

FOOTPRINT SALEM HARBOR STATION

06.20.2013 SALEM PLANNING BOARD

terrain
landscape architecture
+ constructed ecologies



DIFFERENCE IN
SOUND LEVELS
IMPERCEPTIBLE
FROM HISTORIC
LEVELS



SALEM PLANNING BOARD RESPONSES

06.20.2013 FOOTPRINT POWER LLC

PROPOSED VS EXISTING FACILITY COMPARISONS

06.20.2013 FOOTPRINT POWER LLC



SIDE BY SIDE COMPARISON

PLAN VIEW

Existing Facility
occupies approx.

**700,000gsf
on 65 Acres**

Proposed Facility
occupies approx.

**200,000gsf
on 20 Acres**



OVERLAY COMPARISON

PLAN VIEW

Existing Facility
occupies approx.

**700,000gsf
on 65 Acres**

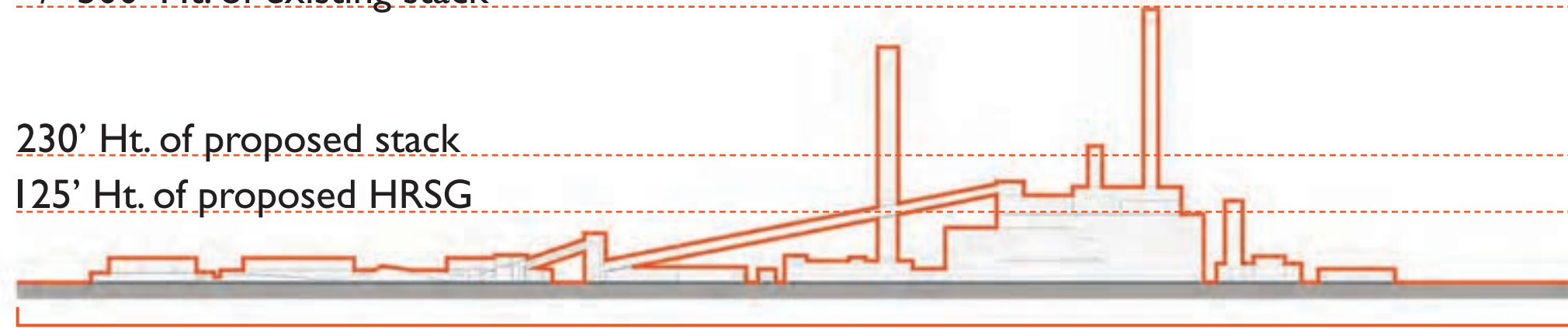
Proposed Facility
occupies approx.

**200,000gsf
on 20 Acres**

+/- 500' Ht. of existing stack

230' Ht. of proposed stack

125' Ht. of proposed HRSG



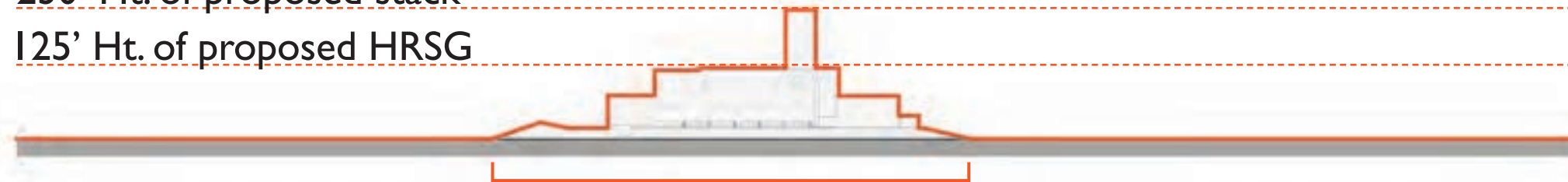
Extent of existing facility

EXISTING FACILITY

+/- 500' Ht. of existing stack

230' Ht. of proposed stack

125' Ht. of proposed HRSG

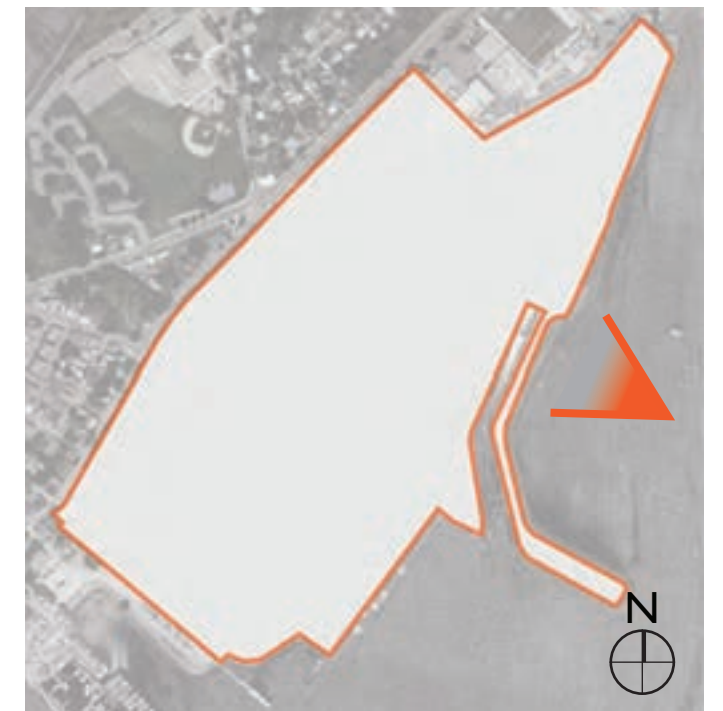


Extent of new facility

PROPOSED FACILITY

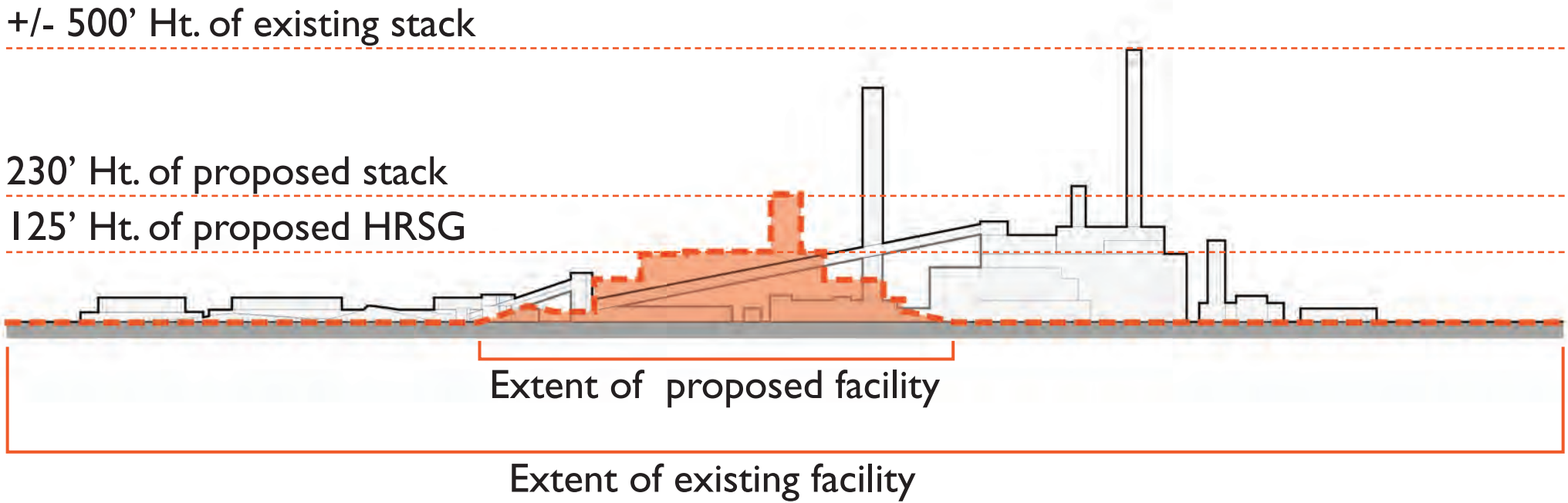
SIDE BY SIDE COMPARISON

EAST ELEVATION (FROM HARBOR)



OVERLAY COMPARISON

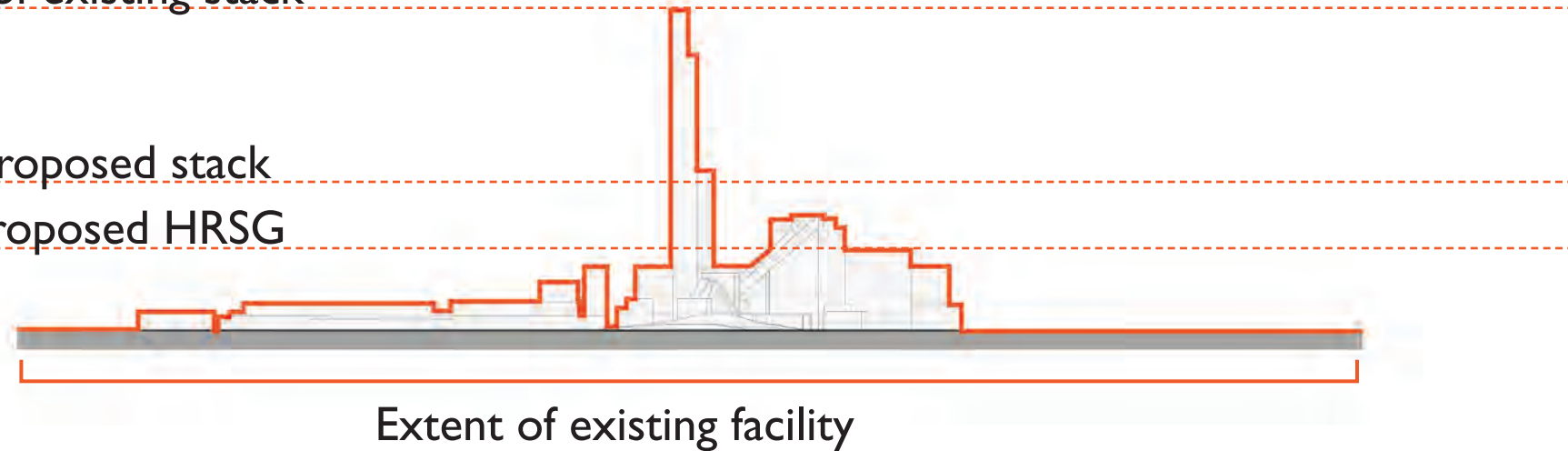
EAST ELEVATION (FROM HARBOR)



