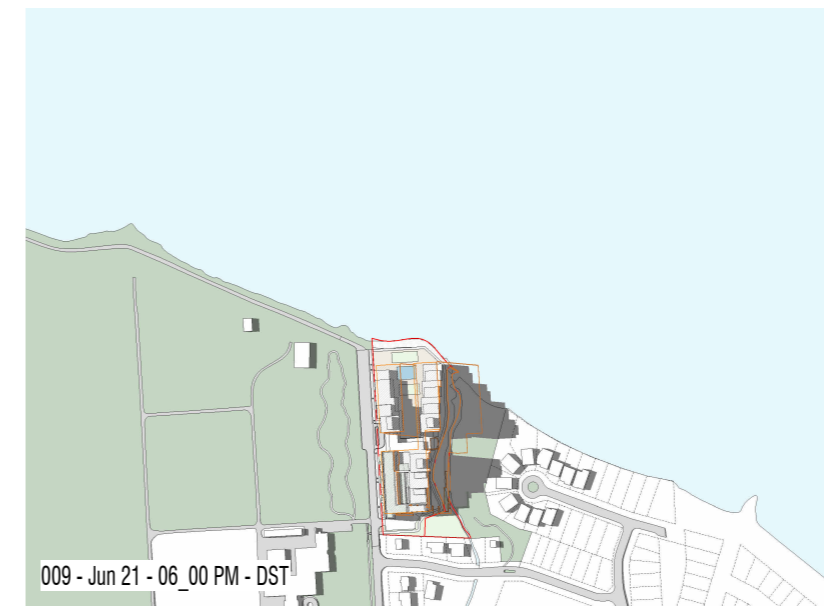
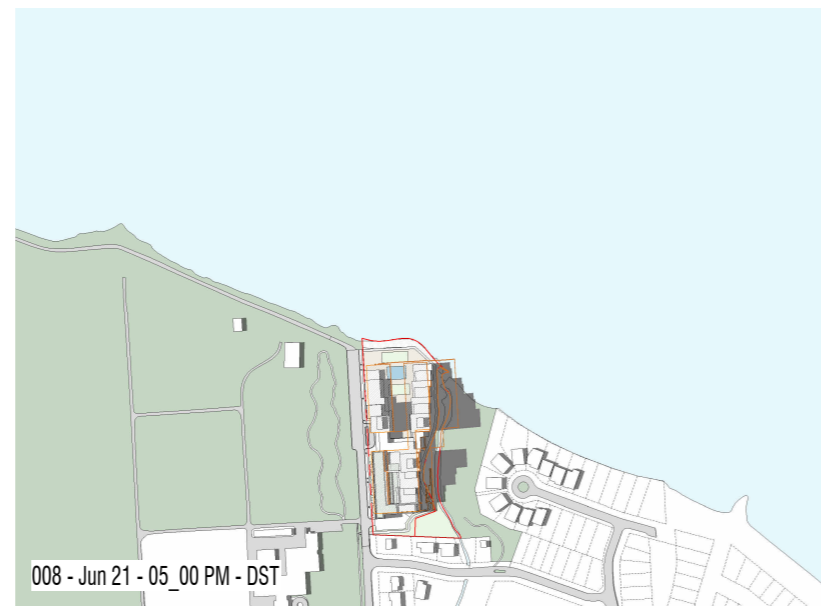
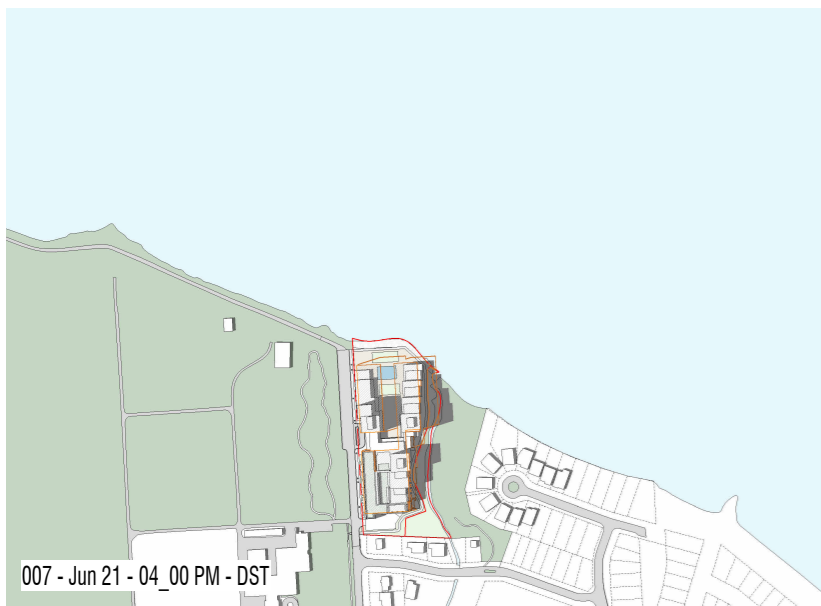
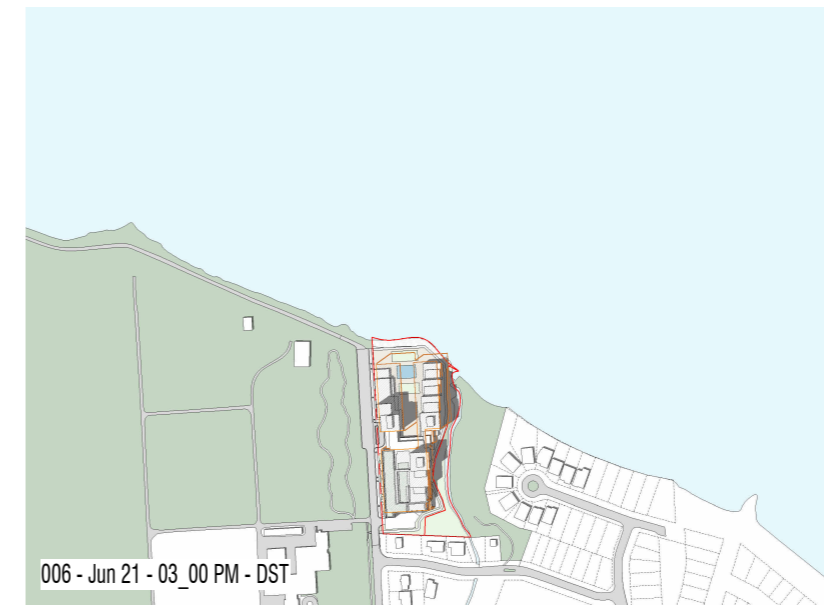
