Public Information Meeting

SLODA, NRPA, Air, and MEPDES
Nordic Aquafarms, Inc.
Belfast, Maine
March 26, 2019

NORDIC AQUAFARMS
SUSTAINABLE AQUACULTURE

The Public Process

- Overall public application process for project (federal, state and local)
  - Separate applications coming for the project and addressing criteria under:
    - Federal Law- U.S. Army Corps of Engineers (intake and outfall, natural resource impacts)
    - City Law- Planning Board
      - Public meetings are part of this process too
  - State Law- Site Location of Development Act; Natural Resource Protection Act (including Significant Groundwater Wells); MEPDES and WDL (water discharge); Air Emissions (Chapter 115 minor new source)
    - NAF requested consolidation of these applications before the Board of Environmental Protection in order to allow for additional public process
    - This process still requires DEP substantive review but adds an additional layer of public engagement

The Public Process

This Public Information Meeting is for the consolidated applications for SLODA, NRPA, MEPDES and Air

- Purpose of PIM: Discuss applicable licensing criteria and environmental impacts
- The PIM is required BEFORE submission of the applications to the DEP
- Submission of applications anticipated in April
- Applications will go on major projects portion of DEP website

Format for Meeting

Nordic Aquafarms presentation of draft SLODA, NRPA, MEPDES and Minor New Source Air applications:

- Presentation will take approximately 2 hours - 1 hour for Q&A
- Court reporter
- PIM is being recorded
- There are 200 copies of the DEP fact sheet regarding opportunities for public comment in the permitting process at the entrances. That fact sheet is available on the internet at: https://www.maine.gov/dep/publications/is-public.html
- Sign in sheets by entrances will be provided to DEP

Ground Rules

- When it is time for questions I will ask folks to line up behind the podium
- Please go right to your question
- Please limit your questions to the applications at hand
- I will limit time for each person to 1-2 minutes
- Questions may be submitted in writing during and at the conclusion of the meeting
- Interruption and yelling out will not be tolerated: You will be asked to leave

Overview

Nordic Aquafarms Inc.

President Erik Heim

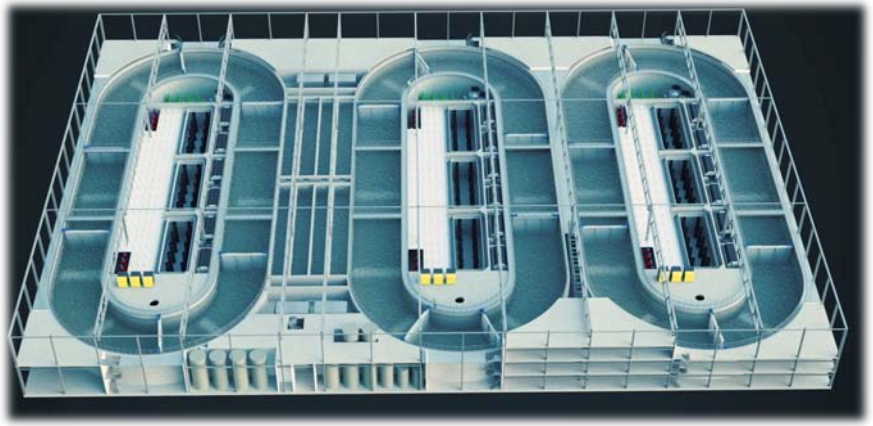
Our new Fredrikstad Seafoods Facility

What is the Belfast proposal really all about?

- A project that takes leaps in defining a new generation of food systems and ocean protection standards in the US and internationally – with tried and proven technologies
- A project that ultimately will produce approx. 7 percent of US salmon consumption on a 30-acre footprint
- A project that connects Maine and Europe´s seafood industries with many more opportunities to come
- A company that is promoting Maine to the global seafood market – others are following
- A company that will work to protect the environment and wild salmon populations
- A company that seeks to do good for the community – conservation of lands, bait that will help the Maine´s lobster industry thrive, good paying jobs, and local community support

What is land-based production in Belfast all about?

- All production occurs indoors – from egg to harvest size – full traceability
- Ideal conditions for the fish - protection against parasites and pathogens
- A new industry standard for nutrient removal in discharge – with proven technologies
- Capture, recycling and new business opportunities from waste resources
- No comingling with wild species
- Much lower CO2 footprint than airfreighting fresh fish to the US
- Avoidance of GMO, growth Hormones, antibiotics, etc.



Many in the US have applauded our high-quality fish

Preparation of permit applications for Belfast

- A rigorous process with strict permitting requirements – we have gone beyond those in many areas
- Extensive data collecting, assessments and engineering – and challenges to solve along the way
- Large amounts of constructive local input taken into consideration
- While an engineering phase always leads to many adjustments along the way – we have stayed true to our commitment of setting new environmental standards in this industry and protecting Penobscot Bay
- This has been recognized by leading environmental organizations in Maine and beyond

Our US team – first stage of hiring towards a world-class US company

John Hessler
Maine

Carter Cyr
Maine

David Noyes
Maine

Margaret Kneeland
Maine

Brenda Chandler
Maine

Ed Cotter
Connecticut

Cathal Dinneen
Ireland

Marianne Naess
Norway

Erik Heim
US/Norway

An in-house engineering center of excellence second to none.
Our team has designed and delivered land-based farms all over the world

Large and experienced in-house engineering team...

Flag indicates in which country each employee is based

Ketil Fjeld
Engineering Director

14 specialized engineers employed

Martin Gretland
Process Technology Lead

Fredrik Weberg
Facility Construction Lead

Mikkel K. Thomsen
Chief of RAS Design and Danish Office Team Leader

Jens Espersen
Installation Manager

Anders Bach Jensen
Expert Designer, Process and Technical

Ivar Warrer-Hansen
Senior Advisor / RAS Expert

Simon Bo Søgaard Kristensen
Designer, Environmental Technologies

Simon Declan Dunn
Senior Engineer / RAS Expert

...delivering complete turnkey solutions

1. *Feasibility studies*
2. *Design & Engineering*
3. *Civil Works & Building*
4. *Installation*
5. *Commissioning*
6. *Service and Management*

Selected projects were NAF's engineering team has been involved in

Norway	Norway	Canada	Shetland	US	Canada	Norway	Scotland
2018	2018	2016	2015	2013	2011	2010	2009
Salmon post-smolt facility (5,300m3)	*Salmon post-smolt RAS facilitiy (5,000m3)*	*Salmon smolt RAS facility (9,000m3)*	*Salmon smolt RAS facility*	*Salmon smolt RAS facility*	*Salmon smolt RAS facility (2,280m3)*	*Salmon smolt RAS facility*	*Salmon fry plant*

Over 50 expert resources have been involved in the permitting work

Nordic Center of excellence

Ed Cotter
Project Director

John Hessler
Project Engineer

David Noyes
CTO

Development partners in Maine

SMRT

WOODARD &CURRAN

RANSOM Consulting Engineers and Scientists

GRIDWORKS CONSULTING

RAMBOLL

KENNEBEC RIVER BIOSCIENCES

CIANBRO

DrummondWoodsum
ATTORNEYS AT LAW

Undertaking engineering for a 30-acre footprint is a large effort – engineering drafts for our applications are now complete

Today we are presenting the final details in our proposal

for a facility that will set new environmental standards in

the land-based farming industry

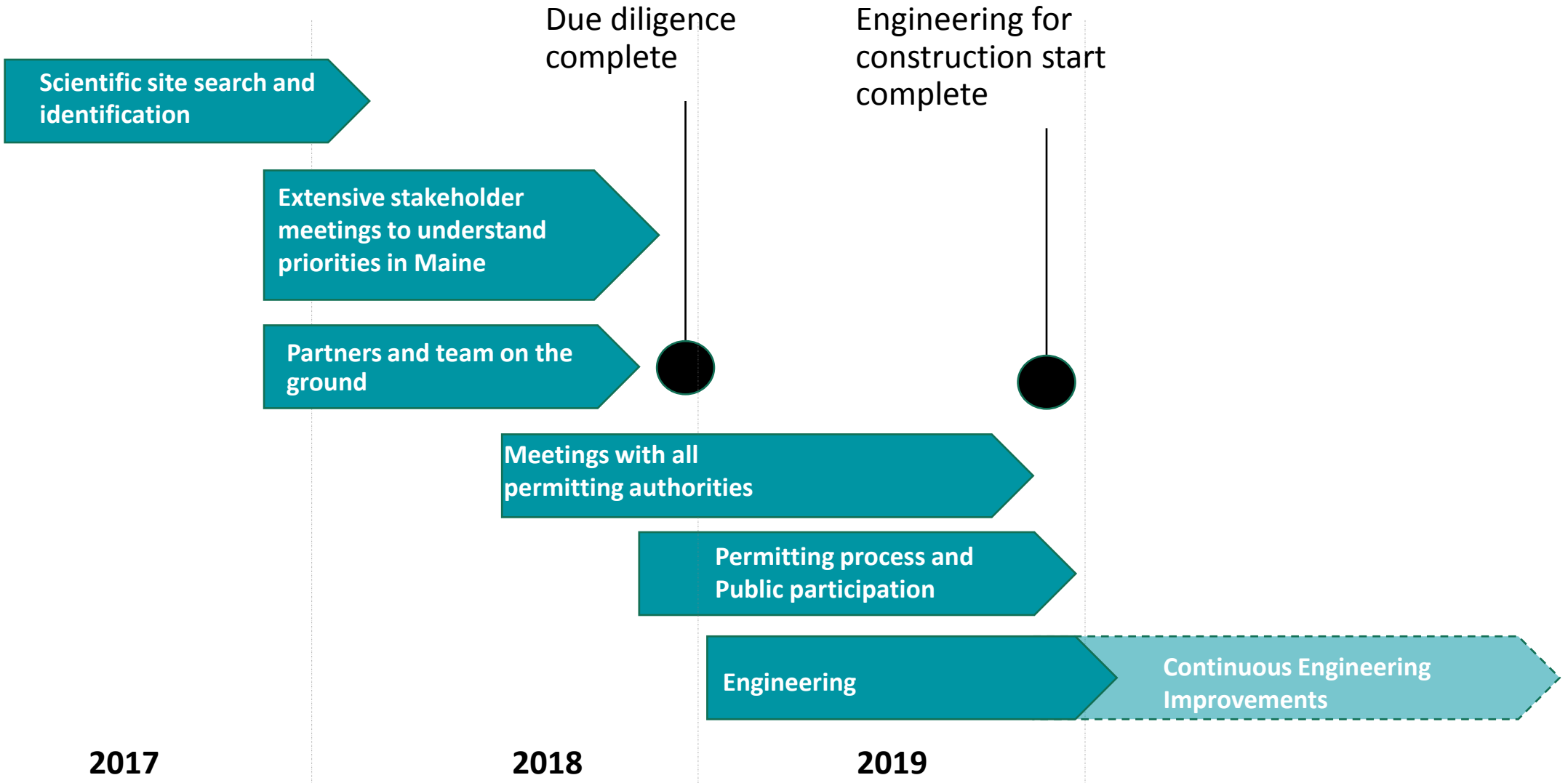
Agenda

- Construction sequencing (15 minutes)
- Visual Impacts (10 minutes)
- Alternatives Analysis (20 minutes)
- Stormwater (5 minutes)
- Noise, Odor and Air (5 minutes)
- Water Supply (20 minutes)
- Monitoring Plan (10 minutes)
- Natural Resources (15 minutes)
- Wetlands Compensation (5 minutes)
- MEPDES (5 minutes)
- Q&A (1 hour)

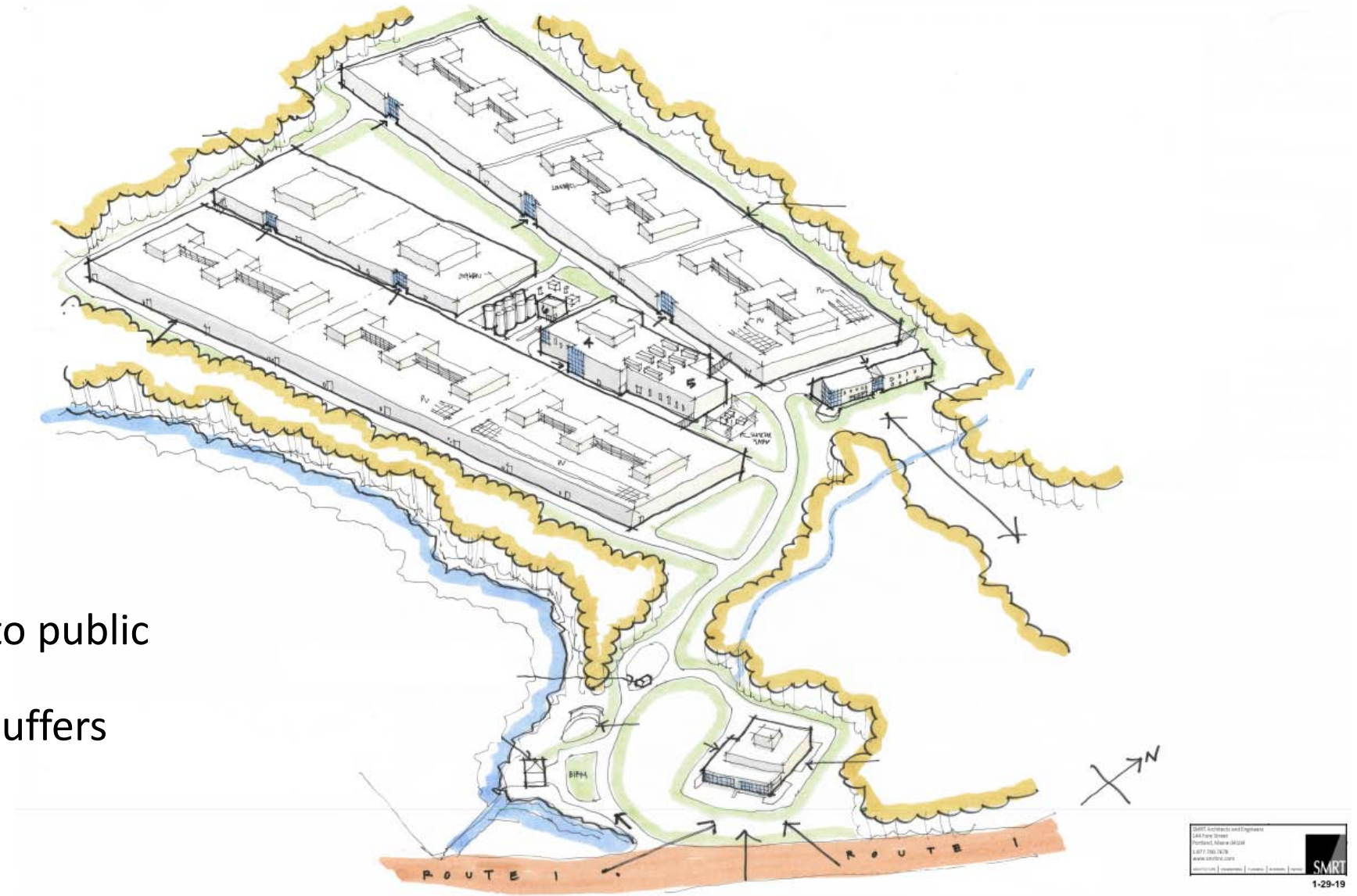
Agenda

- Construction sequencing (15 minutes)
- Visual Impacts
- Alternatives Analysis
- Stormwater
- Noise, Odor and Air
- Water Supply
- Monitoring Plan
- Natural Resources
- Wetlands Compensation
- MEPDES
- Q&A