+/- 500' Ht. of existing stack

230' Ht. of proposed stack

125' Ht. of proposed HRSG



EXISTING FACILITY

+/- 500' Ht. of existing stack

230' Ht. of proposed stack

125' Ht. of proposed HRSG



PROPOSED FACILITY

SIDE BY SIDE COMPARISON

SOUTH ELEVATION (FROM SALEM)



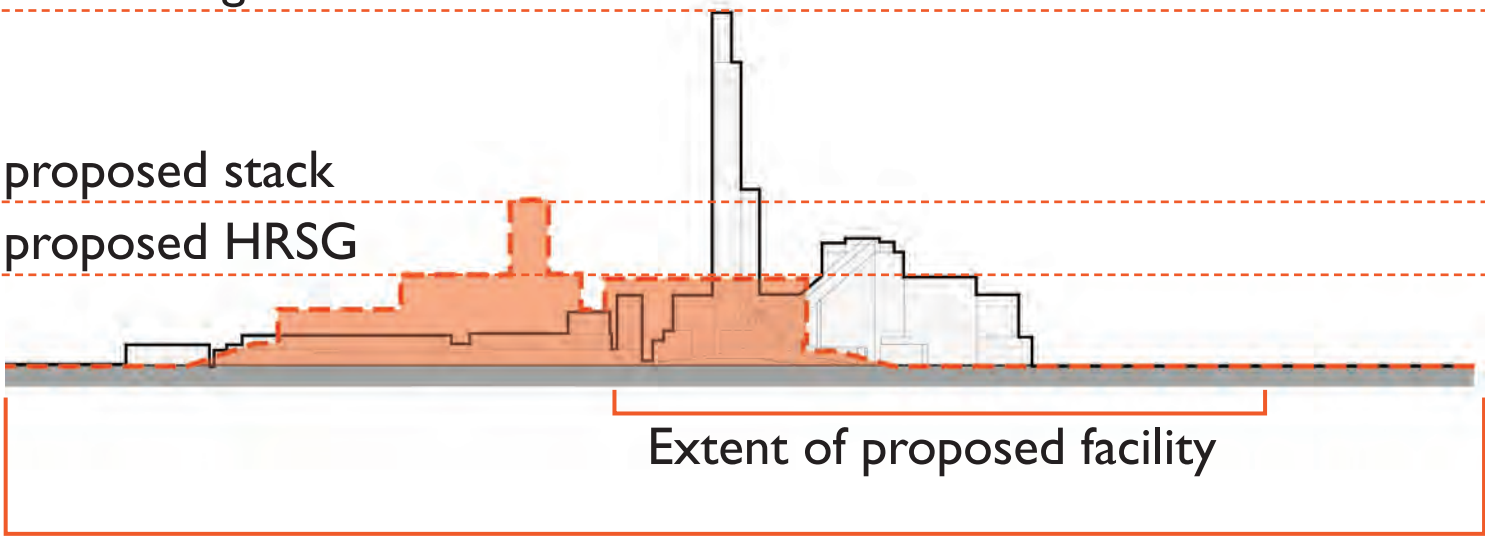
OVERLAY
COMPARISON

SOUTH ELEVATION
(FROM SALEM)

+/- 500' Ht. of existing stack

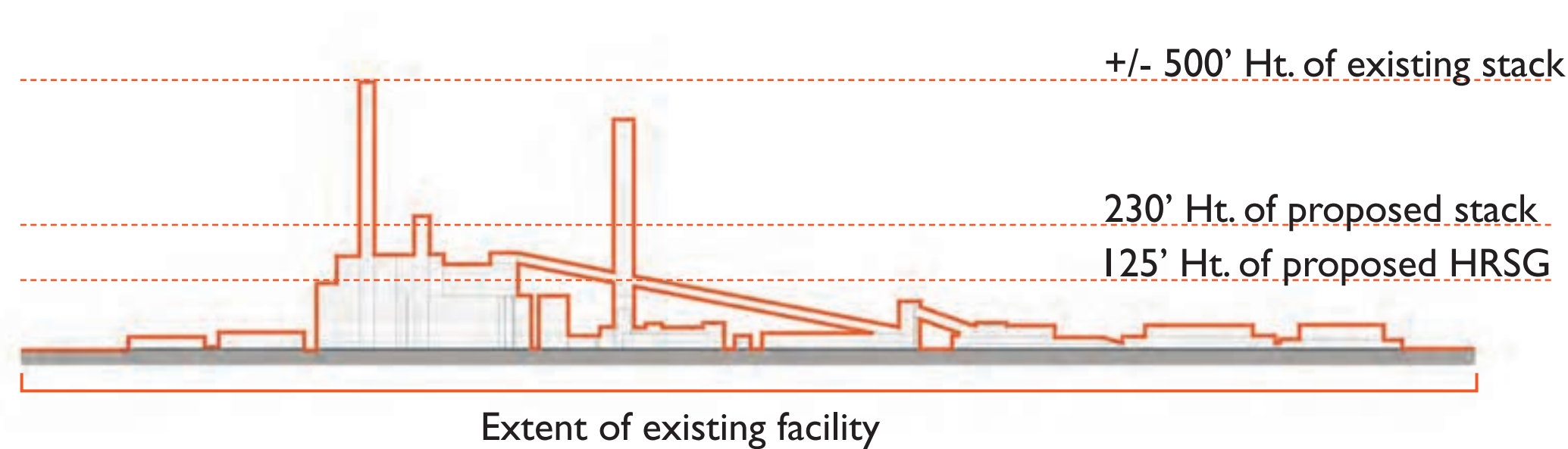
230' Ht. of proposed stack

125' Ht. of proposed HRSG

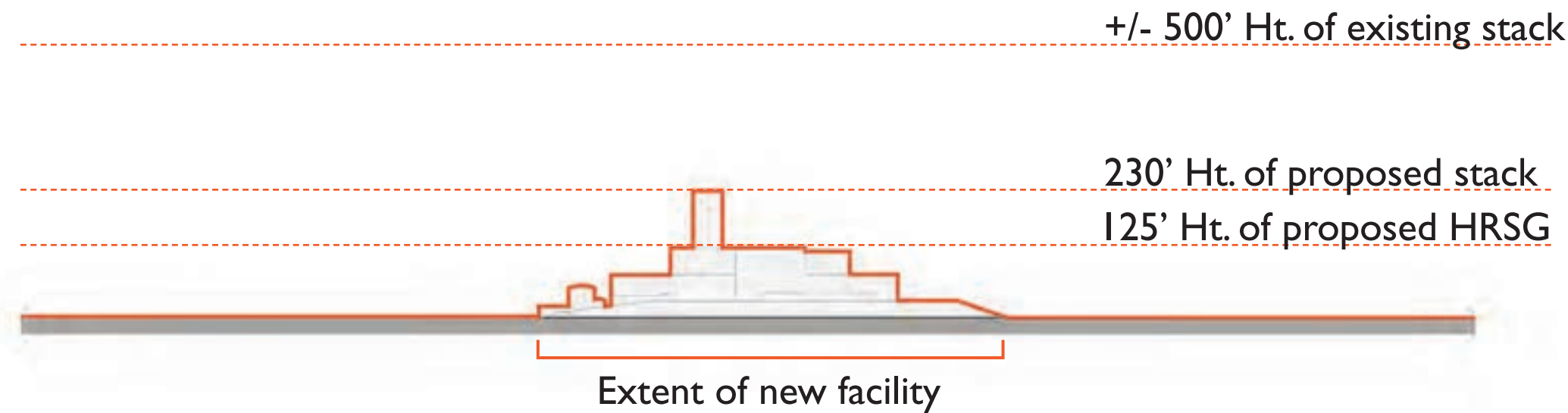


SIDE BY SIDE
COMPARISON

WEST ELEVATION
(FROM DERBY ST)