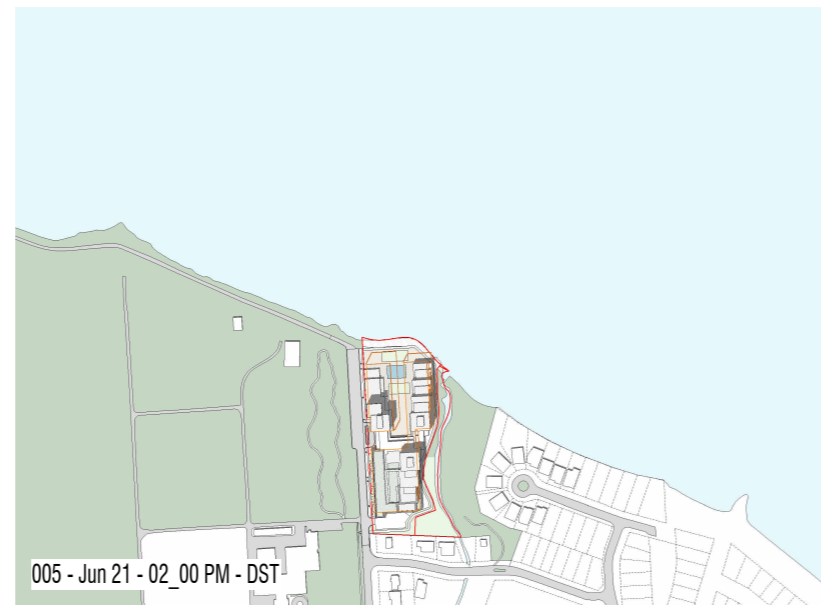
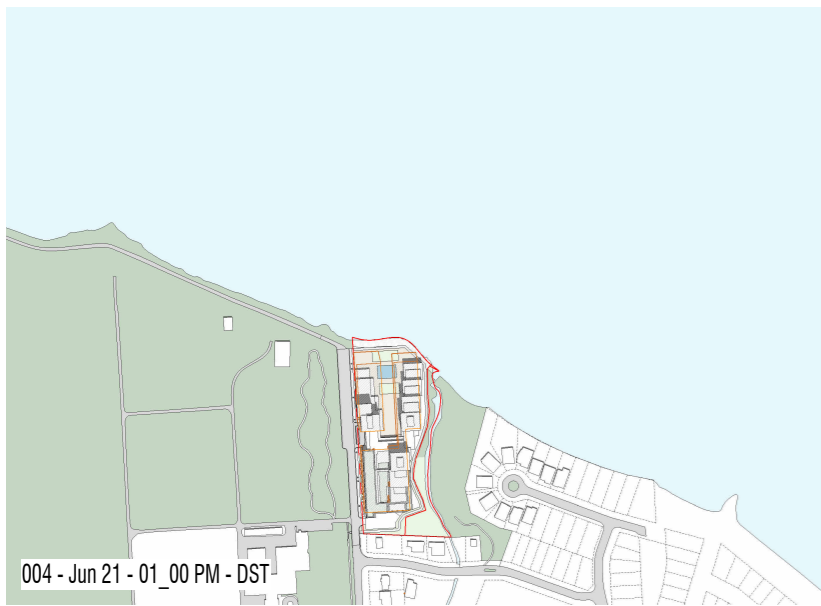
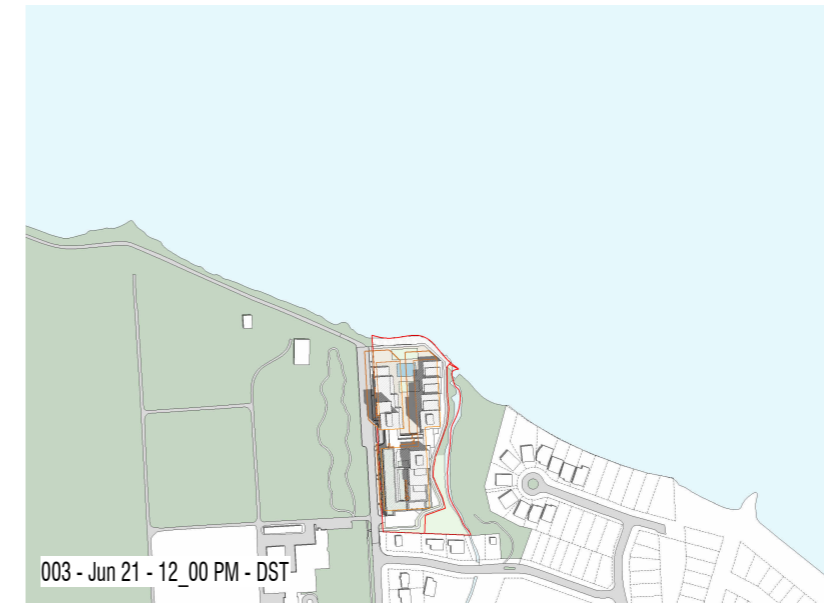
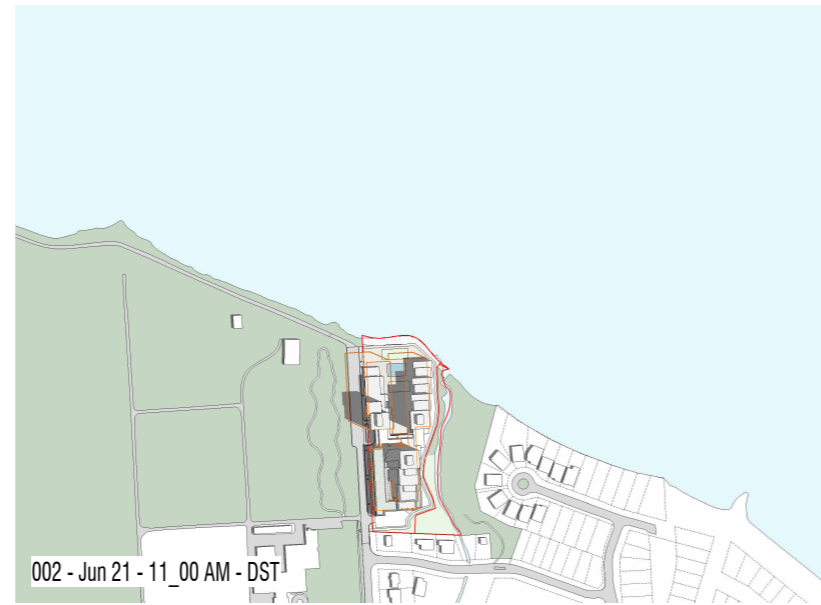