Timetable for Belfast

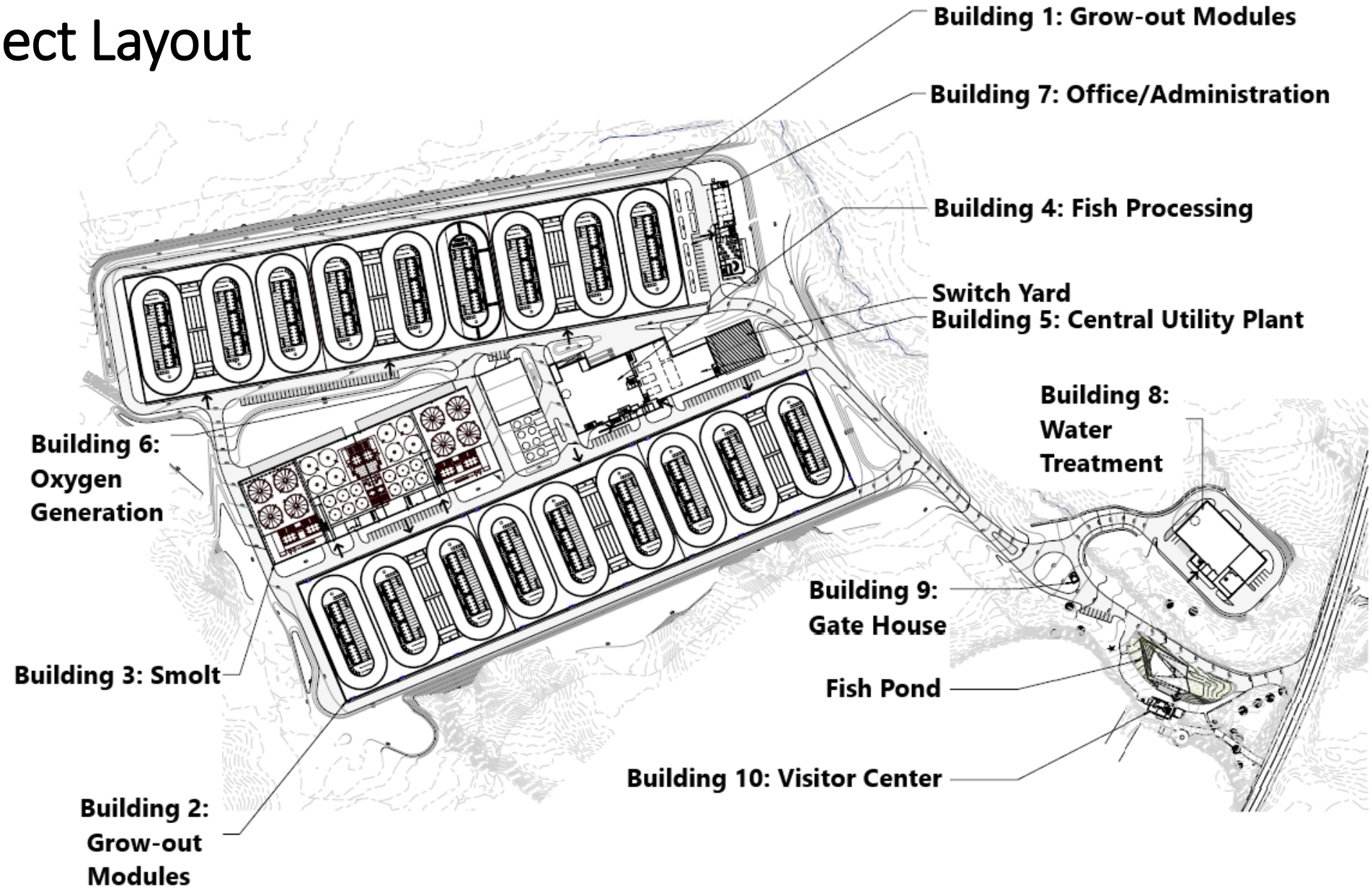


Project Layout



- Compact Design
- Minimizes impacts to public
- Retains significant buffers

Project Layout

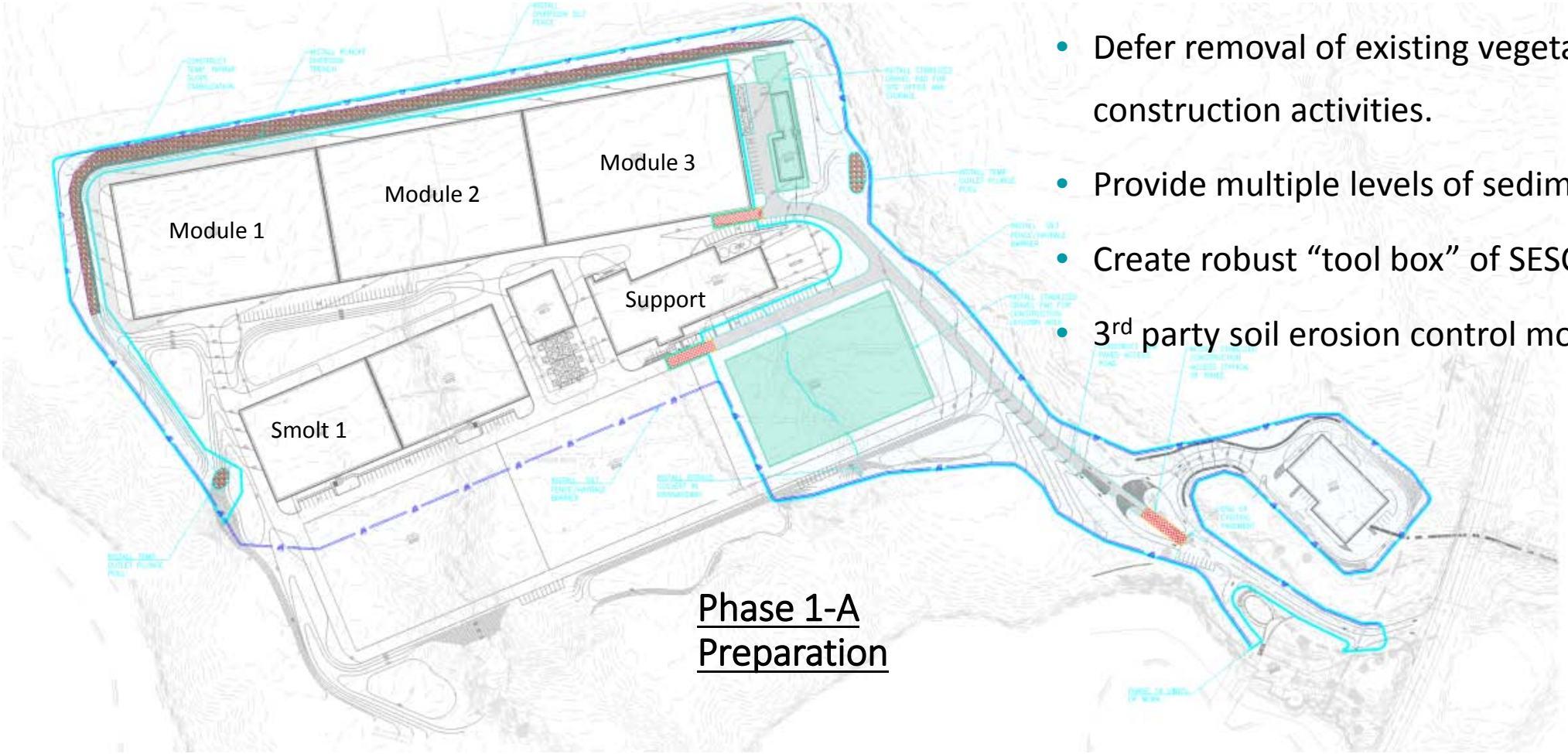


3+1 Modular Design Concept

Setbacks and Buffers

- Minimum 40’ vegetated buffer
- Zoning required 50’ building setback is exceeded in all locations
- 75’ setbacks at improved wetlands
- 250’ Shoreland zone transferred to city

Project Phasing

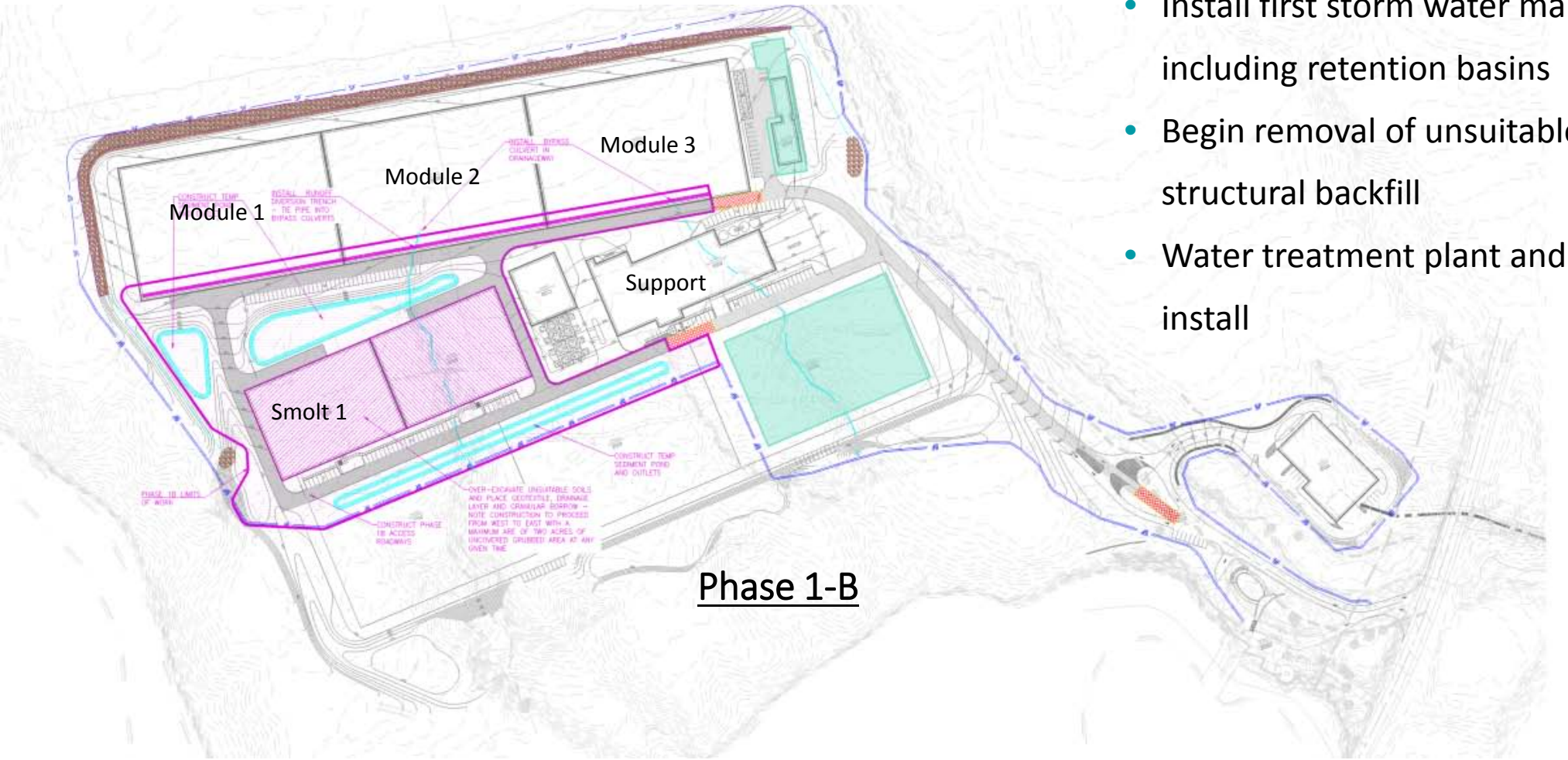


Phase 1-A Preparation

- Minimize areas of disturbed soil. Install gravel soil stabilization at disturbed areas.
- Defer removal of existing vegetation until required by construction activities.
- Provide multiple levels of sediment control barriers.
- Create robust “tool box” of SESC measures
- 3rd party soil erosion control monitor