EXISTING FACILITY

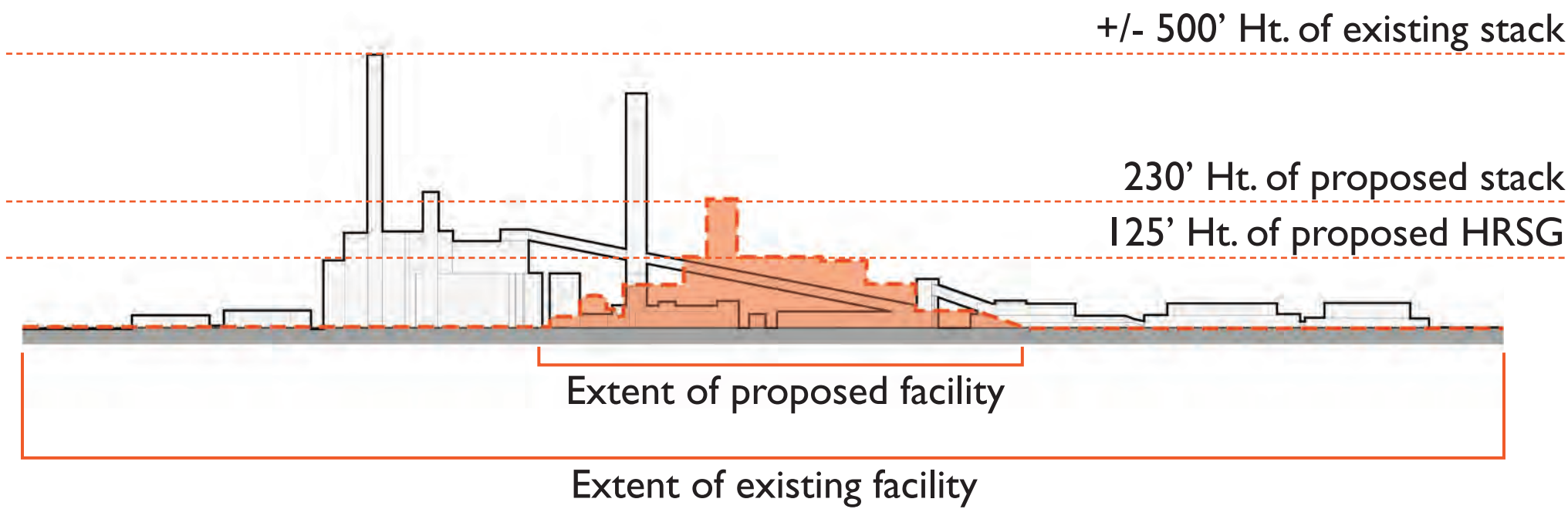


PROPOSED FACILITY



OVERLAY COMPARISON

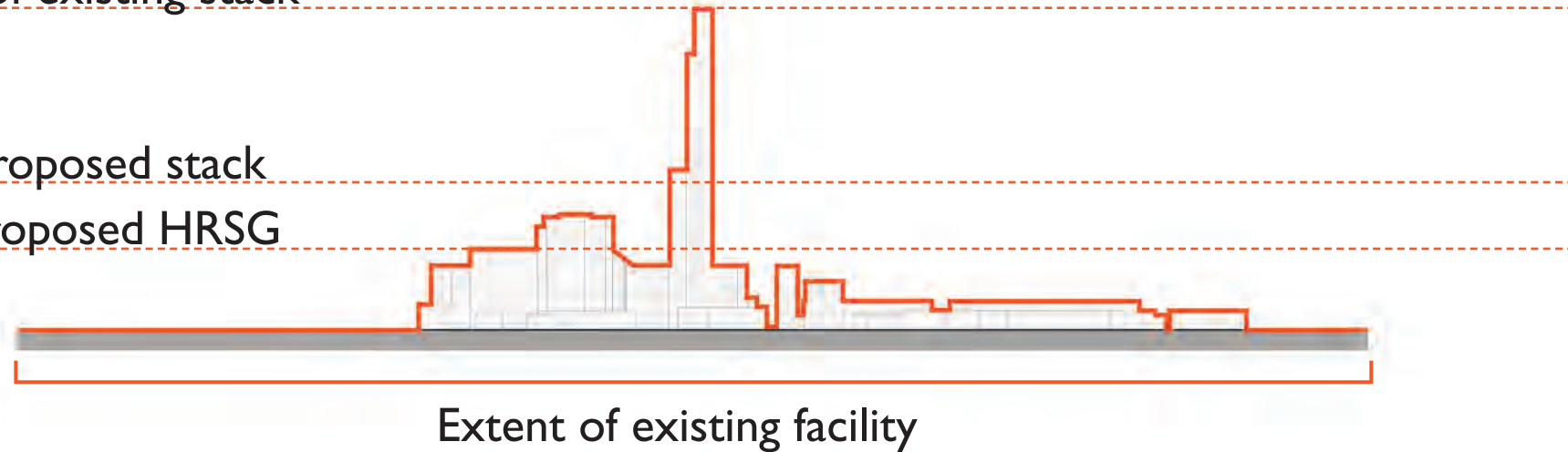
WEST ELEVATION (FROM DERBY ST)



+/- 500' Ht. of existing stack

230' Ht. of proposed stack

125' Ht. of proposed HRSG

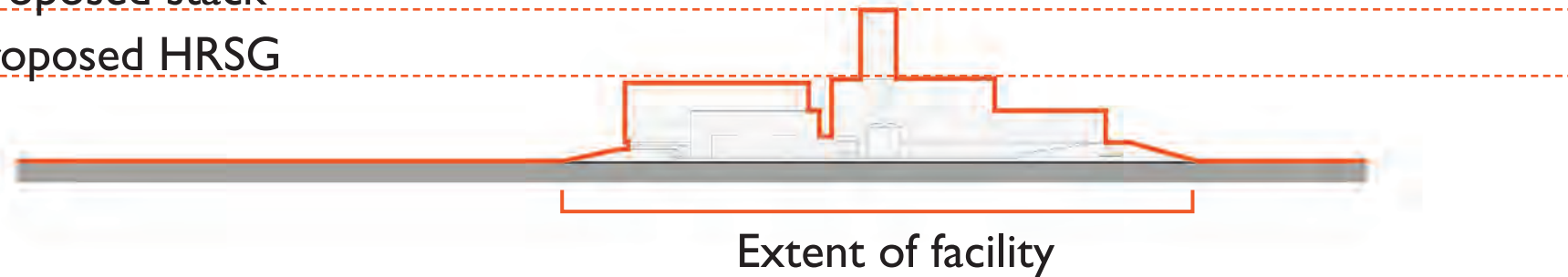


EXISTING FACILITY

+/- 500' Ht. of existing stack

230' Ht. of proposed stack

125' Ht. of proposed HRSG



PROPOSED FACILITY

SIDE BY SIDE COMPARISON

NORTH ELEVATION (FROM FORT AVE)



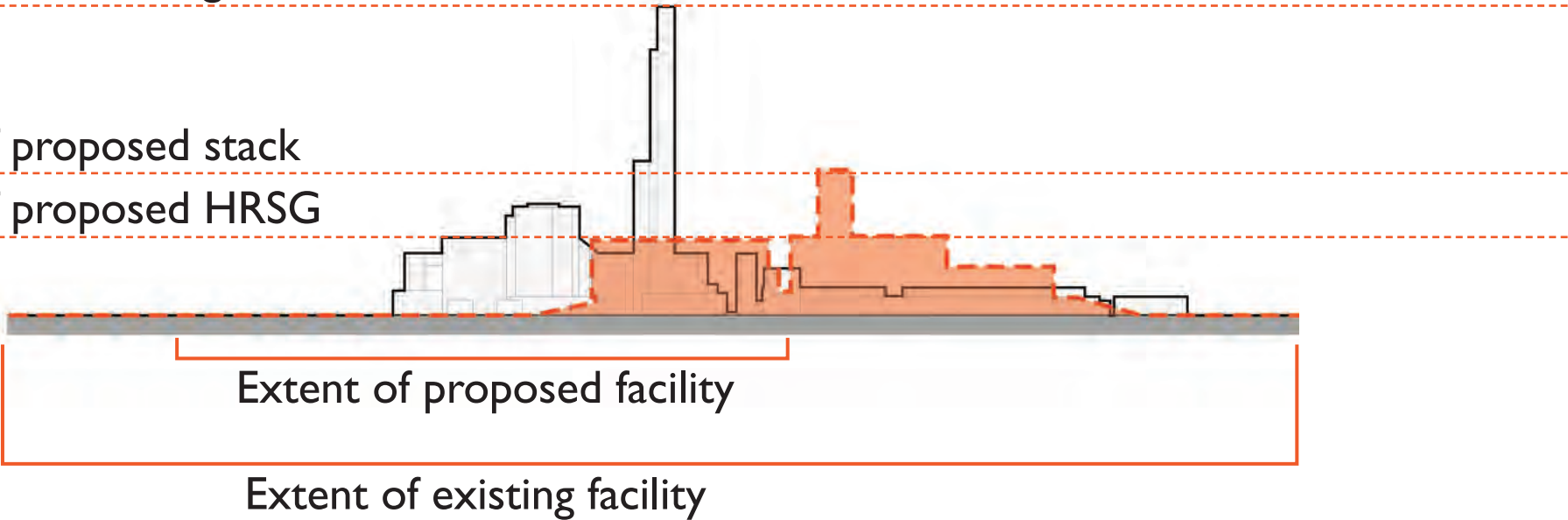
OVERLAY
COMPARISON

NORTH ELEVATION
(FROM FORT AVE)

+/- 500' Ht. of existing stack

230' Ht. of proposed stack

125' Ht. of proposed HRSG





NEW VISUAL IMPACT STUDY LOCATIONS

- 5) Derby Wharf
- 6) Salem Common
- 7) Salem Willows
- 8) Fort Ave



Proposed
5) View from Derby Wharf



6) View from Salem Common



7) View from Salem Willows

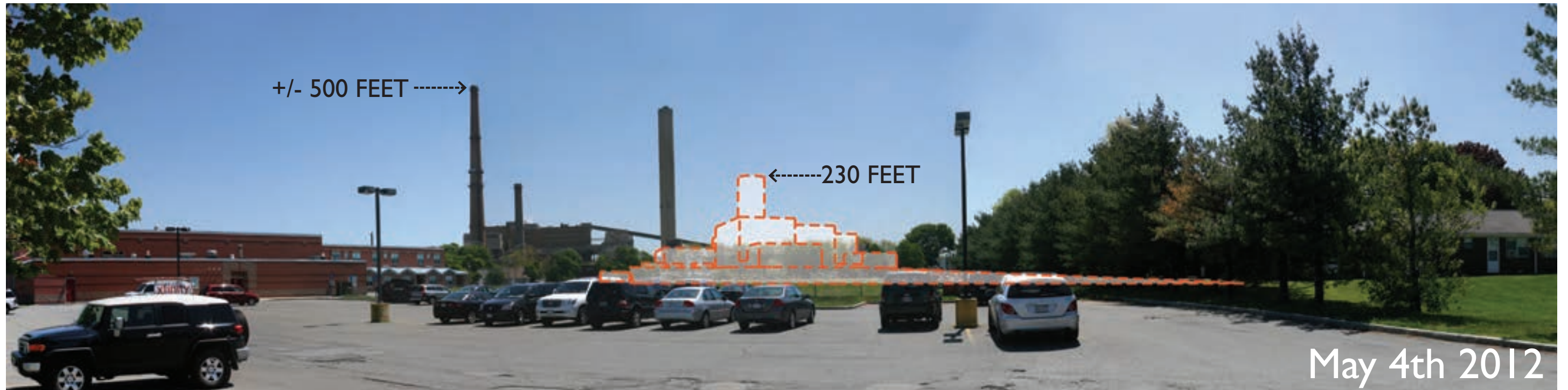


8) View from Fort Avenue

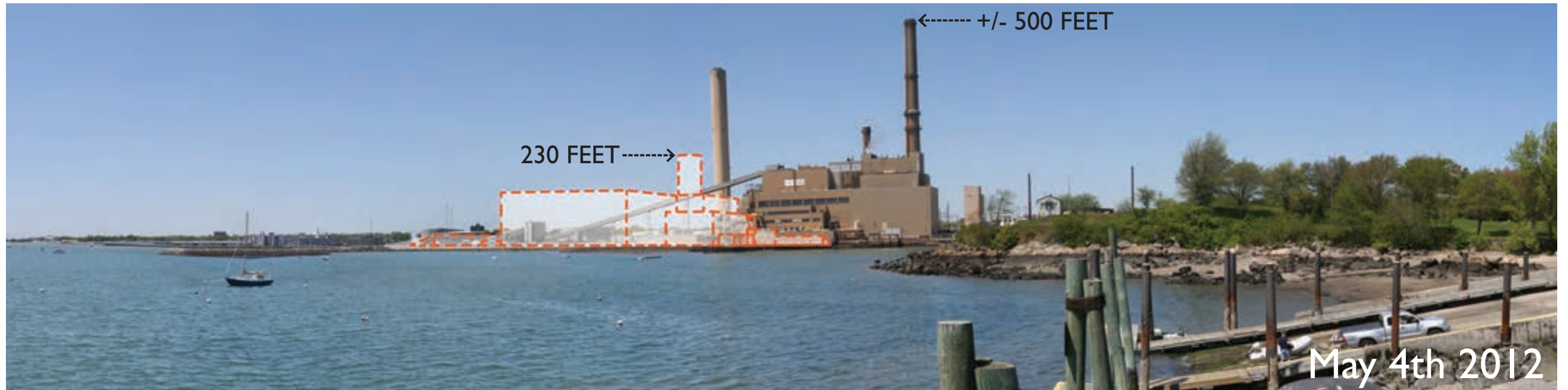
VISUAL IMPACT STUDY LOCATIONS: OVERLAYS

- 1) Bentley Elementary
- 2) Winter Island
- 3) Marblehead
- 4) Cat Cove
- 5) Derby Wharf
- 6) Salem Common
- 7) Salem Willows
- 8) Fort Ave