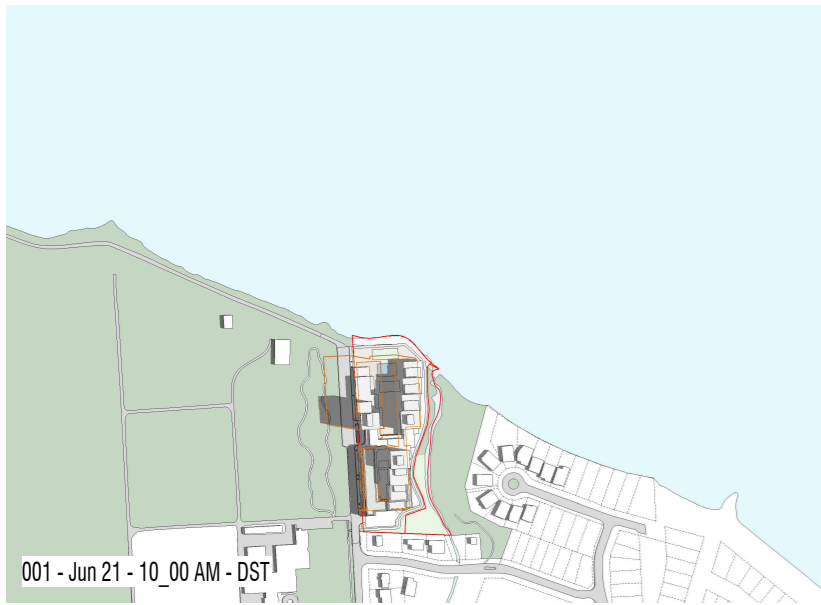
APPENDIX

APRIL 21



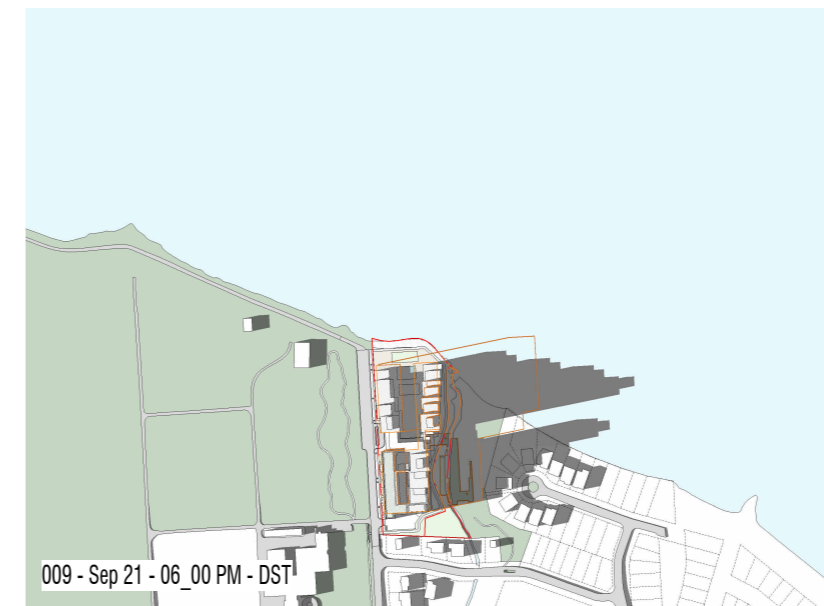
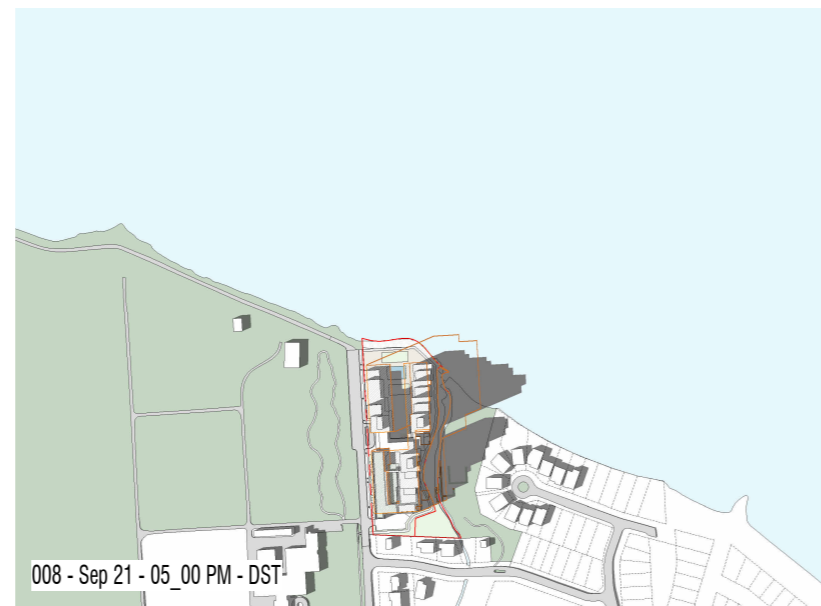