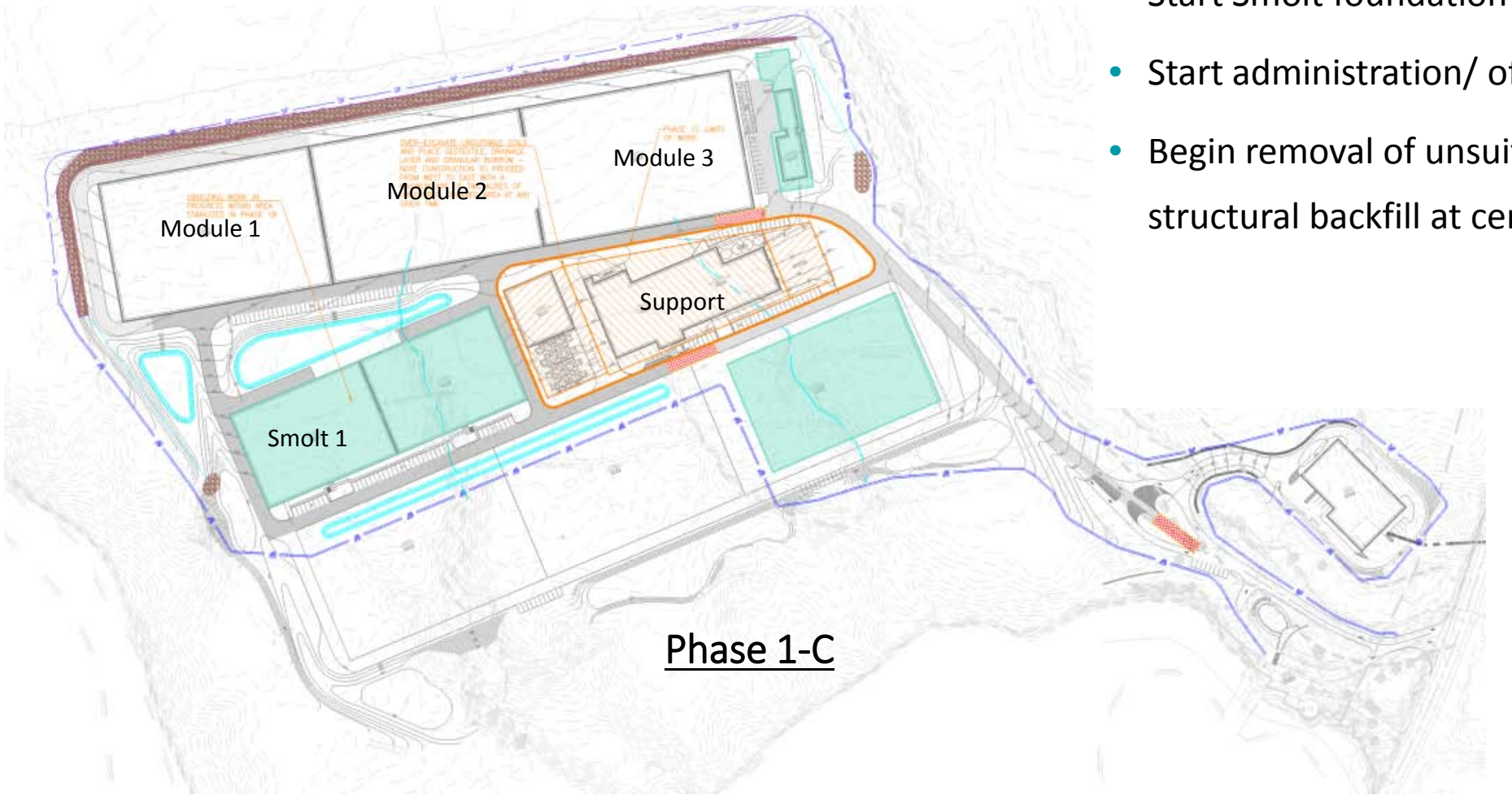
Project Phasing

- First building blocks of the project
- Establish construction access throughout the site
- Install first storm water management structures including retention basins
- Begin removal of unsuitable soils and install structural backfill
- Water treatment plant and intake/discharge pipe install



Phase 1-B

Project Phasing

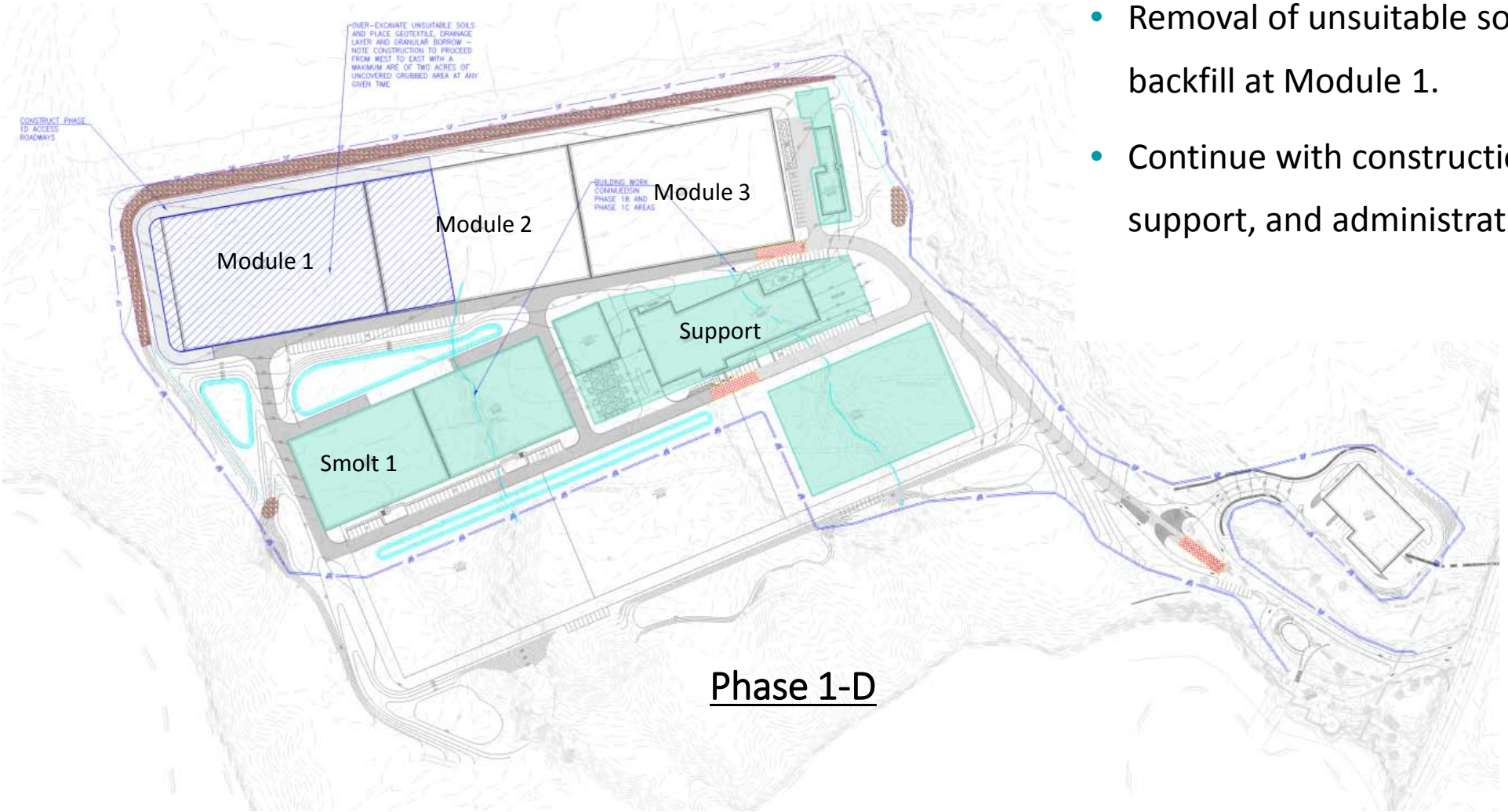


Phase 1-C

- Start Smolt foundation and structure
- Start administration/ office building structure
- Begin removal of unsuitable soils and install structural backfill at central support buildings

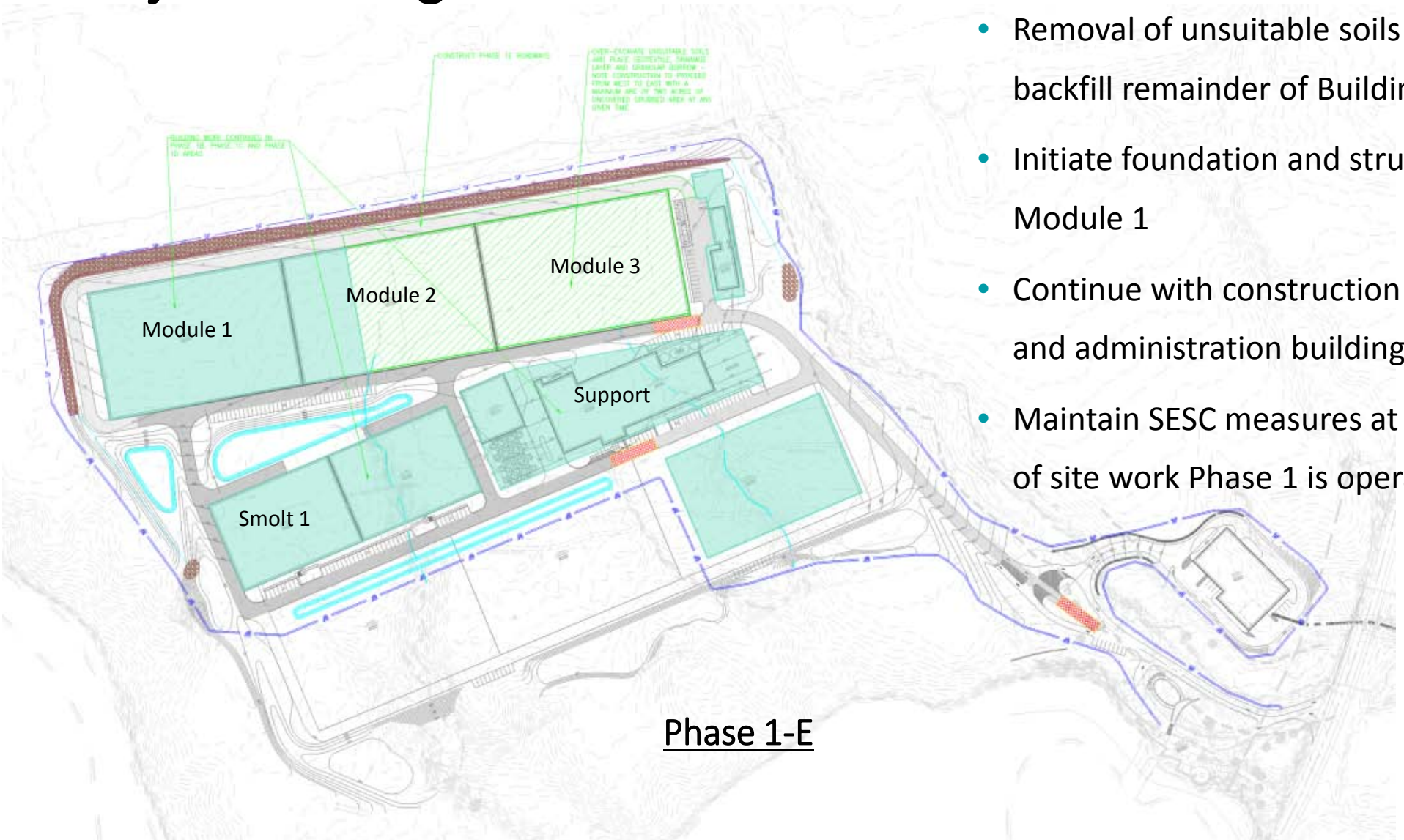
Project Phasing

- Expand site to include 1st production module.
- Removal of unsuitable soils and install structural backfill at Module 1.
- Continue with construction of Smolt 1, central support, and administration buildings.



Phase 1-D

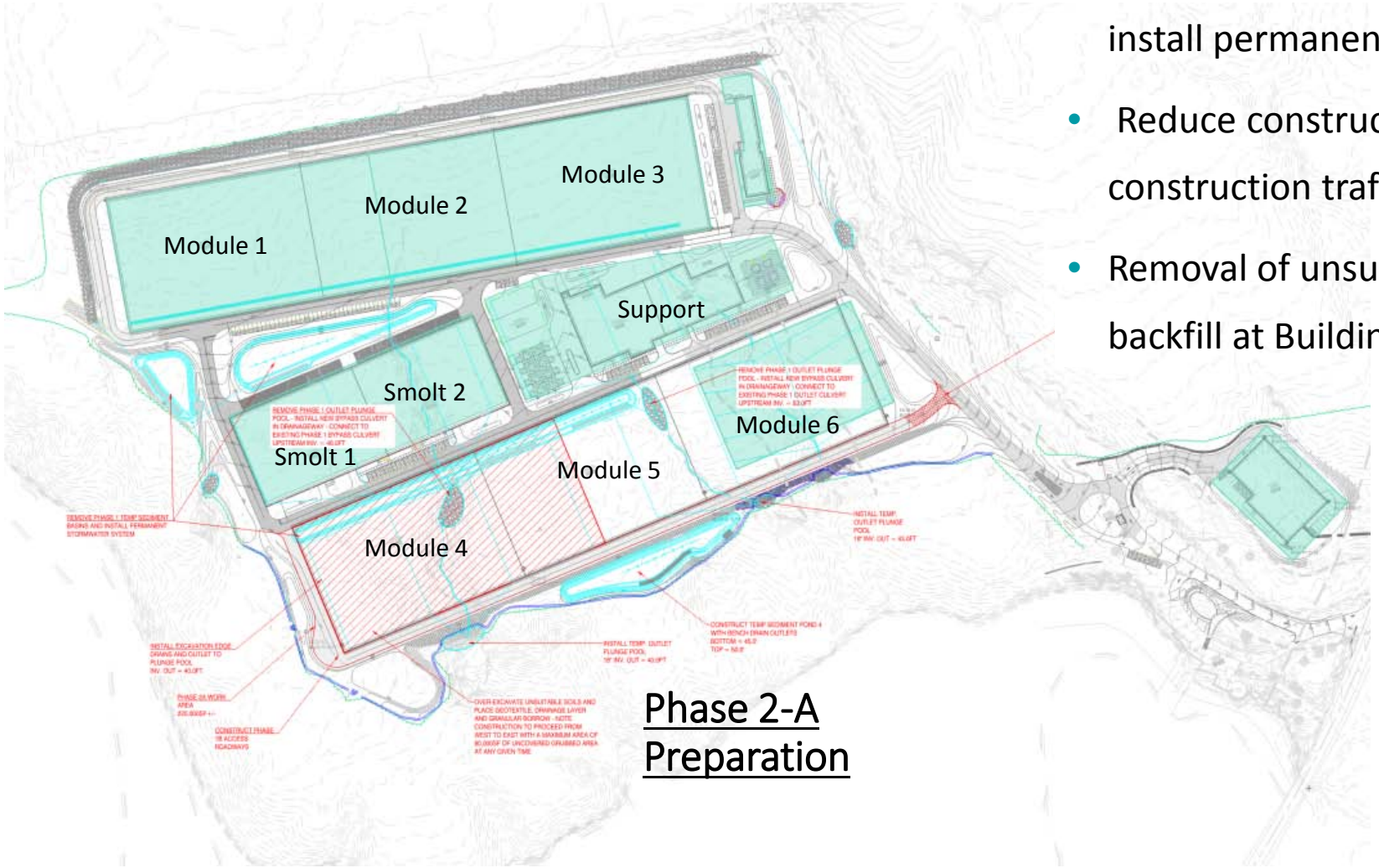
Project Phasing



Phase 1-E

- Expand site to include remainder of Building 1
- Removal of unsuitable soils and install structural backfill remainder of Building 1.
- Initiate foundation and structure construction at Module 1
- Continue with construction of Smolt 1, central support, and administration buildings.
- Maintain SESC measures at perimeter until completion of site work Phase 1 is operational.