I) View from Bentley Elementary



2) View from Winter Island



3) View from Marblehead



4) View from Cat Cove



5) View from Derby Wharf

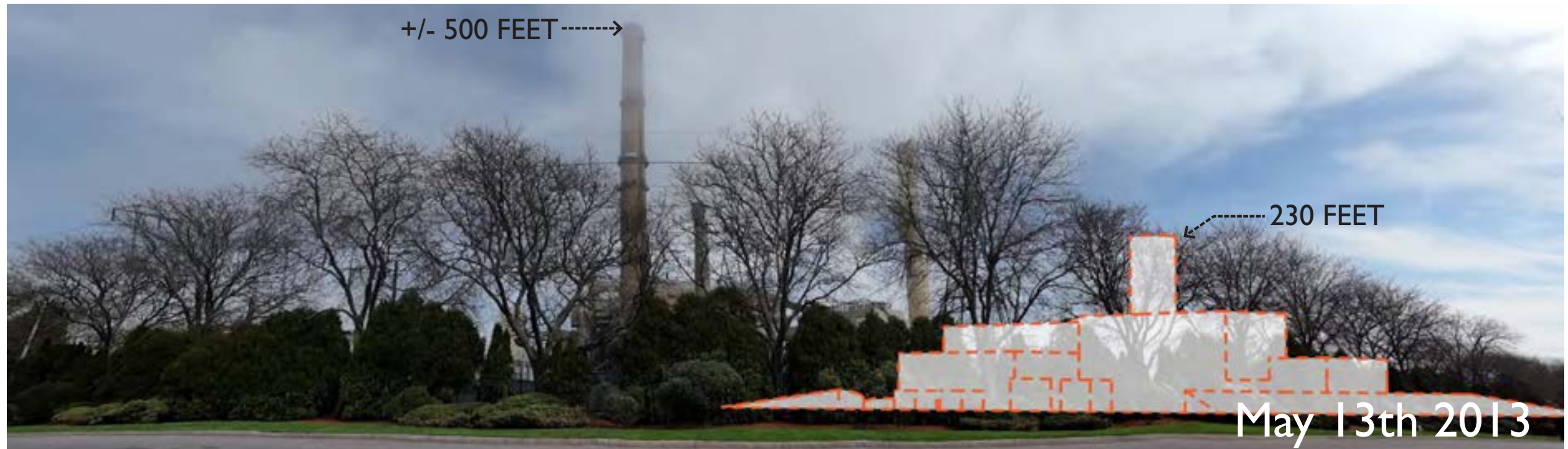


6) View from Salem Common



Nov 7th 2012

7) View from Salem Willow



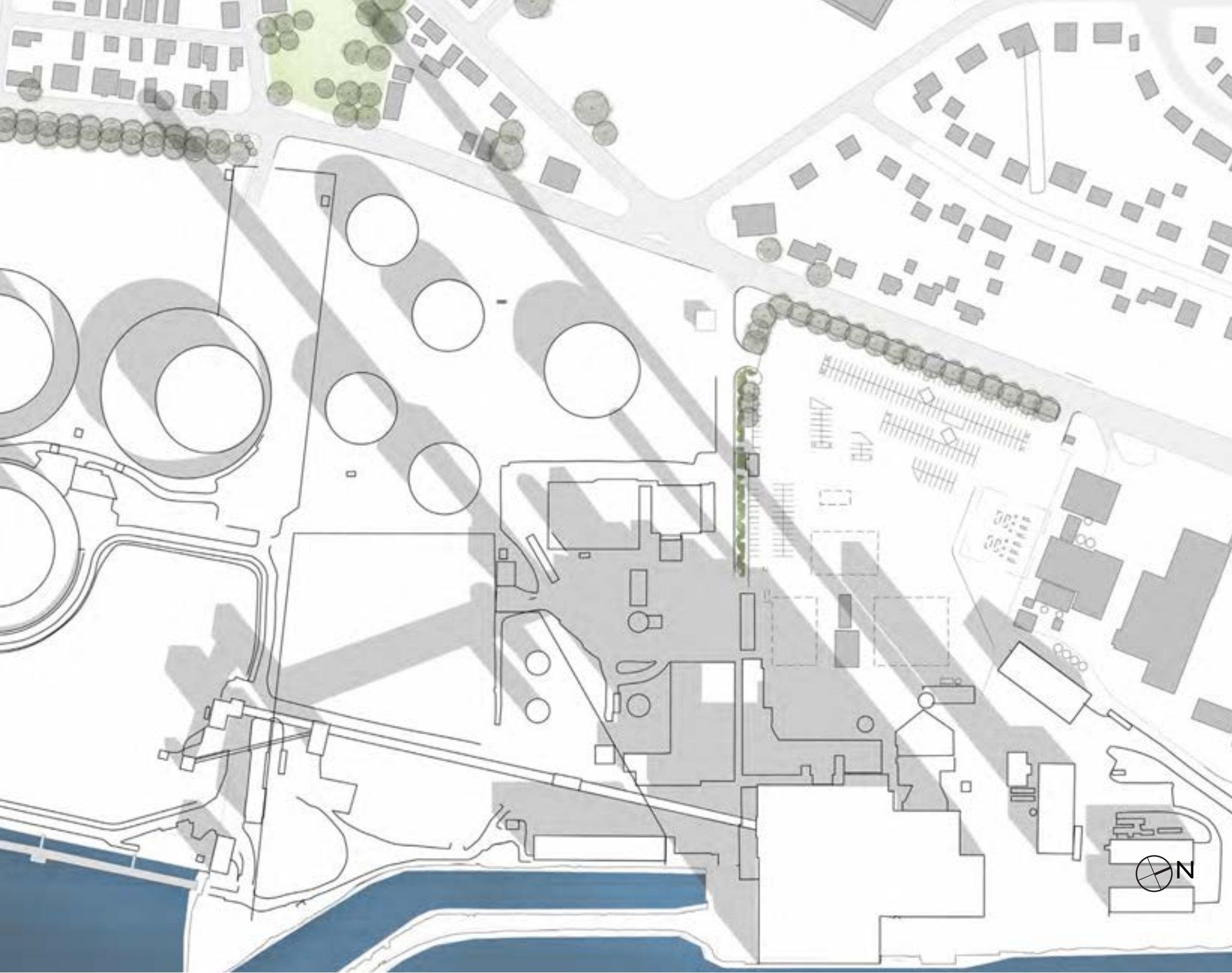
8) View from Fort Avenue

ADDITIONAL RESPONSES

06.20.2013 FOOTPRINT POWER LLC

SHADOW STUDY

06.20.2013 FOOTPRINT POWER LLC



SHADOW STUDY ON JUNE 21 7:00AM ET

June 21 is summer solstice, when the sun is at its highest angle and casts the smallest shadows.

SHADOW STUDY ON JUNE 21 7:00AM ET

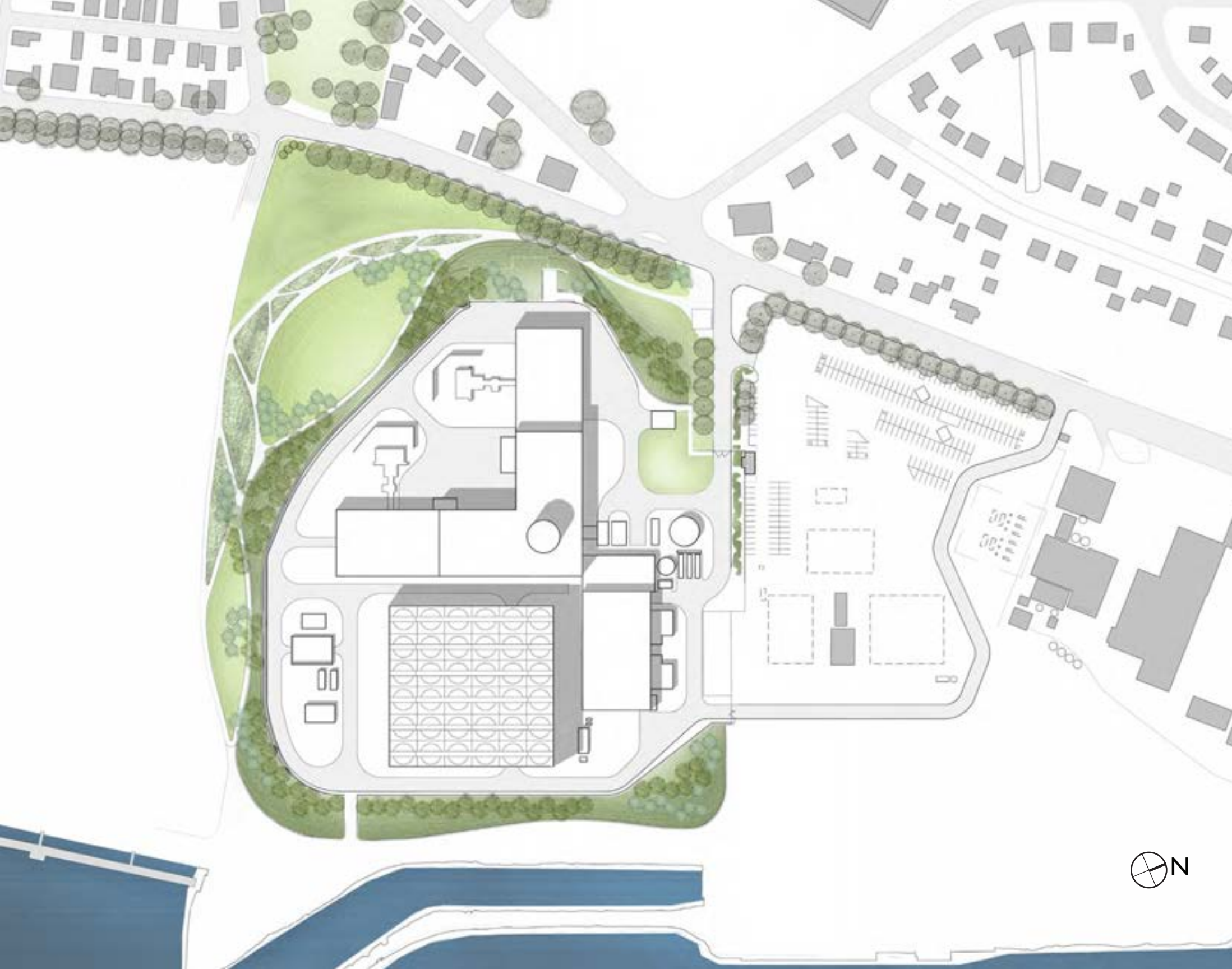
June 21 is summer solstice, when the sun is at its highest angle and casts the smallest shadows.