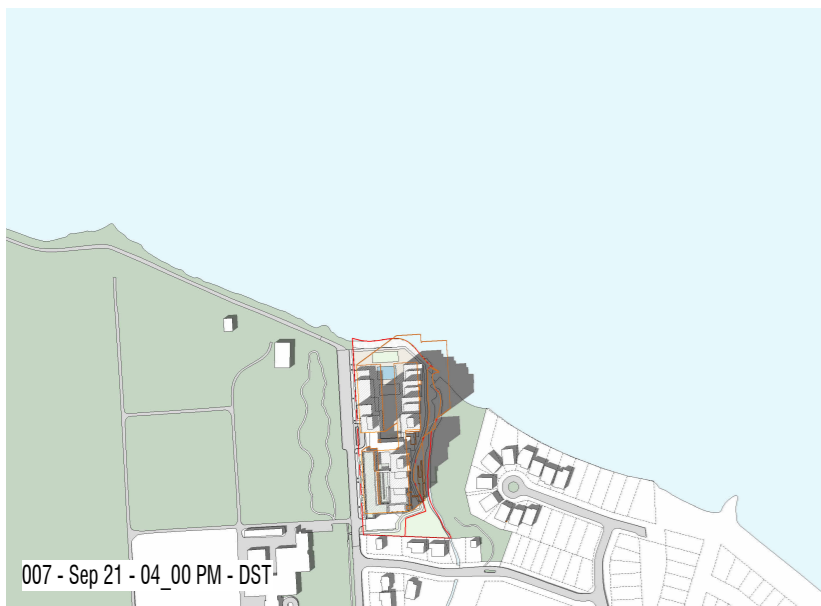
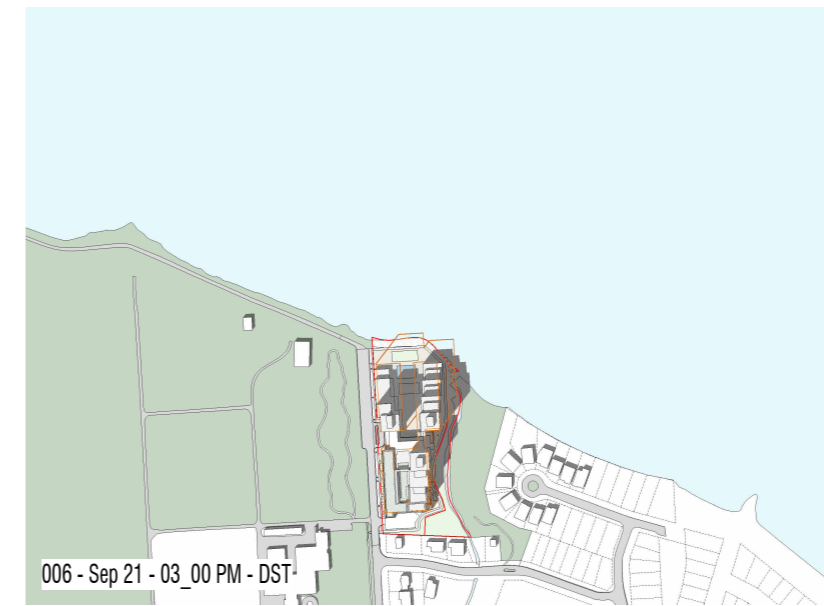
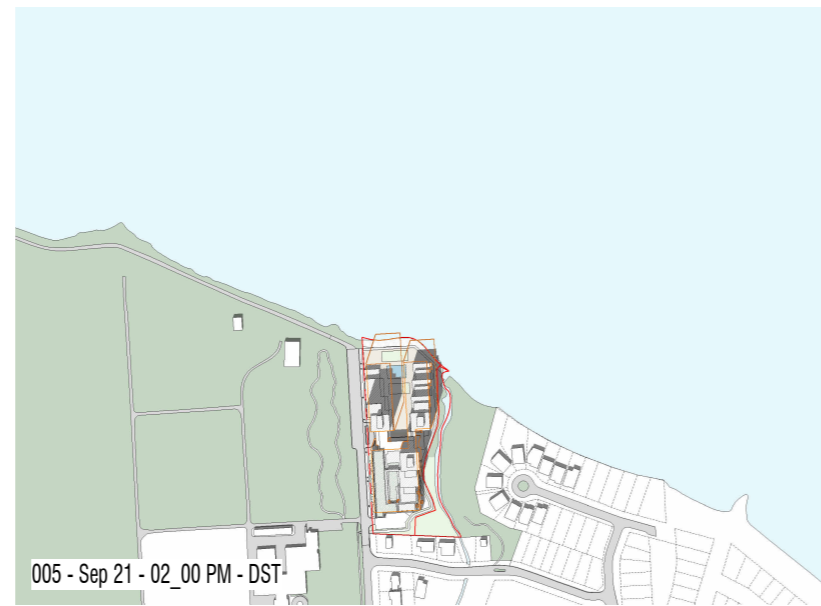
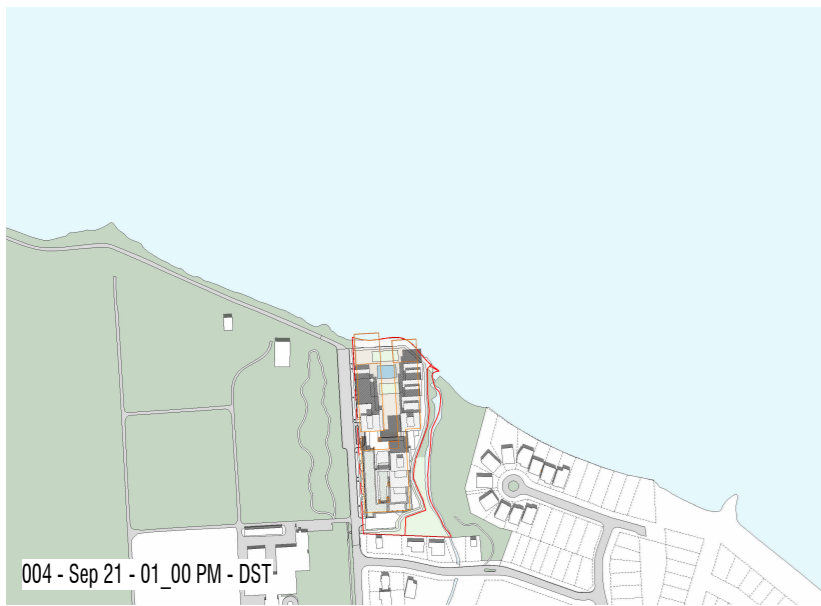