Project Phasing

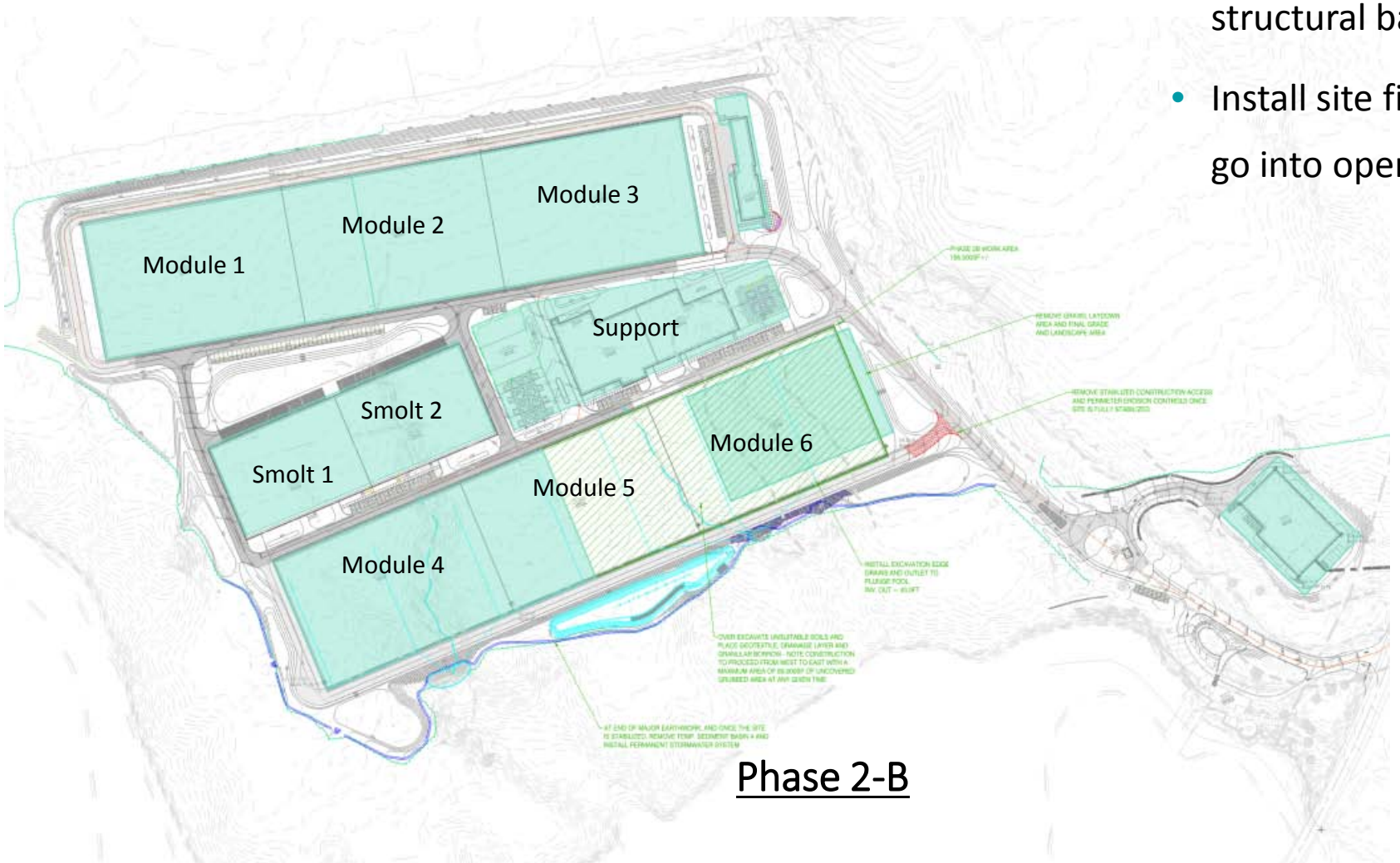


Phase 2-A Preparation

- Remove Phase 1 construction retention structures, install permanent storm water features
- Reduce construction area to Phase 2 site. Establish construction traffic routing
- Removal of unsuitable soils and install structural backfill at Building 2.

Project Phasing

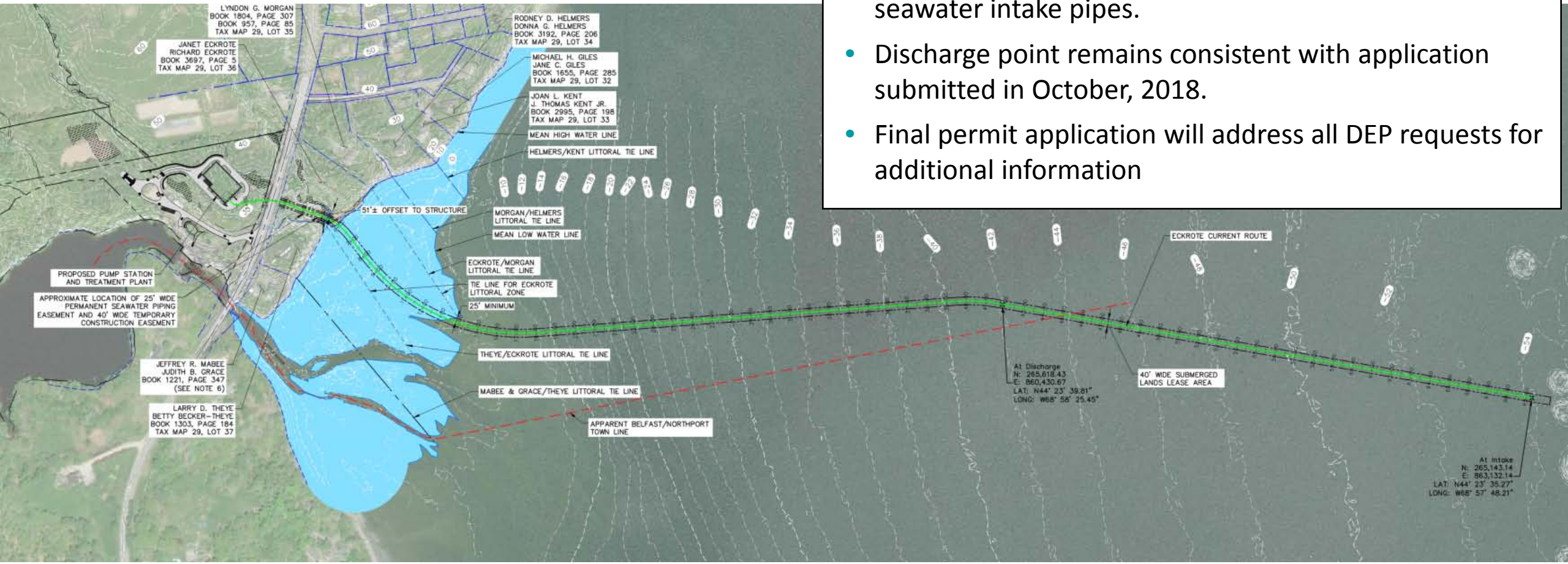
- Removal of unsuitable soils and install structural backfill at Module 5-6
- Install site finishes completed modules go into operation



Phase 2-B

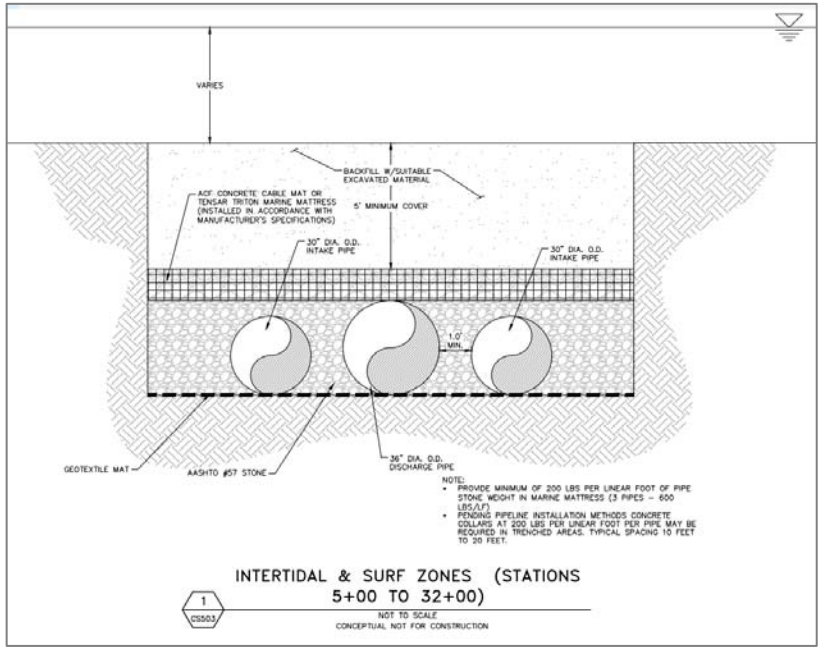
Seawater Intake/ Discharge Pipes

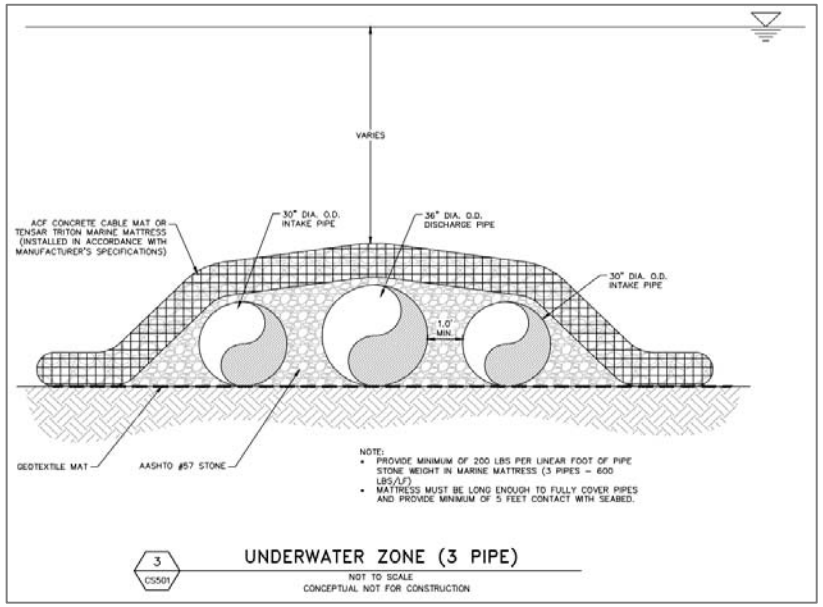
- Shortest available route minimizes construction impact. Any additional length increases impact with no environmental gain.
- (1) 36” diameter discharge pipe and (2) 30” diameter seawater intake pipes.
- Discharge point remains consistent with application submitted in October, 2018.
- Final permit application will address all DEP requests for additional information



Pipe Installation

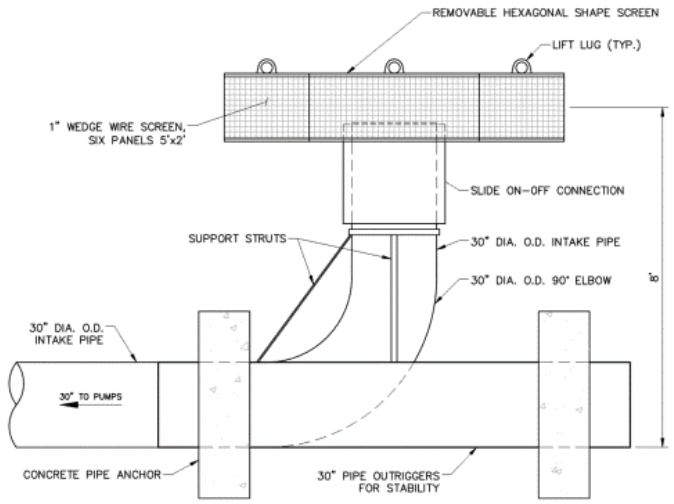
- All components are buried in upland, intertidal, and shallow water areas
- All excavated material not used for backfill to be disposed of at approved upland sites
- Pipe emerges from subsurface in approximately 35’ of water, remainder of pipe placed on seafloor
- Structural protection to be installed to prevent displacement or damage due to currents and storm waves
- Coastal work to be completed within regulatory window of November-April
- Upland work planned to minimize impacts to traffic by maintaining 2 way traffic



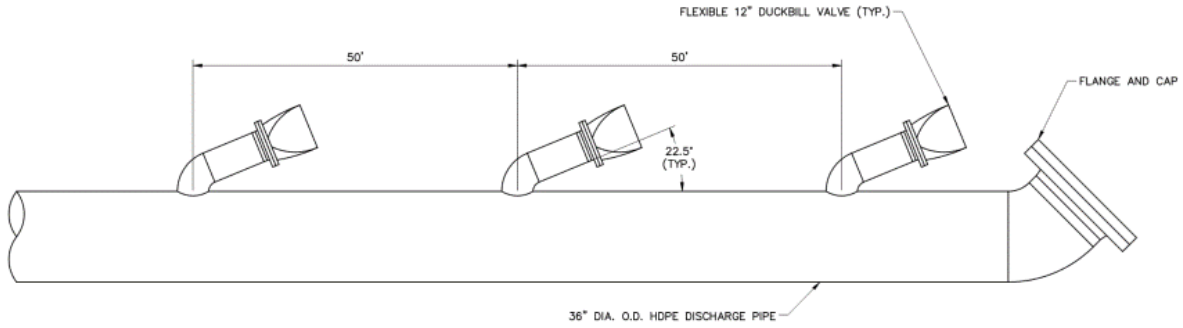


Pipe Installation (cont.)