SHADOW STUDY
ON JUNE 21
12:00PM ET



SHADOW STUDY
ON JUNE 21
12:00PM ET



SHADOW STUDY
ON JUNE 21
5:00PM ET



SHADOW STUDY ON JUNE 21 5:00PM ET





SHADOW STUDY ON DECEMBER 21 7:00AM ET

December 21 is winter solstice, when the sun is at its lowest angle and casts the longest shadows.



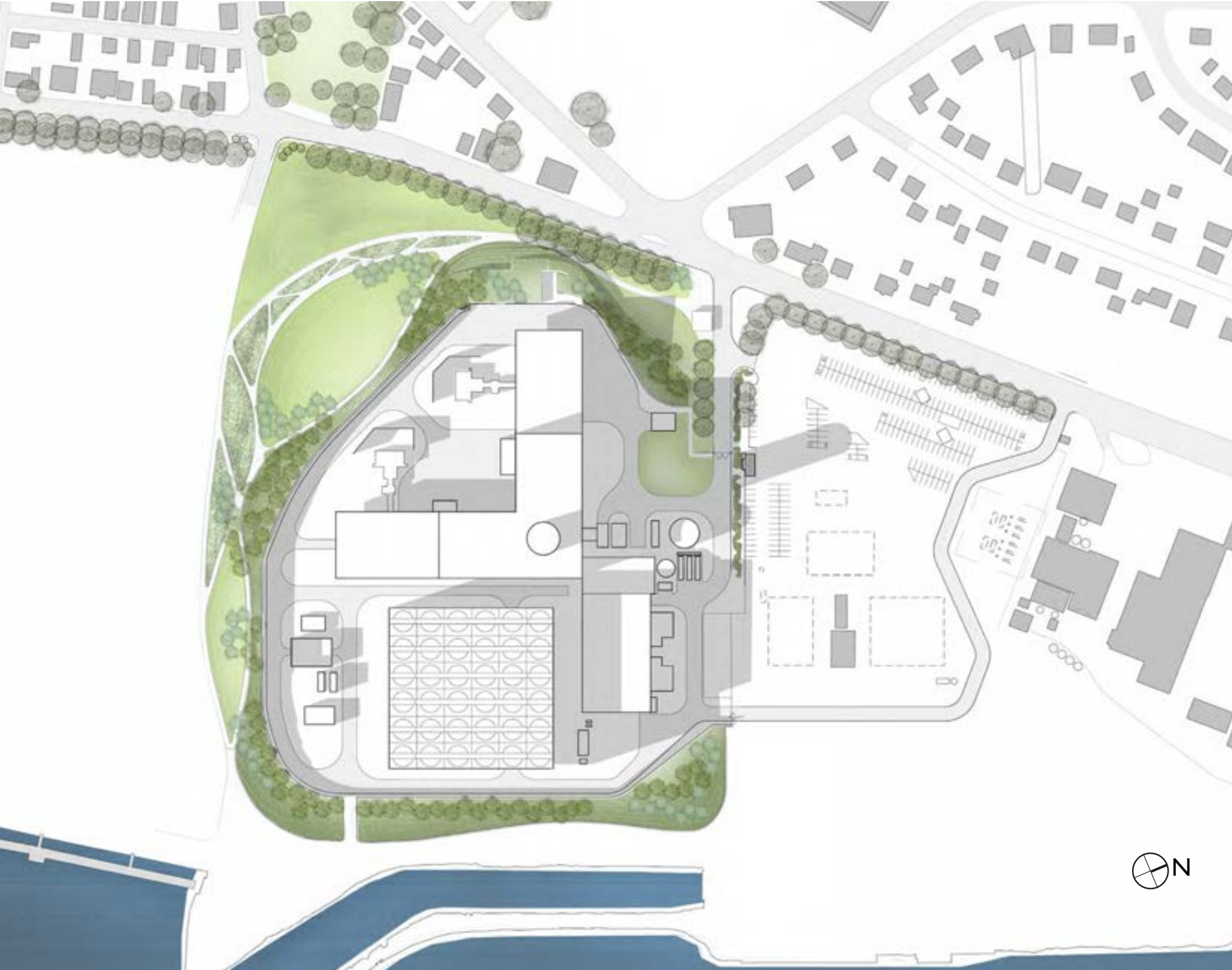
SHADOW STUDY ON DECEMBER 21 7:00AM ET

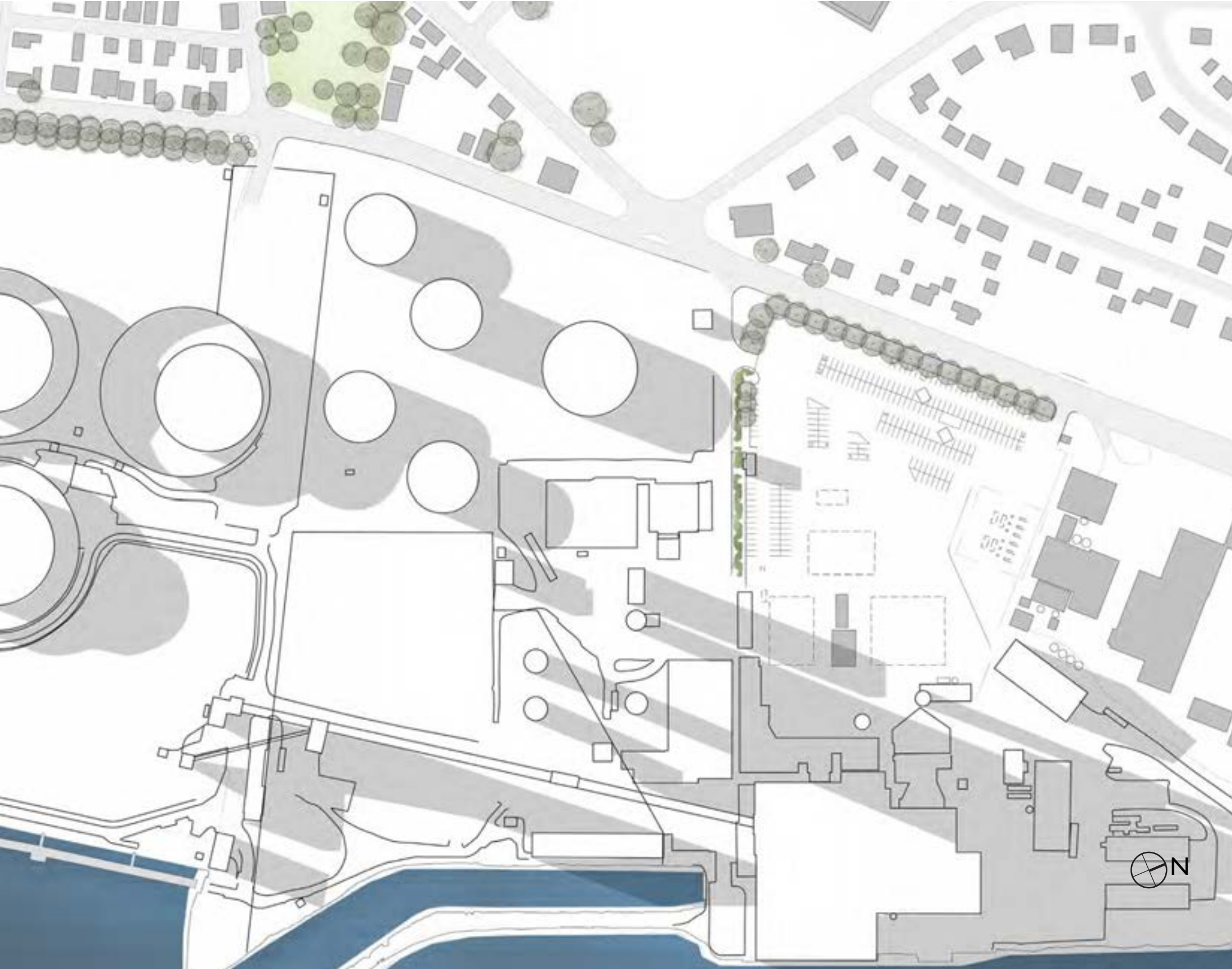
December 21 is winter solstice, when the sun is at its lowest angle and casts the longest shadows.