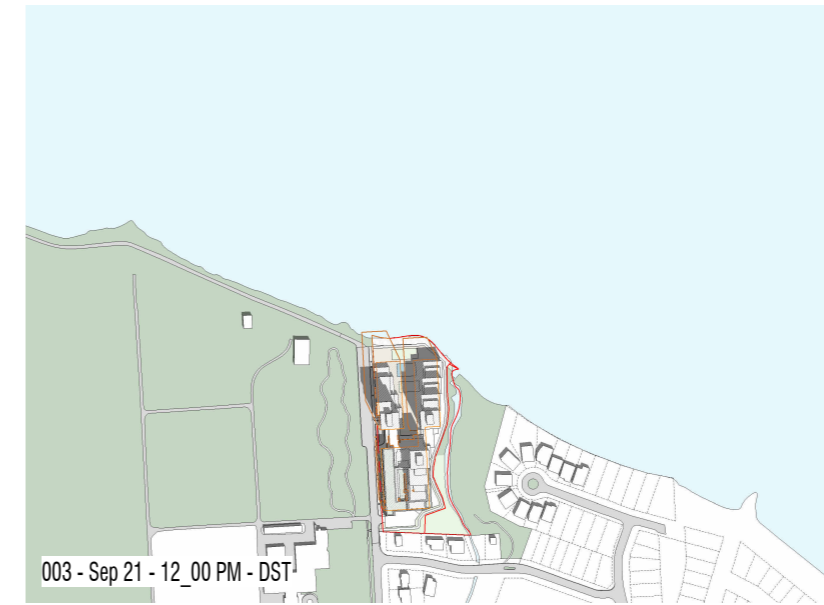
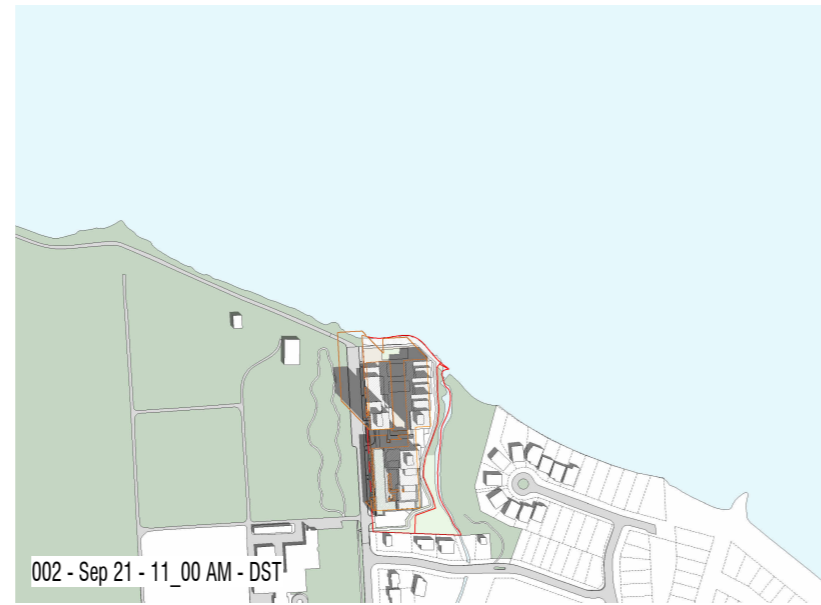
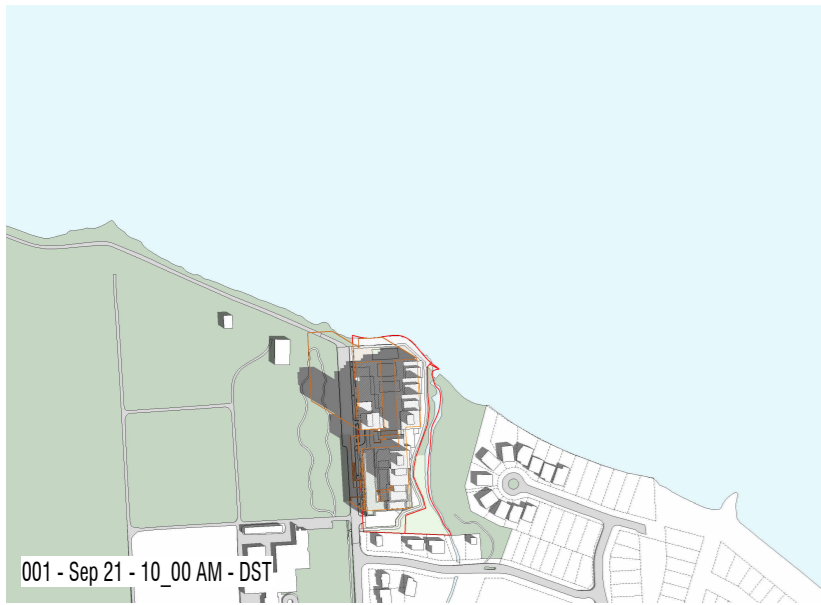
SHADOW - PROPOSED DEVELOPMENT