- Intake structures design to mitigate fish impingement risk utilizing 1” mesh screen
- Intake located approximately 8’ above sea floor to mitigate impacts to benthic organisms
- Discharge baffle system designed for maximum diffusion of effluent



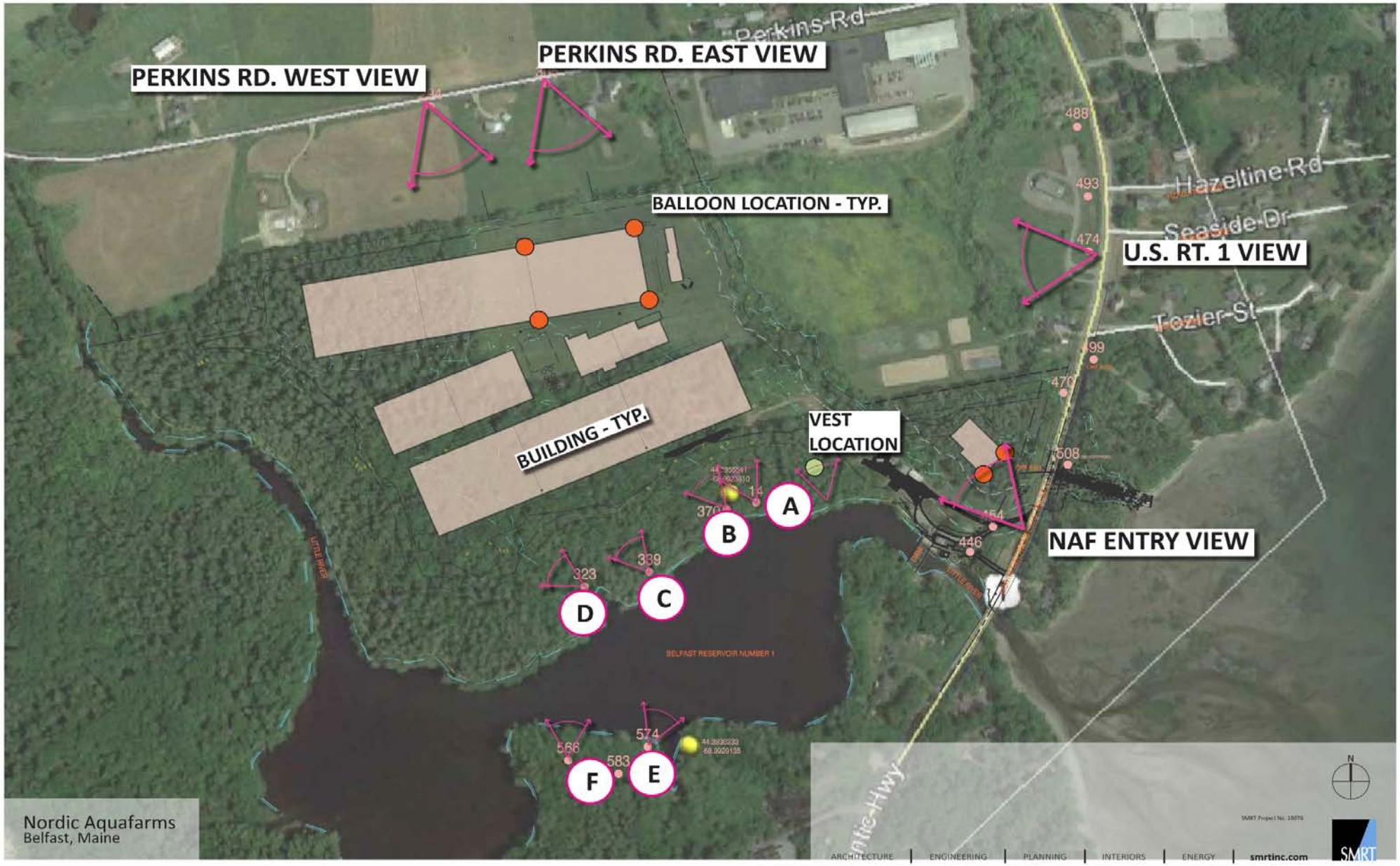
6 CS502 INTAKE STRUCTURE DETAIL
SCALE: NOT TO SCALE



7 CS502 DISCHARGE DIFFUSER DETAIL
SCALE: NOT TO SCALE

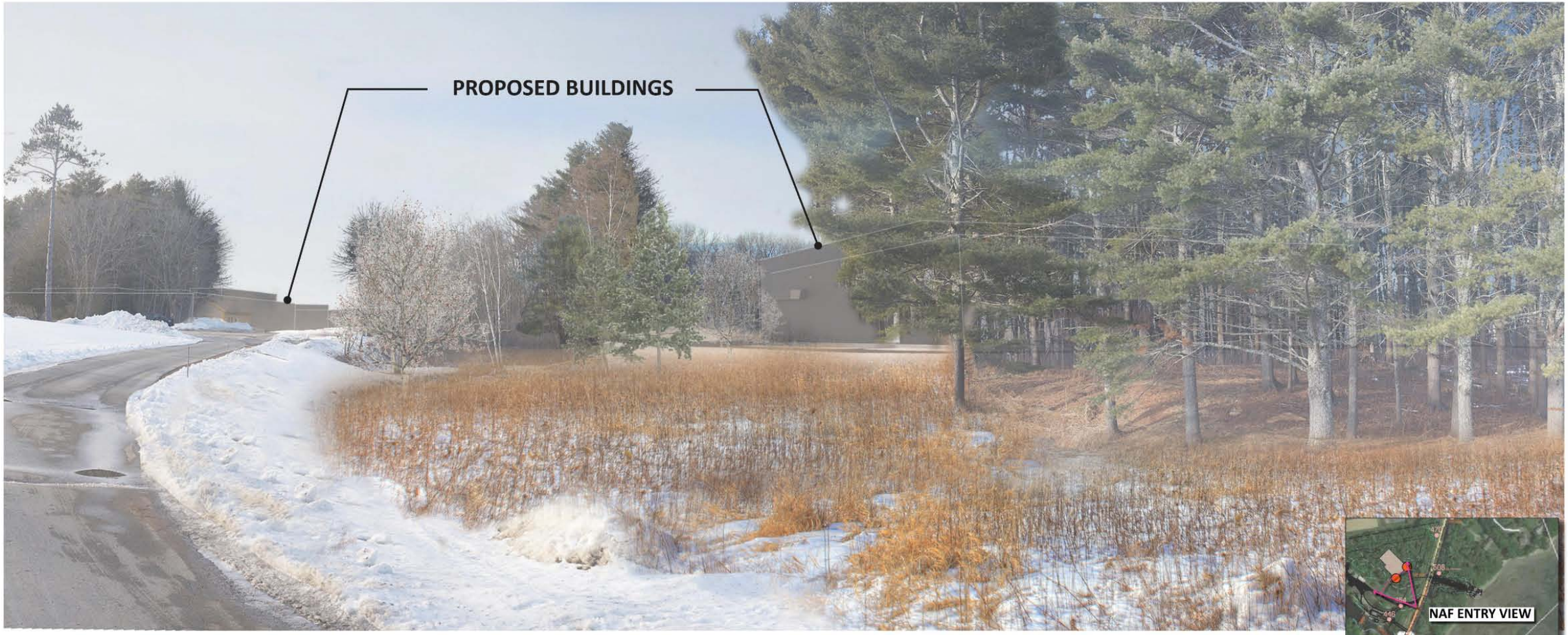
Agenda

- Construction sequencing
- **Visual Impacts (10 minutes)**
- Alternatives Analysis
- Stormwater
- Noise, Odor and Air
- Water Supply
- Monitoring Plan
- Natural Resources
- Wetlands Compensation
- MEPDES
- Q&A



NORDIC AQUAFARMS
SUSTAINABLE AQUACULTURE

Locus



Locus

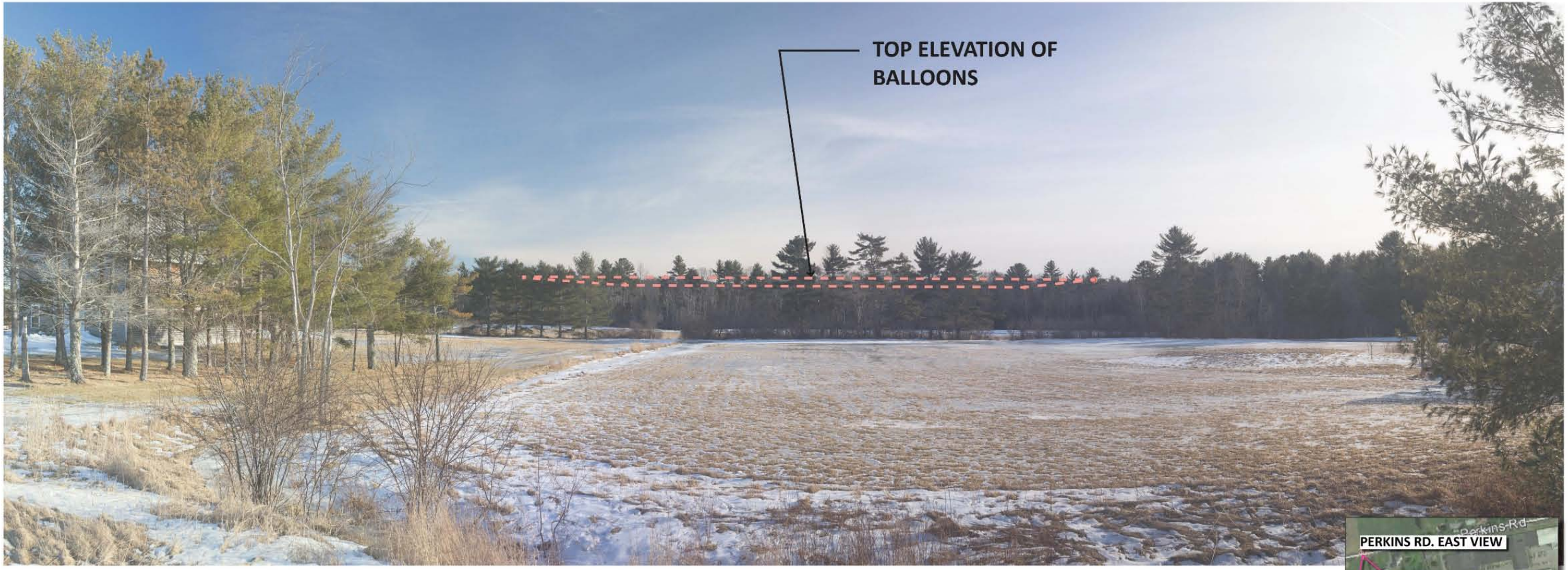
NORDIC AQUAFARMS
SUSTAINABLE AQUACULTURE

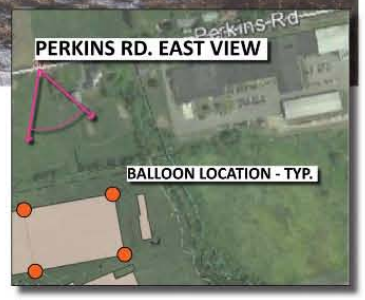

EXISTING BUILDINGS
TOP ELEVATION OF BALLOONS
BALLOON LOCATION - TYP.
U.S. RT. 1 VIEW
Seaside Dr
Tozier St

Locus

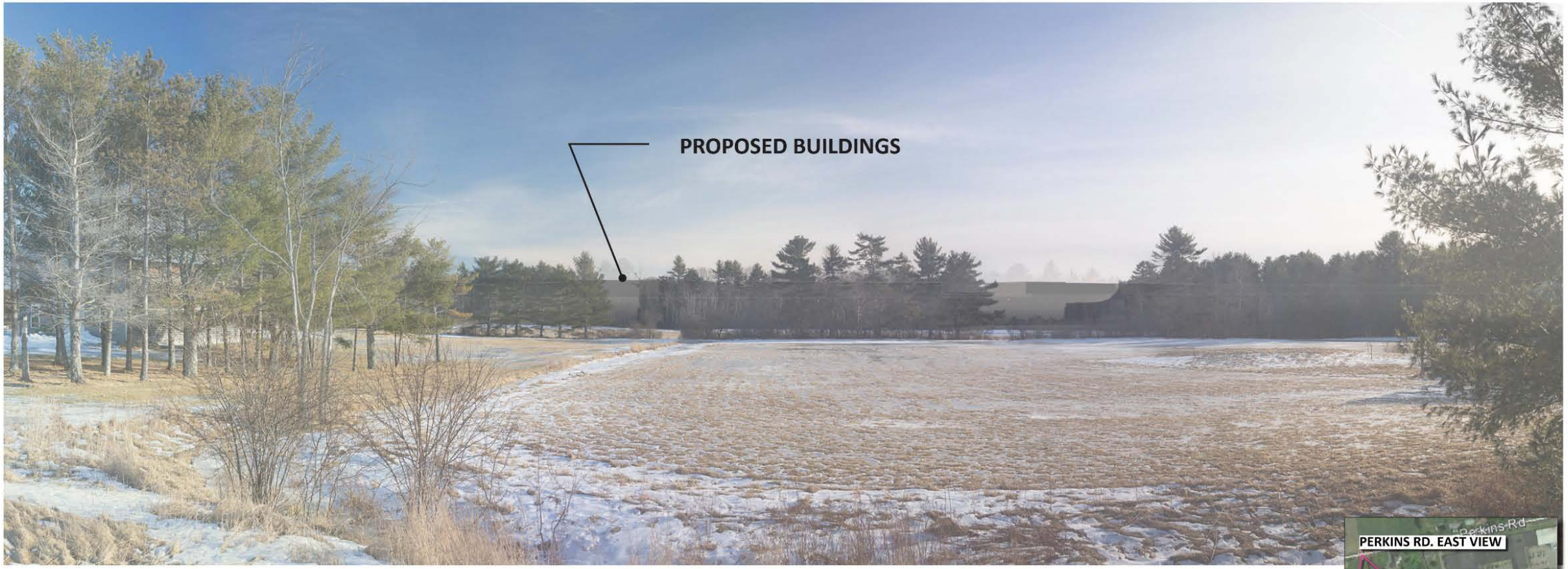

EXISTING BUILDINGS
PROPOSED BUILDINGS
BALLOON LOCATION - TYP.
U.S. RT. 1 VIEW
Hazeline
Seaside Dr
Tozier St

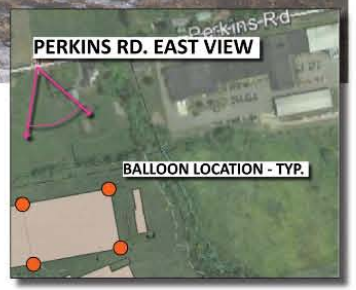
Locus


TOP ELEVATION OF
BALLOONS

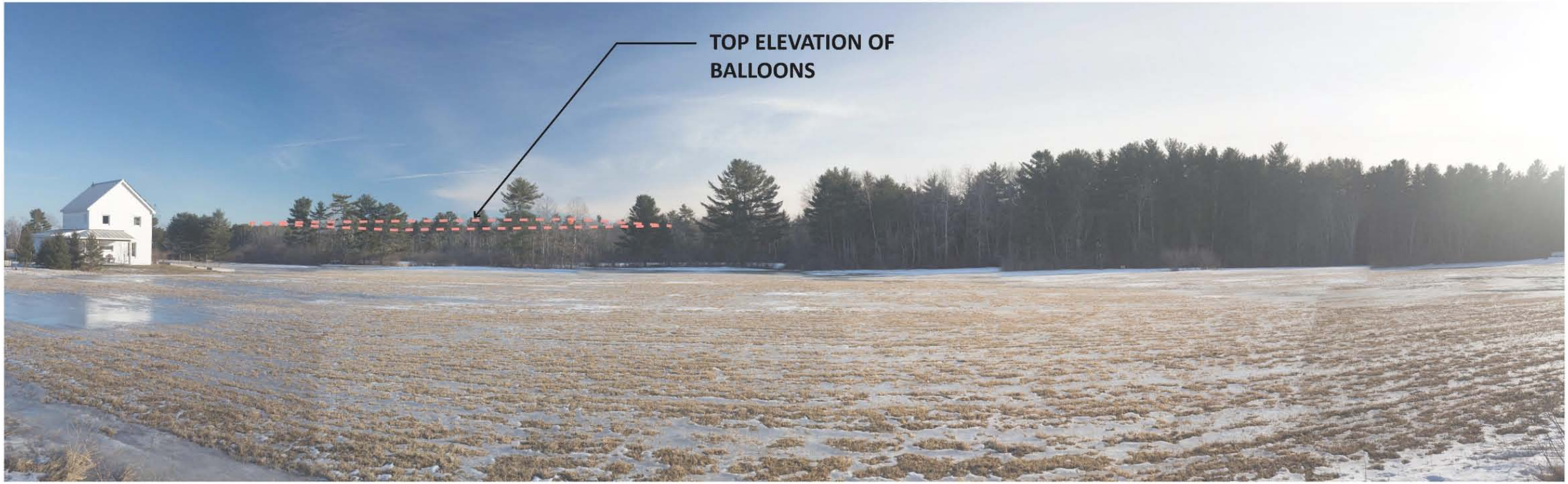

Perkins Rd
PERKINS RD. EAST VIEW
BALLOON LOCATION - TYP.