SHADOW STUDY
ON DECEMBER 21
12:00PM ET



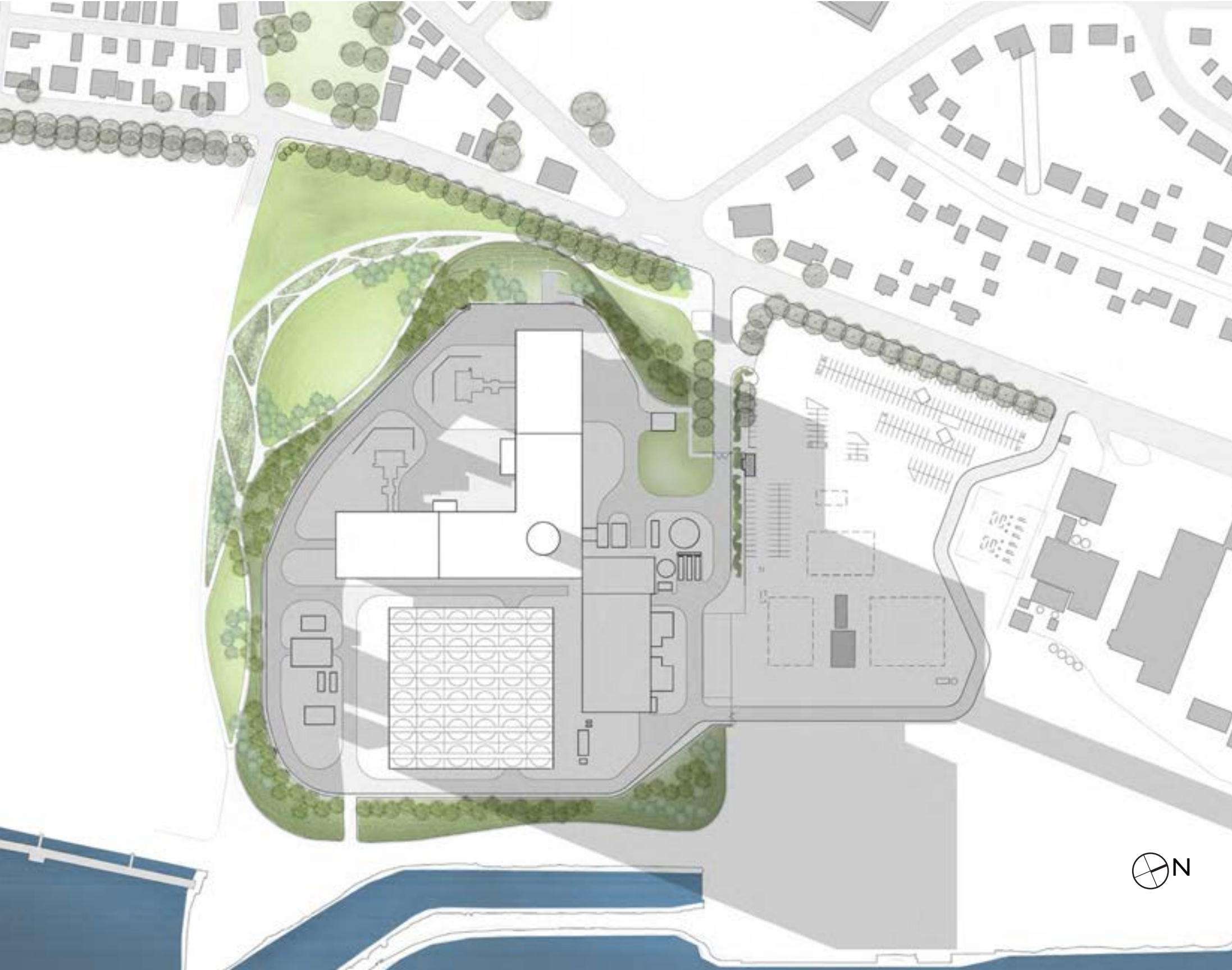
SHADOW STUDY
ON DECEMBER 21
12:00PM ET





SHADOW STUDY
ON DECEMBER 21
3:00PM ET

SHADOW STUDY ON DECEMBER 21 3:00PM ET



STACK DESIGN

06.20.2013 FOOTPRINT POWER LLC

EXISTING STACKS



DESIGN CONSTRAINTS

FAA REGULATIONS

AERODYNAMIC
- EMISSIONS
- NOISE

STRUCTURAL

CONSTRUCTABILITY

EQUIPMENT



FAA (FEDERAL
AVIATION
ADMINISTRATION)
OBSTRUCTION
LIGHTS

The image shows a tall, white industrial smokestack against a clear blue sky. A dashed line connects a small circle on the top of the stack to a circular inset showing a close-up of the top structure. Another dashed line connects a small circle on the side of the stack to the text 'CEMS PLATFORM'. A third dashed line connects a small circle on the lower part of the stack to the text 'EXHAUST FLUE'.

CEMS PLATFORM
(CONTINUOUS
EMISSIONS
MONITORING
SYSTEM)

EXHAUST FLUE

DESIGN INSPIRATIONS

Lighthouses, such as the ones on Winter Island and Bakers Island, are painted different colors on the top and base for daymarking.

They also include walkways or platforms at the top to allow for both maintenance and ship to shore communication.

Bakers Island Lighthouse
Salem, MA

DESIGN INSPIRATIONS

Fort Pickering Lighthouse (Winter Island)
Salem, MA



DESIGN INSPIRATIONS

The Captain's Walk or Widow's Walk is a rooftop platform that was designed to observe vessels at sea.

A three-story yellow house with black shutters and a white picket fence in the foreground. A black car is parked on the street. Bare trees are visible in the background.

Hawkes House
Salem, MA

DESIGN INSPIRATIONS

Crows Nests on sailing ships, named after the early use of crows as a navigational aid, is another form of ship to shore observation.

Crows Nest

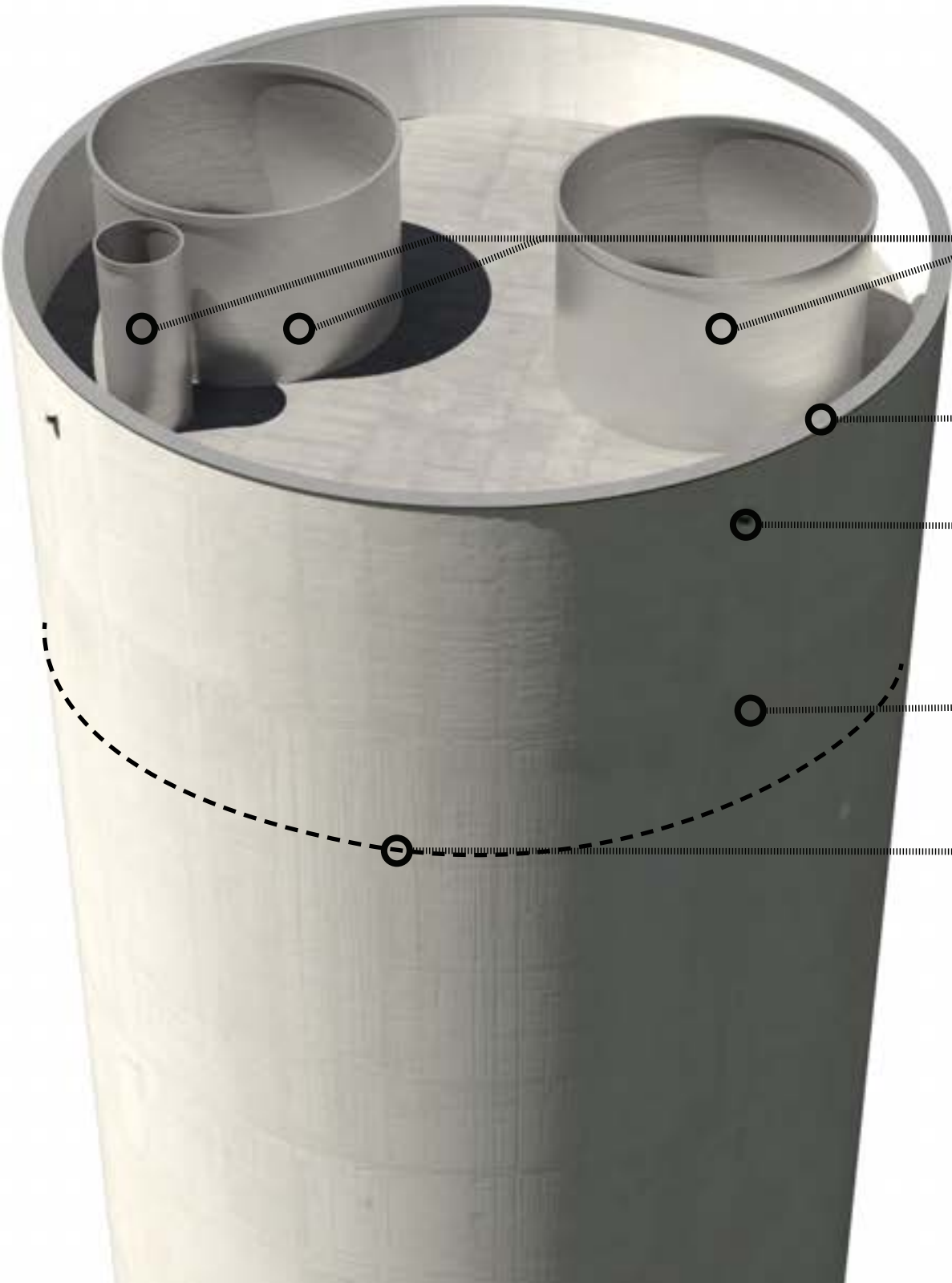


DESIGN INSPIRATIONS

View from Salem Harbor Station
Salem, MA



PREVIOUS STACK



FLUES

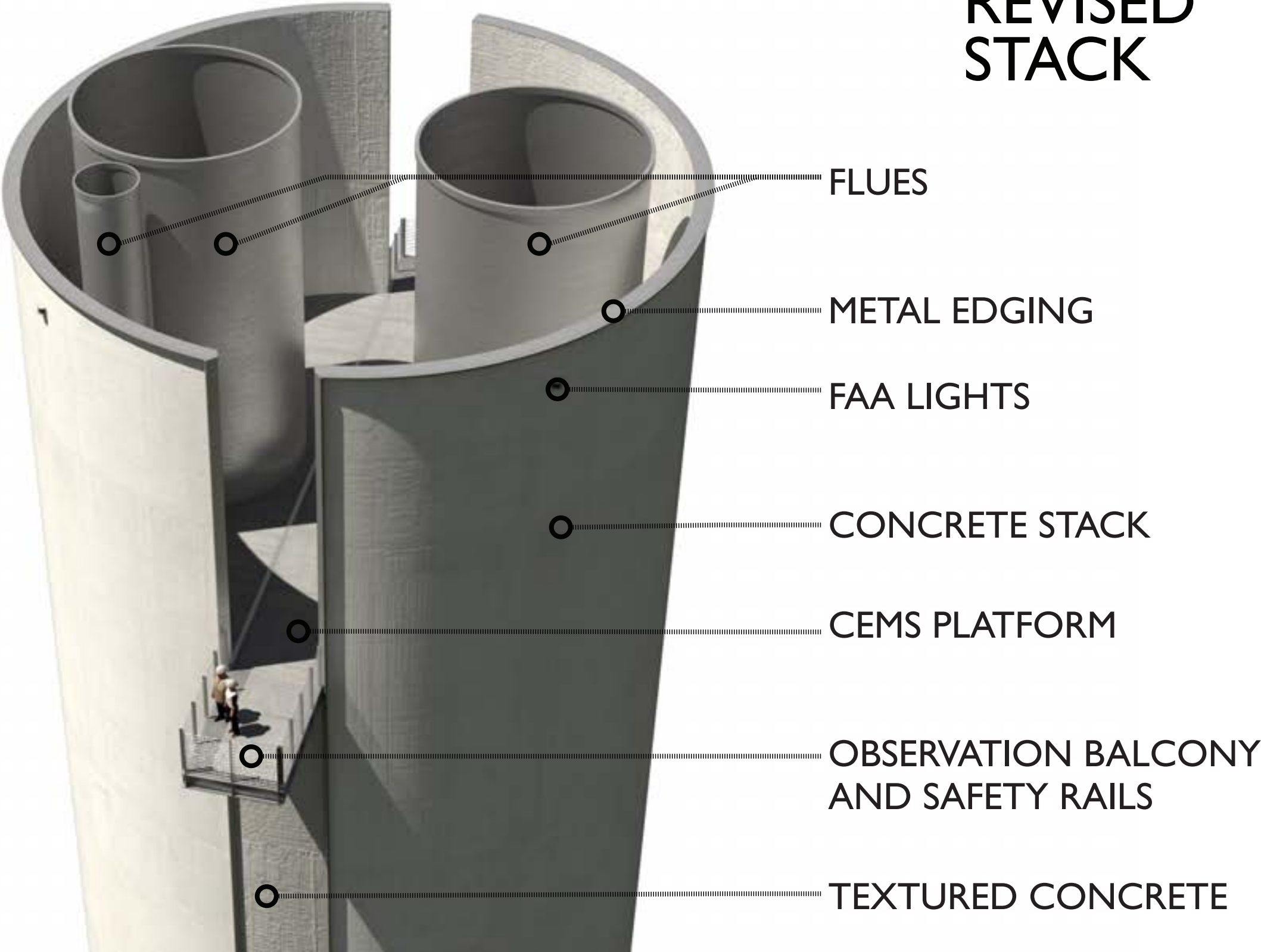
METAL EDGING

FAA LIGHTS

CONCRETE STACK

CEMS PLATFORM
(INSIDE STACK)