SHADOW - SCHEDULE B-2 PRE-STUDY HEIGHT

JUNE 21



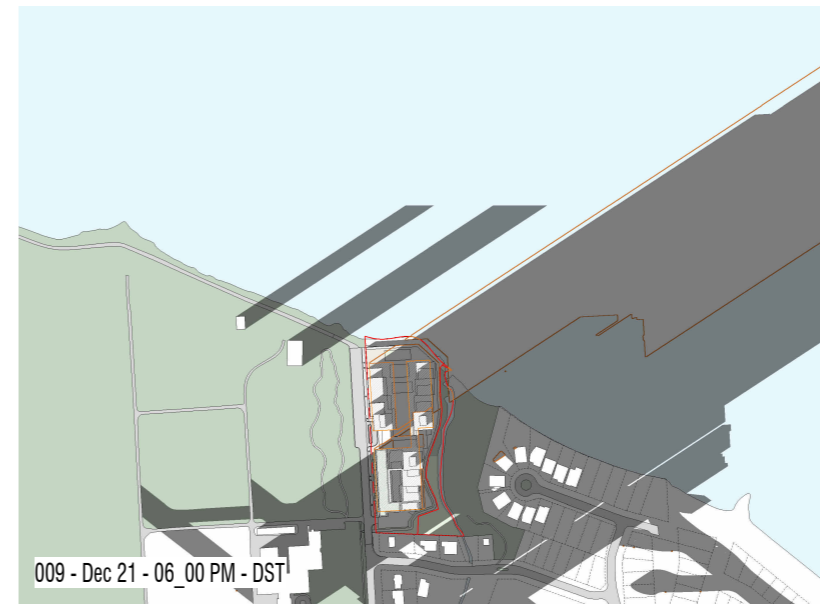
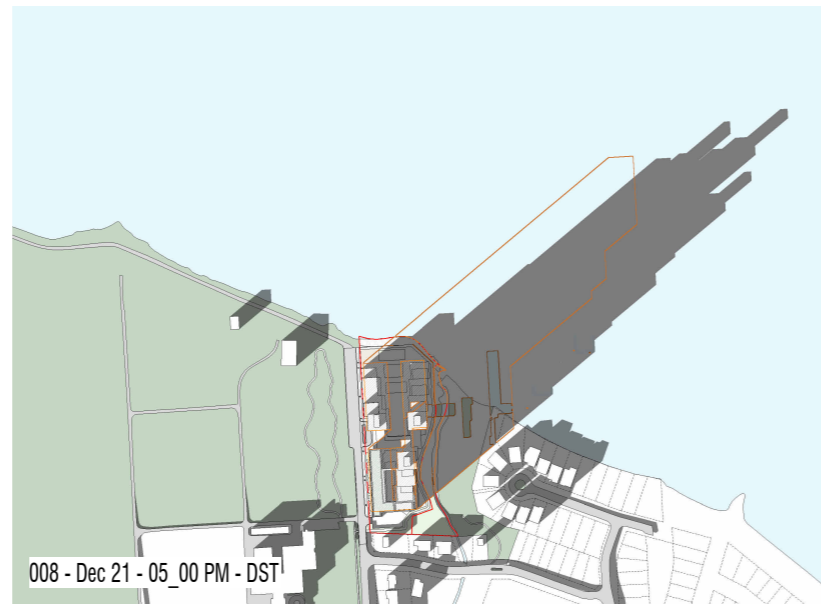