Locus


PROPOSED BUILDINGS

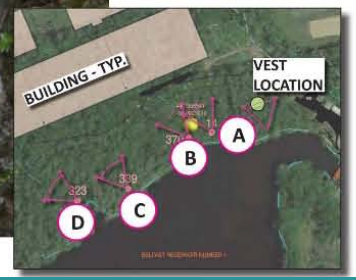

Perkins Rd
PERKINS RD. EAST VIEW
BALLOON LOCATION - TYP.

Locus



Locus

Locus



NORDIC AQUAFARMS
SUSTAINABLE AQUACULTURE

Agenda

- Construction sequencing
- Visual Impacts
- **Alternatives Analysis (20 minutes)**
- Stormwater
- Noise, Odor and Air
- Water Supply
- Monitoring Plan
- Natural Resources
- Wetlands Compensation
- MEPDES
- Q&A

Analyzes whether a practicable alternative that meets the project purpose exists by:

- Utilizing, managing or expanding one or more other sites that would avoid the wetland impact
- Reducing the size, scope, configuration or density of the project as proposed, thereby avoiding or reducing the wetland impact
- Developing alternative project designs, such as cluster development, that avoid or lessen the wetland impact
- Demonstrating the need, whether public or private, for the proposed alteration

Project Purpose

- Safe, high quality, sustainable seafood
- Lower carbon footprint by growing in the US
- Improve traceability of seafood products, including feed source and genetic origin
- Provide up to 33,000 metric tons (or 7% of US salmon consumption) from a single US facility
- Provide fresh seafood to consumers within a day's drive of the facility, serving northeast markets

Project Benefits

- Direct creation of 100+ jobs, numerous indirect jobs in ancillary industries
- Work force development opportunities with Maine institutions
- $500 million investment in the local Maine economy
- Long-term, non-residential tax revenue for Belfast
- Significant cash influx to Belfast Water District for infrastructure improvements
- Provide safe, high quality, sustainable seafood that - improves US food security, lowers the environmental footprint of the fish we consume, promotes wild salmon conservation, and reduces waste in the food cycle through efficient RAS design
- Provide lobster bait used by Penobscot Bay's fisherman, consistently, year-round

What are the criteria?

1. Are siting requirements met?
   - Zoning, fire code and property title, right, or interest

2. What are the environmental impacts? Are they reasonable?
   - Wetlands, streams, groundwater and surface water

3. What is the engineering feasibility of the proposed project?
   - Geotechnical, layout and design, operations and logistics

4. What is the financial impact of the alternative?
   - Does the proposed project have the capacity to absorb that impact and still go forward?

Elements considered in the analysis:

Site Selection	Why Belfast?
Site Layout	How many buildings do we need, and what are they? And how are do they get arranged on the *available* site?
Piping Layout	How do we access seawater?
No Action	What if we didn't do it?

How do we evaluate?

- Decision Matrix
- Specific criteria grouped under legal, environmental, engineering feasibility and financial capability criteria
- Weighting of criteria
- Numerical score and supporting information

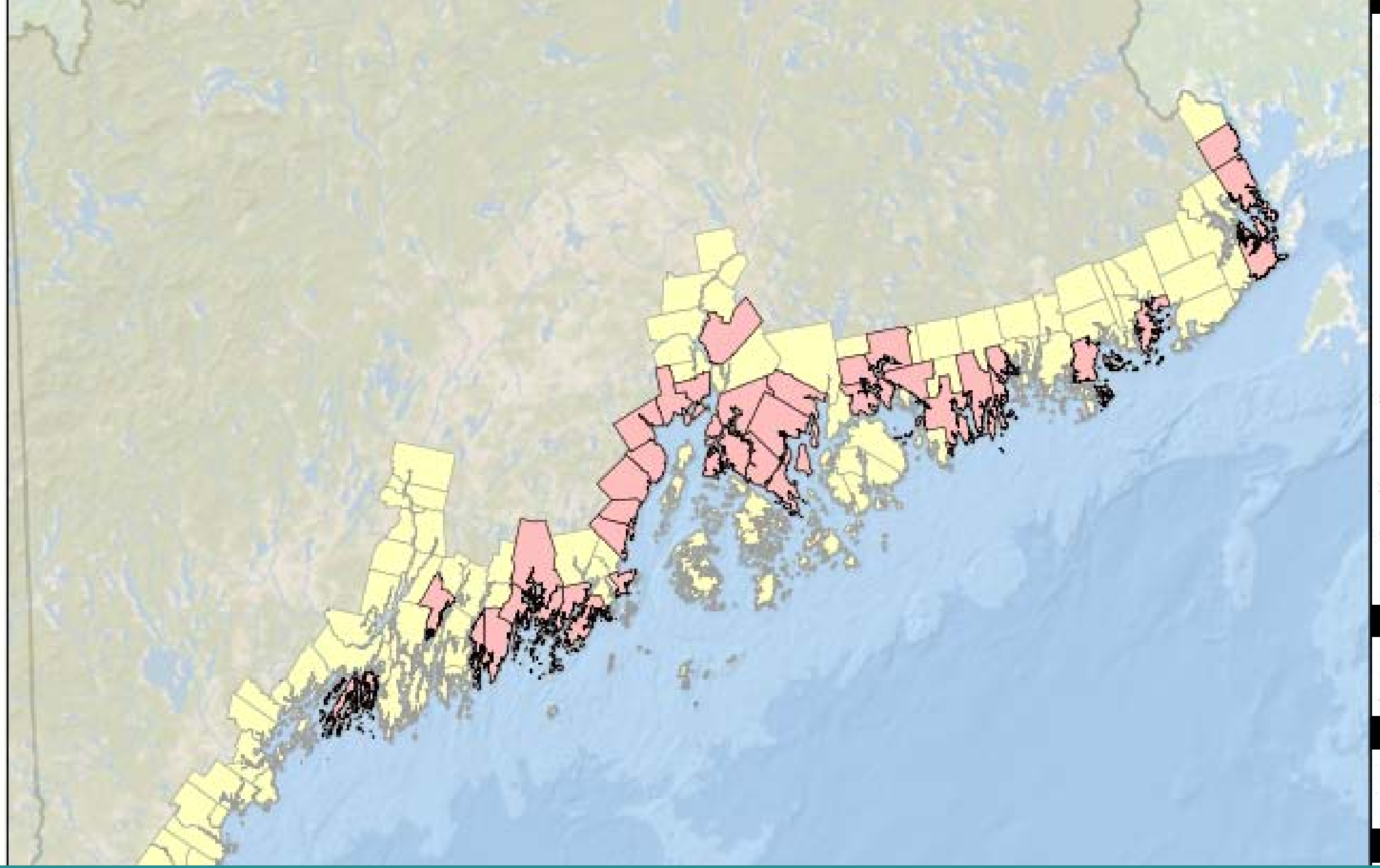
Site Selection

Methods

- Geospatial Analysis
- State Online Databases
- Real Estate Searches
- Field Visits

Criteria

- Clean, cold fresh and seawater
- Nearby access to 3-phase power
- Attractive community for employees
- Suitable size lot available
- Geotechnically suitable soils for building
- Centrally located to product market, vendors, and suppliers.



Legend & Notes

Towns Containing Potential Sites

Coastal Towns of Maine

Notes

1. Map data based on ESRI World Ocean Basemap and Maine Coastal Atlas.
2. Some features are approximate in location and scale
3. This plan has been prepared for Nordic Aquafarms, Inc. All other uses are not authorized unless written permission is obtained from Ransom Consulting, Inc.

Scale & Orientation

0 90,000 180,000

1 inch = 180,000 feet

Prepared For

Nordic Aquafarms, Inc.
159 High Street
Belfast, Maine

Site Address

Site Selection –

Belfast location can provide:

- Clean fresh water
- Clean, cold, seawater
- Ready access to product market, vendors, and suppliers
- Access to 3-phase power
- A desirable place for employees to live and work
- Suitable geotechnical conditions for development

MEETS THE PROJECT PURPOSE

Site Layout

- **Option 1** – Six Modules, 39 Acres
- **Option 2** – Three Modules, 39 Acres
- **Option 3** – Six Modules, 54 Acres
- **Option 4** – Five Modules, 54 Acres
- **Option 5** – No Action

Site Selection

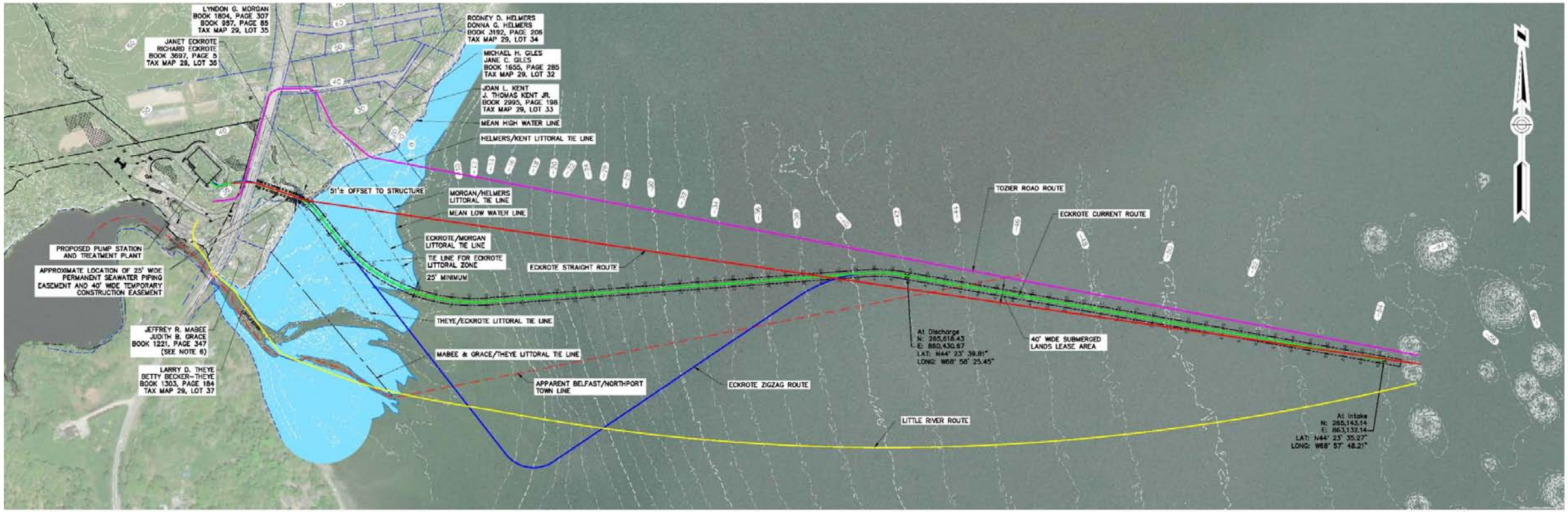
- 6 Module Design on 54 Acres
  - Meets project purpose
  - Meets siting requirements
  - Reduces impacts to site natural resources and preserves eastern stream
  - Maximizes buffer to Little River Trail
  - Process piping and other site engineering components fit within buffers
  - 3 + 1 modular design offsets costs of needed infrastructure

6 Module Design is Preferred Alternative

Site Layout

- **Option 1** – Direct from the site property
- **Option 2** – Southern
- **Option 3** – Straight
- **Option 4** – Off Tozier Road
- **Option 5** – Curved
- **Option 6** – No Action