REVISED STACK



FACILITY ALIGNMENT

AXIS
BETWEEN FLUES

An aerial photograph of an industrial facility, likely a power plant, with a white line drawing overlay. The drawing shows several buildings, including a large rectangular one with a grid of circles inside, and various piping and structural elements. A red double-headed arrow runs diagonally across the facility, passing through the center of the large building. The text 'AXIS BETWEEN FLUES' is written along this arrow. In the top right corner, the text 'FACILITY ALIGNMENT' is displayed in a large, bold, sans-serif font.

SALEM ALIGNMENT

MISERY AND
BAKER'S
ISLANDS

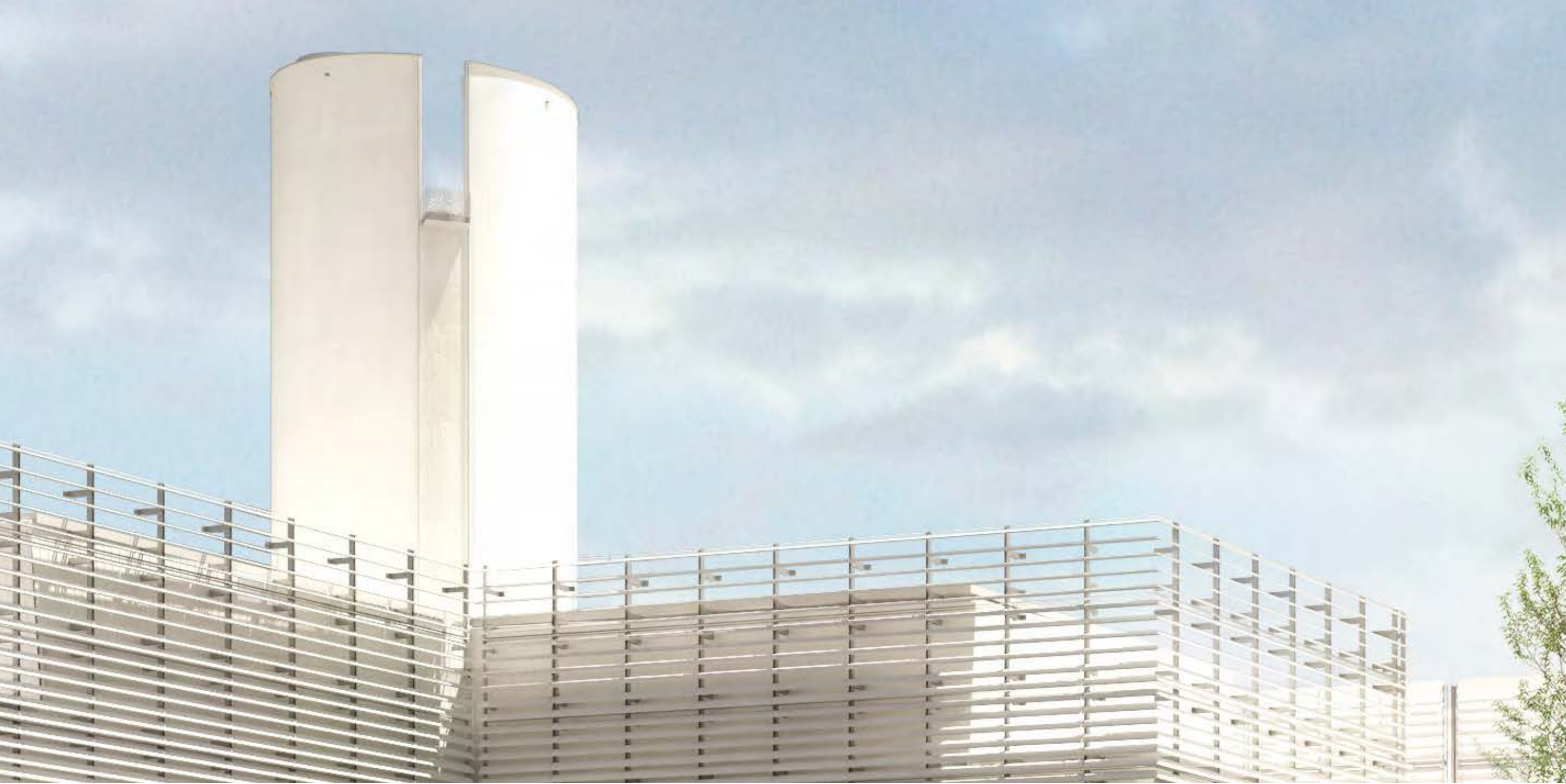
AXIS
BETWEEN FLUES

SALEM OLD
TOWN HALL





ALONG PATH NEAR WEBB STREET



ALONG PATH NEAR WEBB STREET



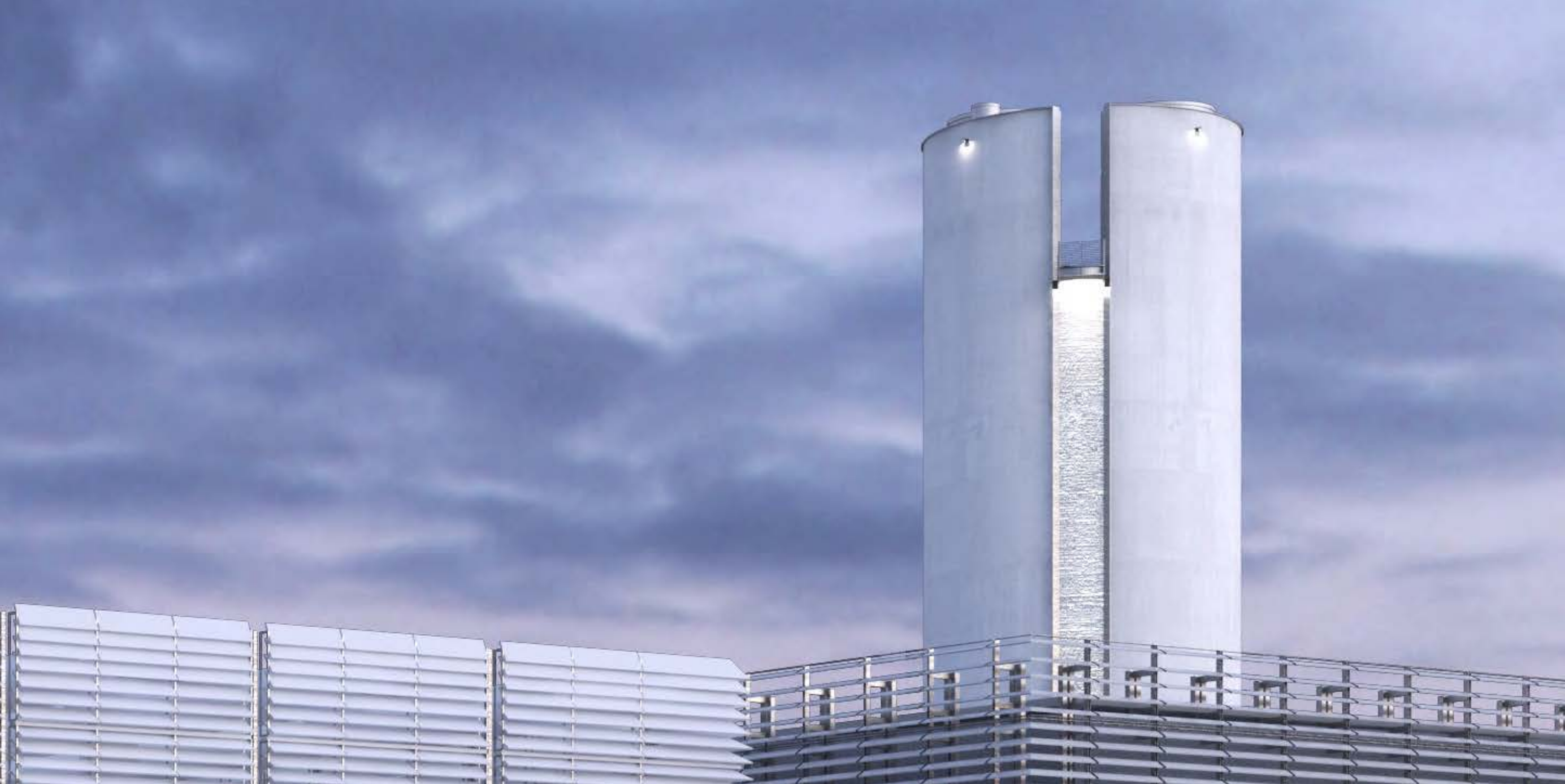
SALEM HARBOR STATION ENTRANCE