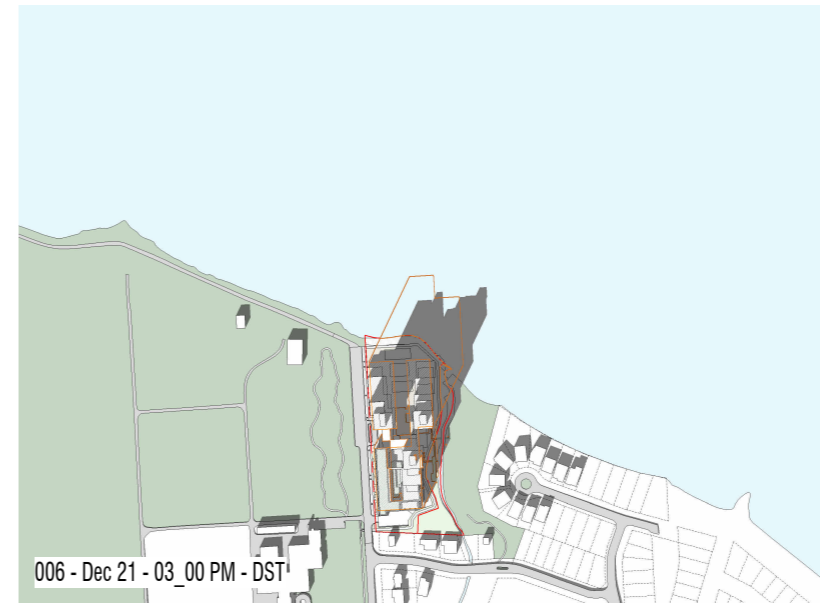
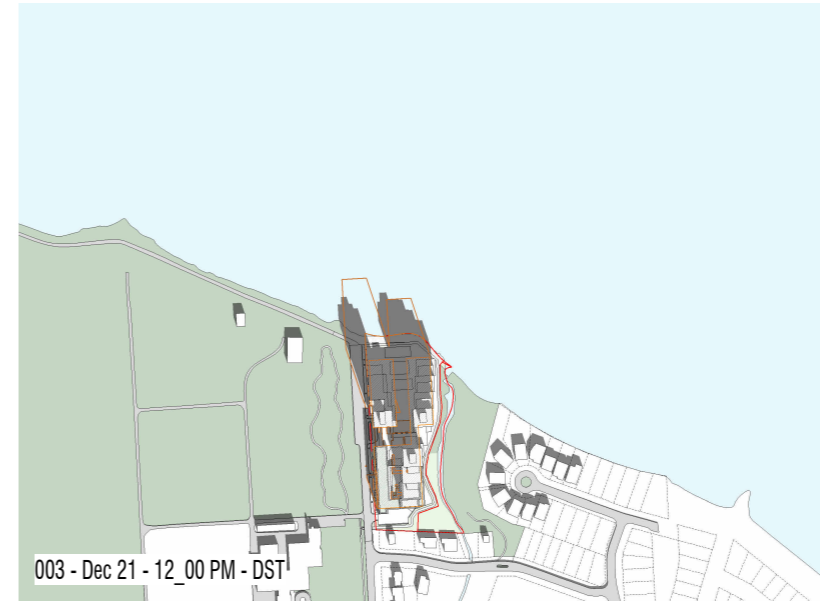
SHADOW - PROPOSED DEVELOPMENT
SHADOW - SCHEDULE B-2 PRE-STUDY HEIGHT

SEPTEMBER 21



SHADOW - PROPOSED DEVELOPMENT
SHADOW - SCHEDULE B-2 PRE-STUDY HEIGHT

DECEMBER 21



SHADOW - PROPOSED DEVELOPMENT
SHADOW - SCHEDULE B-2 PRE-STUDY HEIGHT