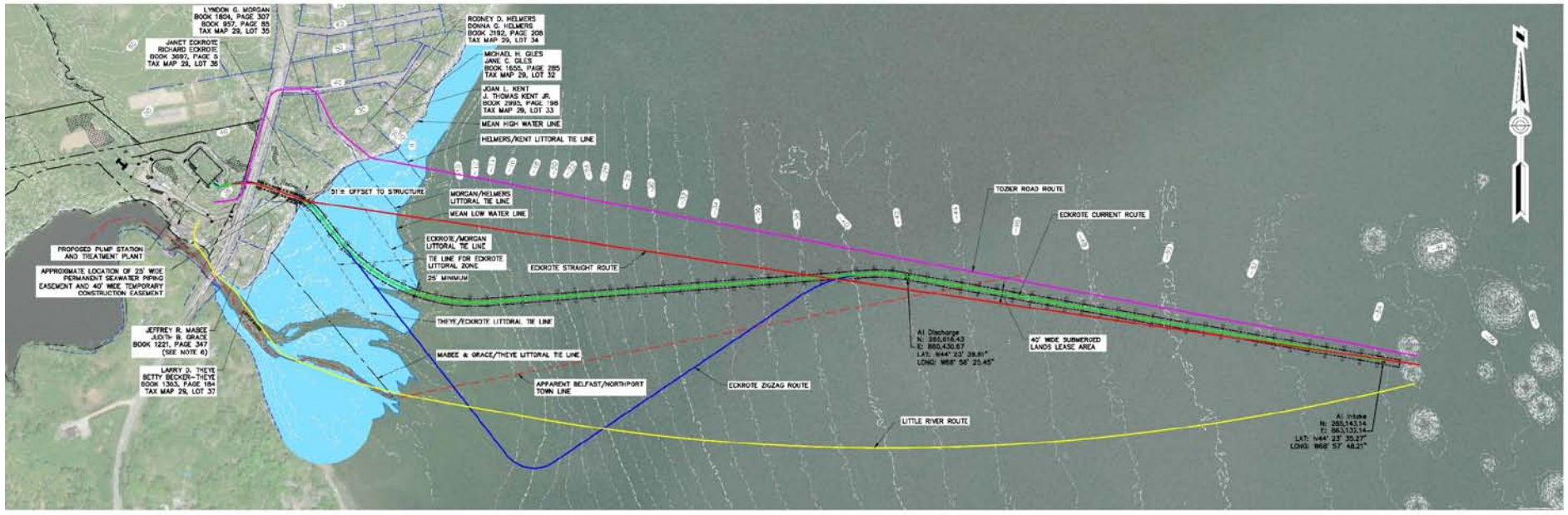
Pipe route options considered



Pipeline options considered

Option 1: Straight from the Property

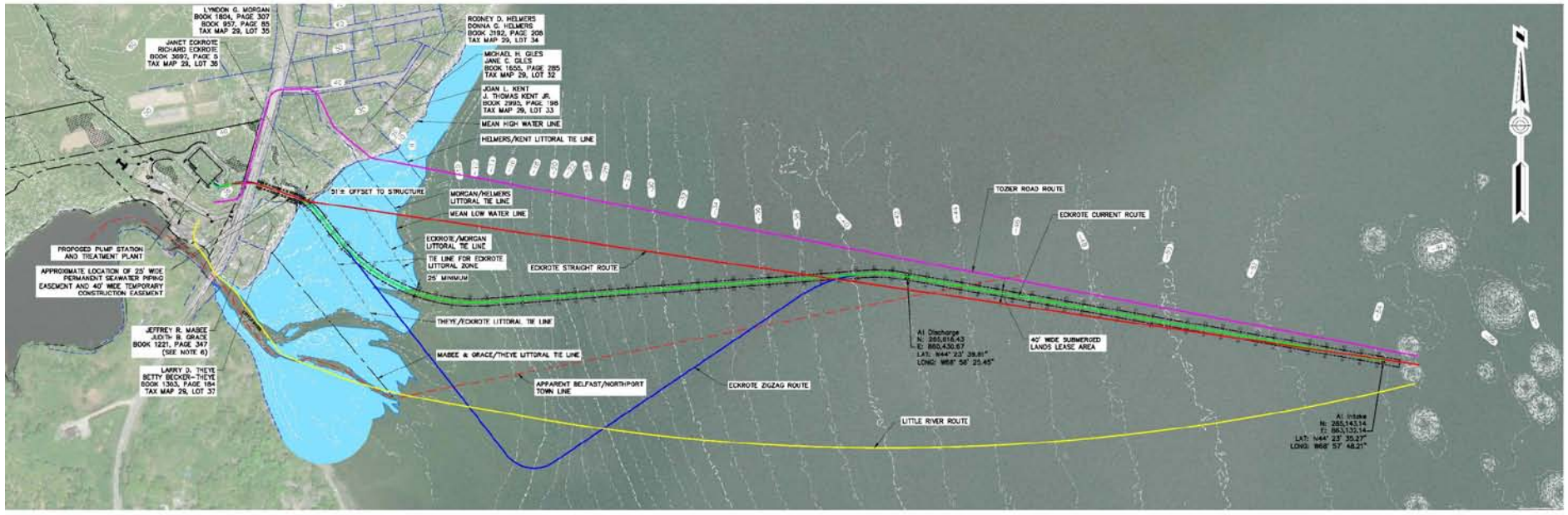
- Longest Route with largest ecological impacts
- Right, Title and Interest difficult in intertidal area
- Engineering feasibility and operations also difficult
- Most expensive



Pipeline options considered

Option 2: Southern Route

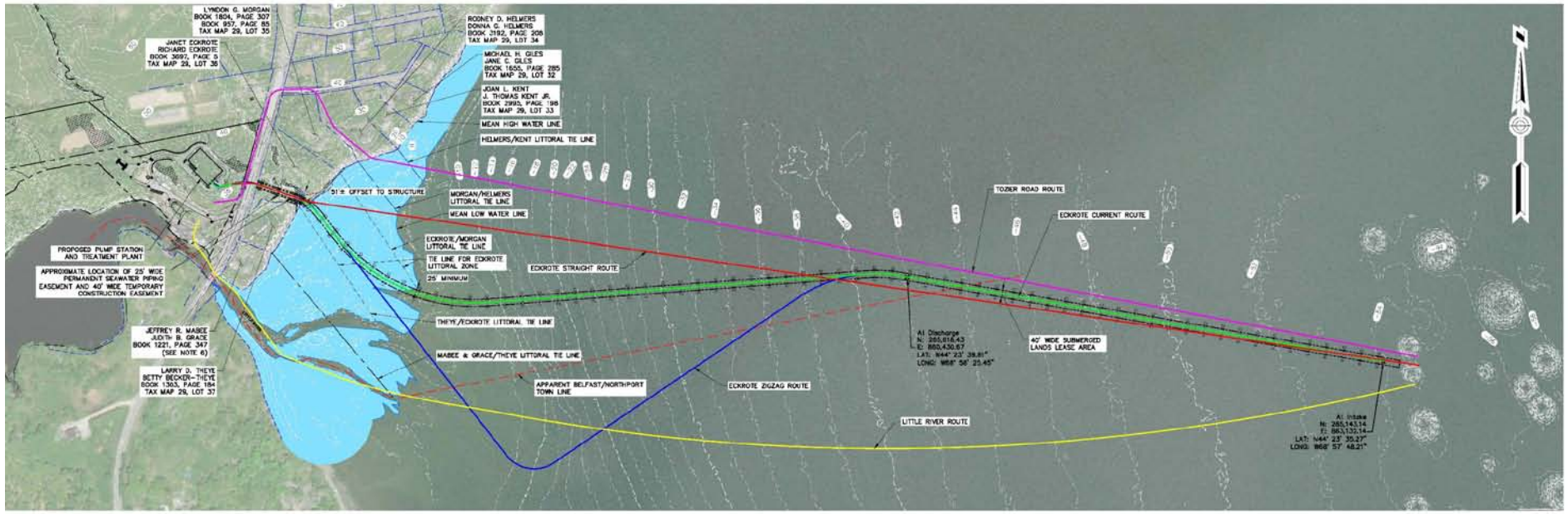
- Still a long route with significant ecological impacts
- Right, Title and Interest obtained
- Engineering and operations feasibility very difficult due to bends in pipeline
- Still costly



Pipeline options considered

Option 3: Straight Route

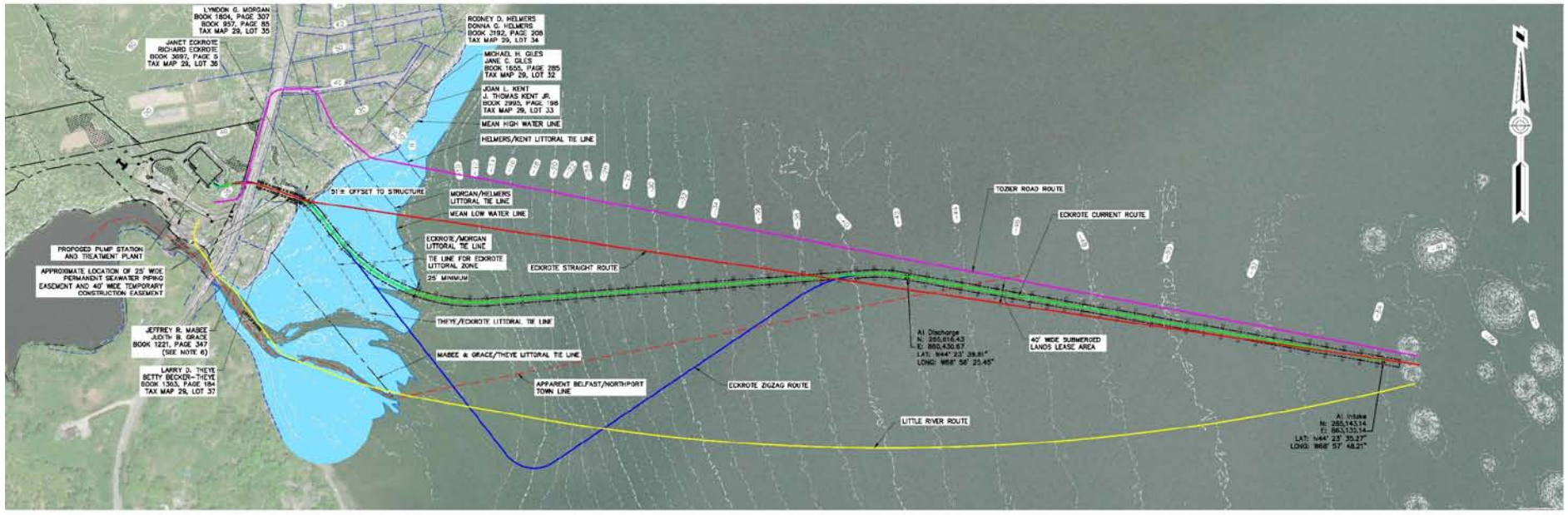
- Ecologically most favorable, shortest route has fewest potential impacts
- Couldn't obtain right, title and interest to intertidal
- Engineering and operation is straightforward
- Least costly



Pipeline options considered

Option 4: Tozier Road Route

- Ecologically very favorable, in deep water quickly
- Couldn't obtain right, title and interest
- Engineering and operation is feasible, but requires longer lift to height of land
- Pump station needed in residentially zoned neighborhood
- Moderate costs due to long pipeline route on land

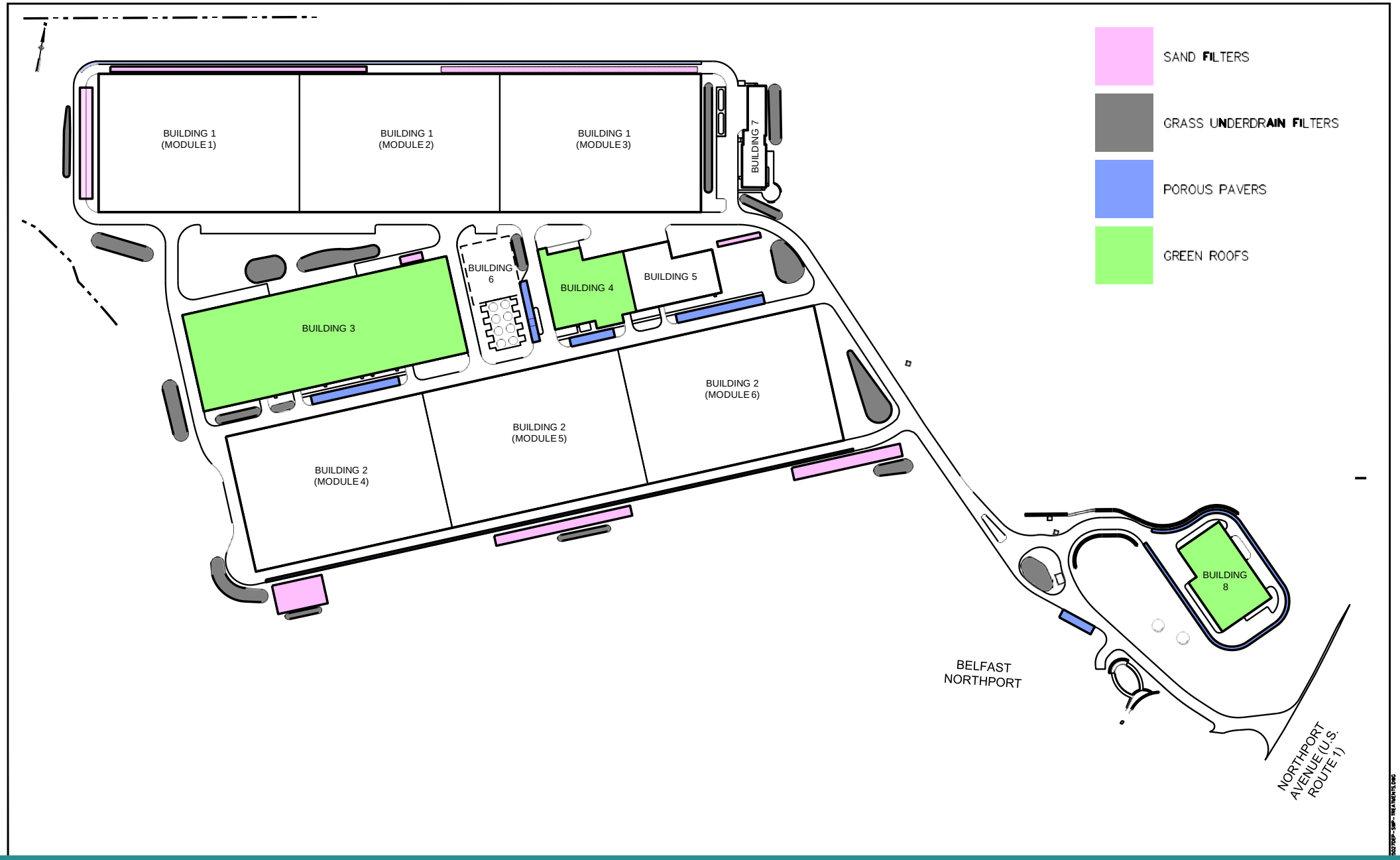


Pipeline

Option 5 – Curved Route

- Lower ecological impact in intertidal and subtidal
- Right, Title and Interest obtained
- Engineering is straightforward
- Construction timeline is minimized
- Reasonable cost
- Helps to meet the project purpose