SALEM HARBOR STATION ENTRANCE



VIEW TOWARDS SALEM



VIEW TOWARDS SALEM

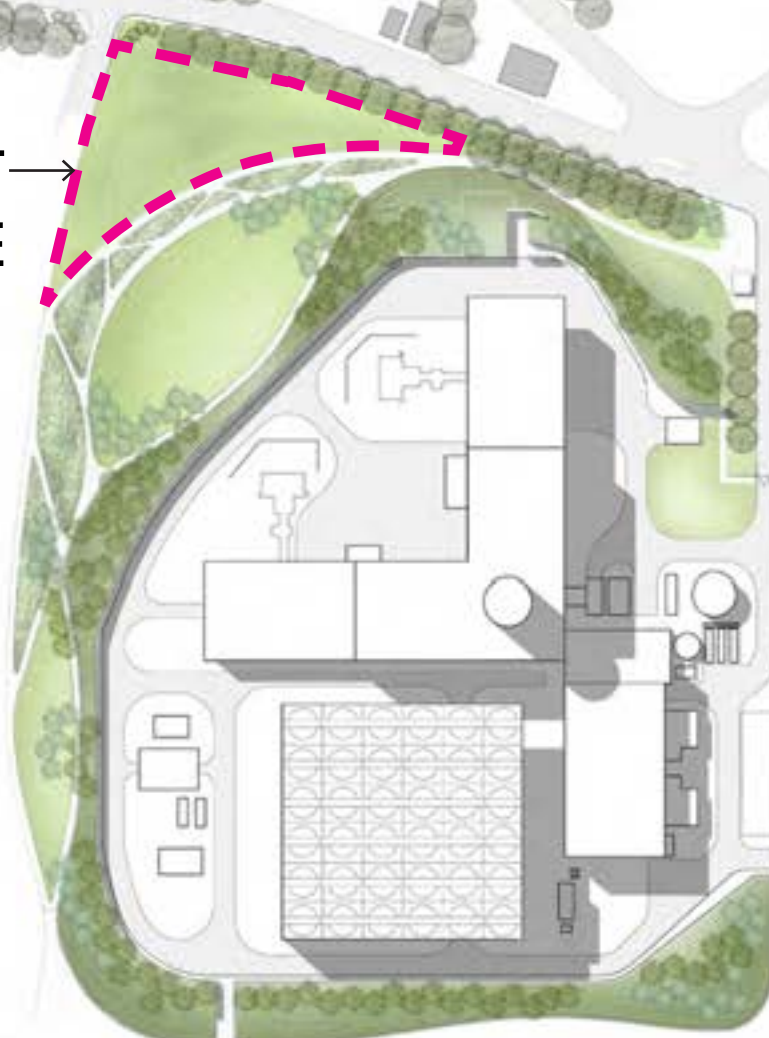


VIEW TOWARDS SALEM

LANDSCAPE RESPONSES

06.20.2013 FOOTPRINT POWER LLC

PERMANENT
LANDSCAPE →



NO EXISTING TREES TO
BE REMOVED WITHIN
NGRID EASEMENT



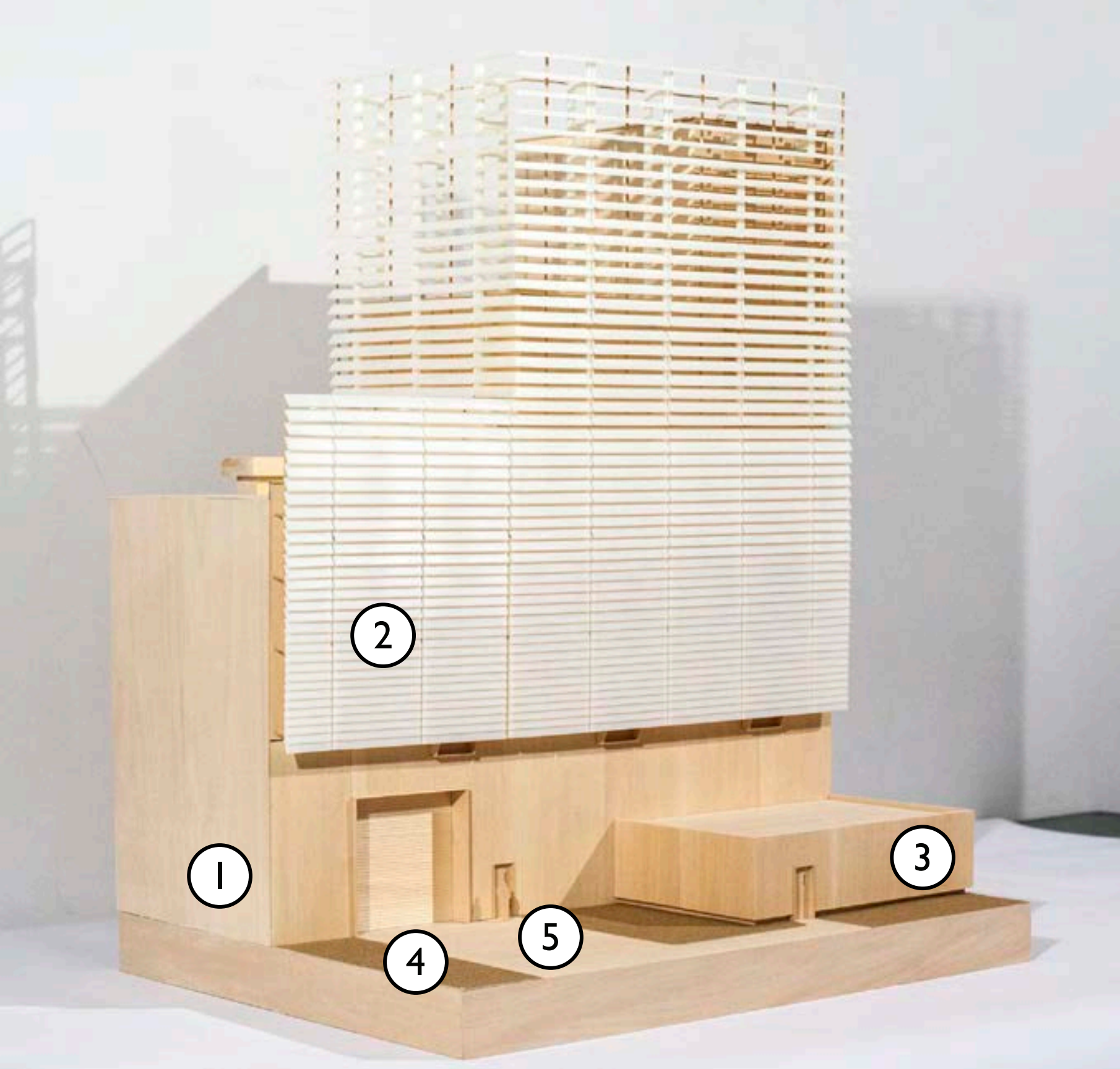


ALONG PATH NEAR WEBB STREET

PROPOSED SITE PLAN



CTG HALL MODEL



1. CTG HALL

2. LOUVERS

3. POWER DISTRIBUTION
CENTER

4. GRAVEL

5. PAVEMENT

FACILITY MATERIALS BOARD



1. LANDSCAPED BERM

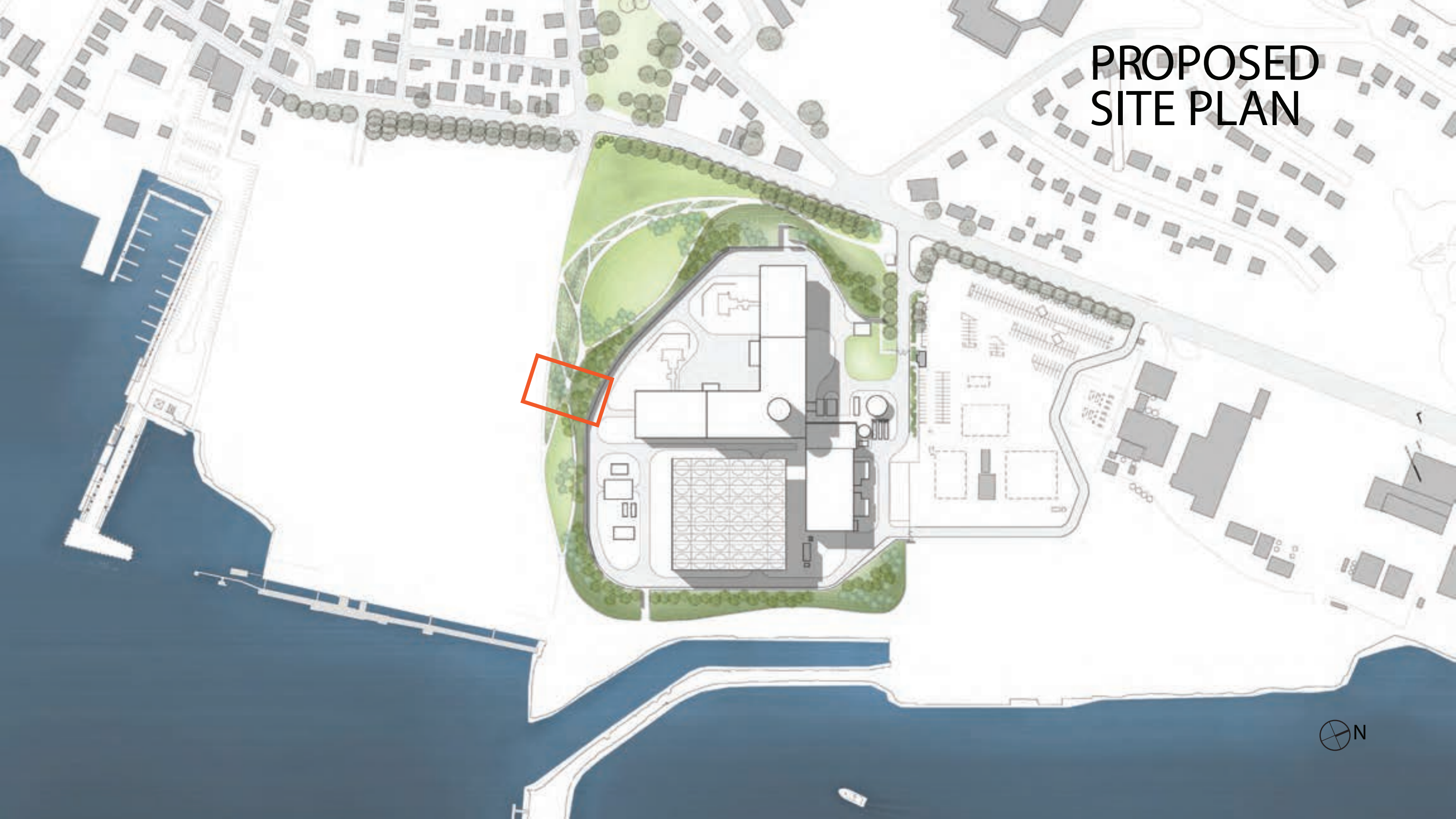
2. CTG HALL

3. STACK

4. STG HALL

5. COMMUNITY
OUTREACH BUILDING

PROPOSED SITE PLAN



LANDSCAPE MODEL



LANDSCAPE MATERIALS BOARD

- 1. PATHWAY
- 2. INTERIOR LANDSCAPE
- 3. MARINE SHRUBLAND
- 4. COASTAL WOODLAND
- 5. COASTAL WOODLAND & UPLAND MEADOW





ALONG PATH NEAR WEBB STREET