Option 5 is the Preferred Alternative


SAND FILTERS
GRASS UNDERDRAIN FILTERS
POROUS PAVERS
GREEN ROOFS
BUILDING 1 (MODULE 1)
BUILDING 1 (MODULE 2)
BUILDING 1 (MODULE 3)
BUILDING 7
BUILDING 6
BUILDING 4
BUILDING 5
BUILDING 3
BUILDING 2 (MODULE 6)
BUILDING 2 (MODULE 5)
BUILDING 2 (MODULE 4)
BUILDING 8
BELFAST NORTHPORT
NORTHPORT AVENUE (U.S. ROUTE 1)

- Sand Filters
- Grass Underdrain Filters
- Green Roofs
- Pervious Pavers

Stormwater

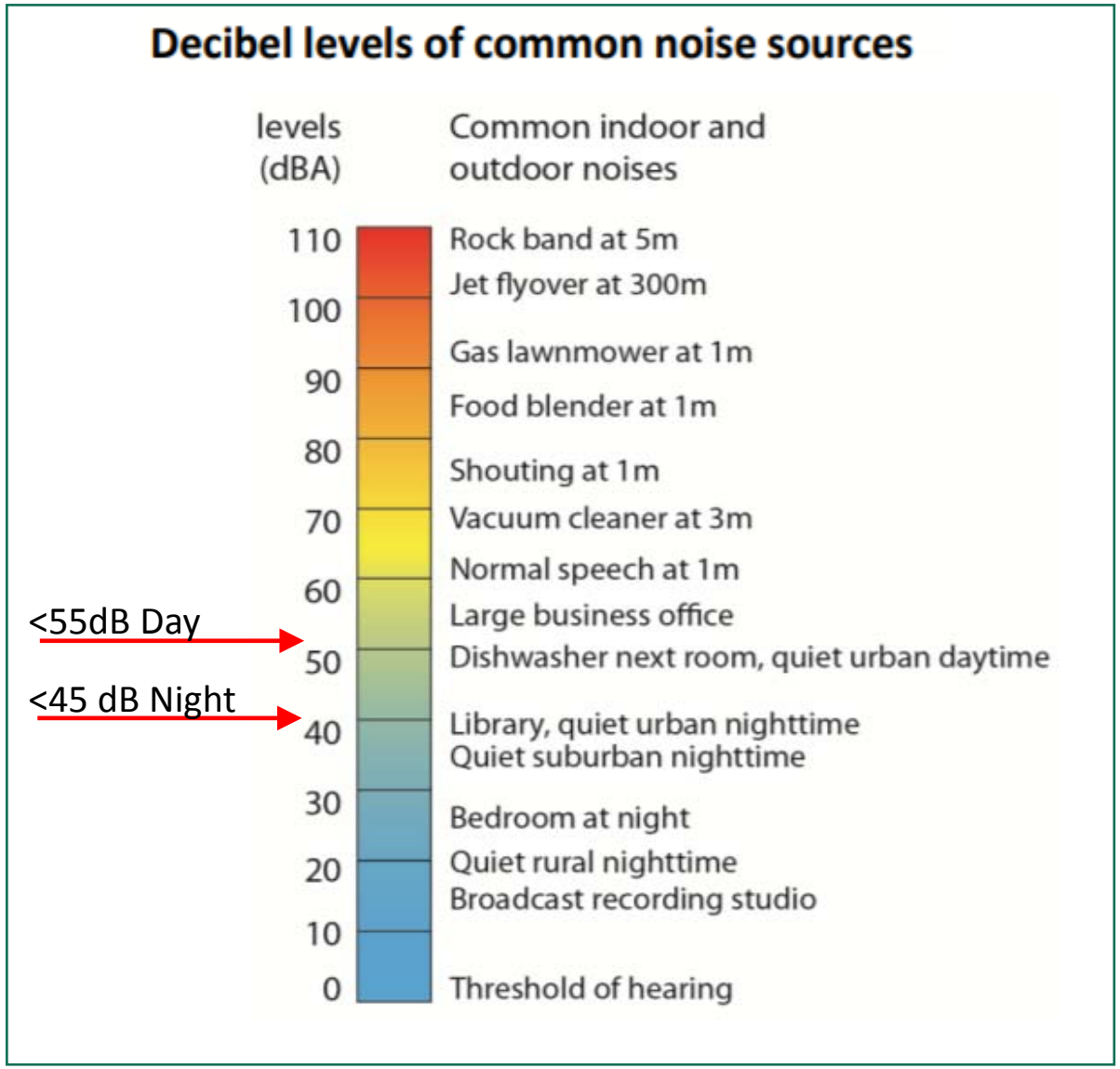
- 95.5% (95% is requirement) treatment of runoff from new impervious surfaces
- 86% (80% is requirement) treatment of all developed areas
- Proposed treatment of stormwater meets Maine DEP's Stormwater Management Design Manual and Chapter 500 of Maine Regulations for stormwater.

Agenda

- Construction sequencing
- Visual Impacts
- Alternatives Analysis
- Stormwater
- **Noise, Odor and Air (5 minutes)**
- Water Supply
- Monitoring Plan
- Natural Resources
- Wetlands Compensation
- MEPDES
- Q&A

Noise

- Chapter 375.10 of Maine's SLODA regulations govern sound levels
- < 55 dBA during daytime, <45 dBA at night, or lower at certain protected quiet areas
- City of Belfast also has regulations to protect from excess noise
- Nordic's project will meet state and local regulations for permissible noise thresholds.



Odors

Processing byproducts have value, they will be immediately frozen / chilled and stored in insulated containers for shipping and recycling

- **Potential Sources**
  - Wastewater Treatment Plant
  - Feed
  - Fish Processing
  - Mortalities
- **Operational Control Measures**
  - Everything is Indoors
  - WWTP filtrate is dewatered and sealed in tanks until transport
  - Feed storage is indoors in enclosed silos
  - Mortalities removed from tanks, preserved, and shipped offsite.

- Best Management Practices
- Employee Training
- Staff with Decades of Industry Experience
- Trusted Local Partners to Efficiently Remove and Recycle Potential Sources of Odor

Air

- Submitting Chapter 115 Minor Source Air Emissions Application
  - Application covers
    - back-up power generation by diesel and
    - 6 million btu per hour boiler
  - Each piece of equipment will meet best available control technologies as specified by state of Maine regulations including particulate control measures.

Agenda

- Construction sequencing
- Visual Impacts
- Alternatives Analysis
- Stormwater
- Noise, Odor and Air
- **Water Supply (20 minutes)**
- Monitoring Plan
- Natural Resources
- Wetlands Compensation
- MEPDES
- Q&A

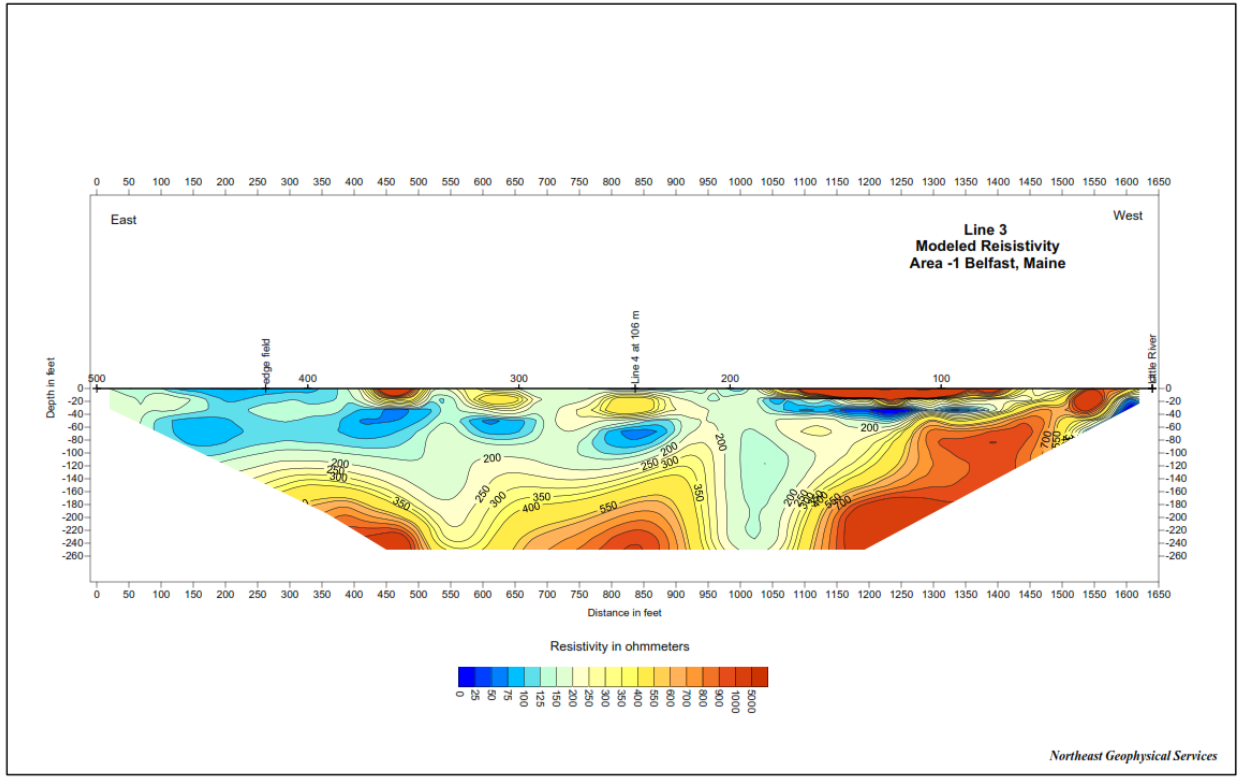
Water Supply Investigation

- What are the sources of available water?
  - Significant Groundwater Wells
  - Belfast Water District Customer
  - Back-up source- Surface Water Withdrawal
- Can these water resources be used sustainably?
- How can we study the water resources today?
- What does Nordic do to demonstrate future use causes no harm?

Understanding the Aquifer

A comprehensive investigation was completed, including:

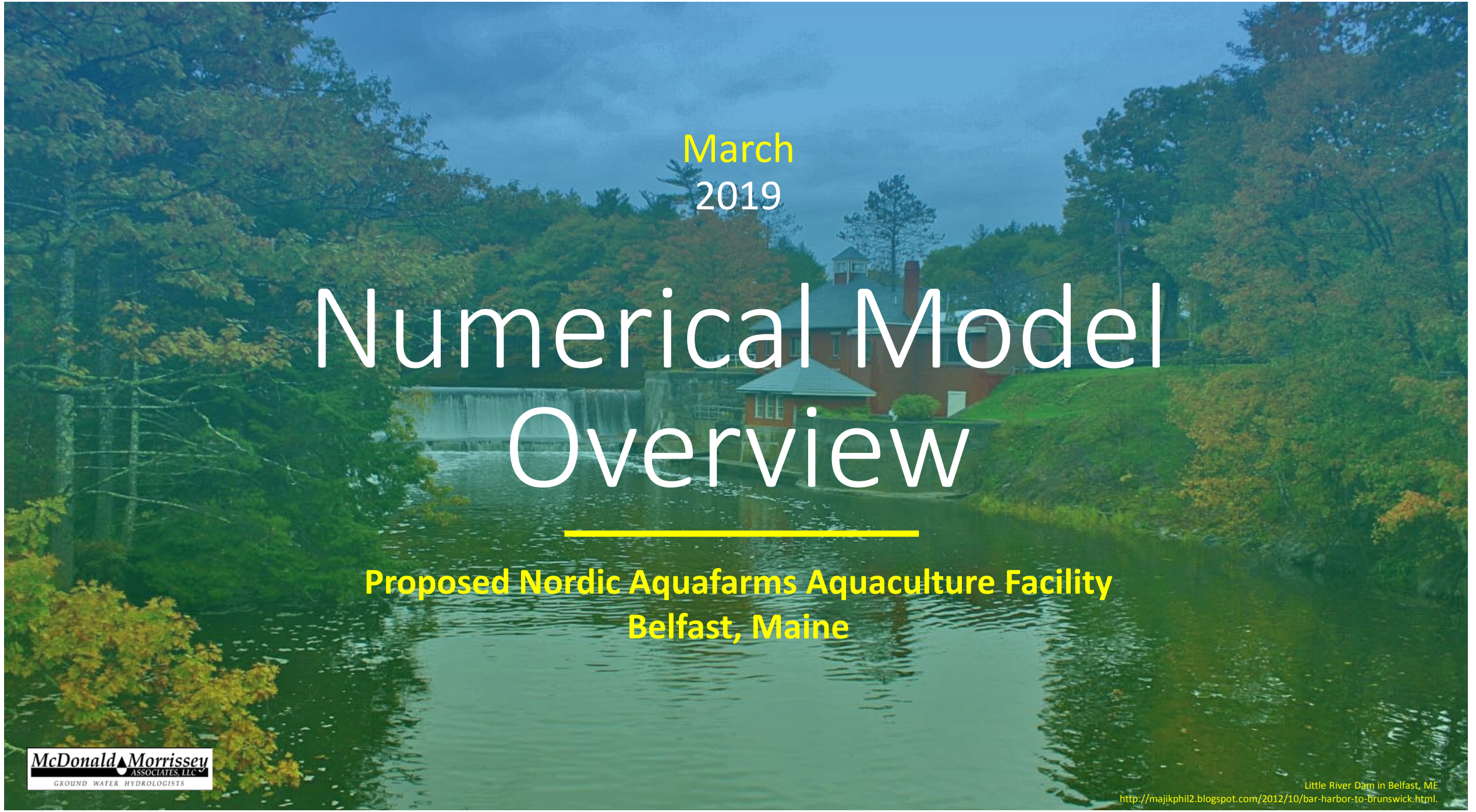
- Exploration
- Geophysical Survey



Understanding the Aquifer

- A comprehensive investigation was completed, including:
  - Exploration
    - Geophysical Survey
    - Drilling
  - Characterization
    - Four Pumping Tests
    - Over 20 Monitoring Points

All of this information was used to form the Conceptual Site Model and the set up the Groundwater Model



March
2019

Numerical Model Overview

Proposed Nordic Aquafarms Aquaculture Facility
Belfast, Maine

McDonald Morrissey ASSOCIATES, LLC
GROUND WATER HYDROLOGISTS

Little River Dam in Belfast, ME
http://majikphil2.blogspot.com/2012/10/bar-harbor-to-brunswick.html.

Executive Summary

- Significant volume of information and data gathered during hydrogeologic investigation
- Mathematical model developed to support estimates of aquifer responses to proposed withdrawals
- Model results indicate proposed withdrawals not anticipated to influence current use of domestic wells in neighboring areas
- Going forward – data gathering to establish baselines and monitor private supply well conditions

McDonald Morrissey ASSOCIATES, LLC
GROUND WATER HYDROLOGISTS

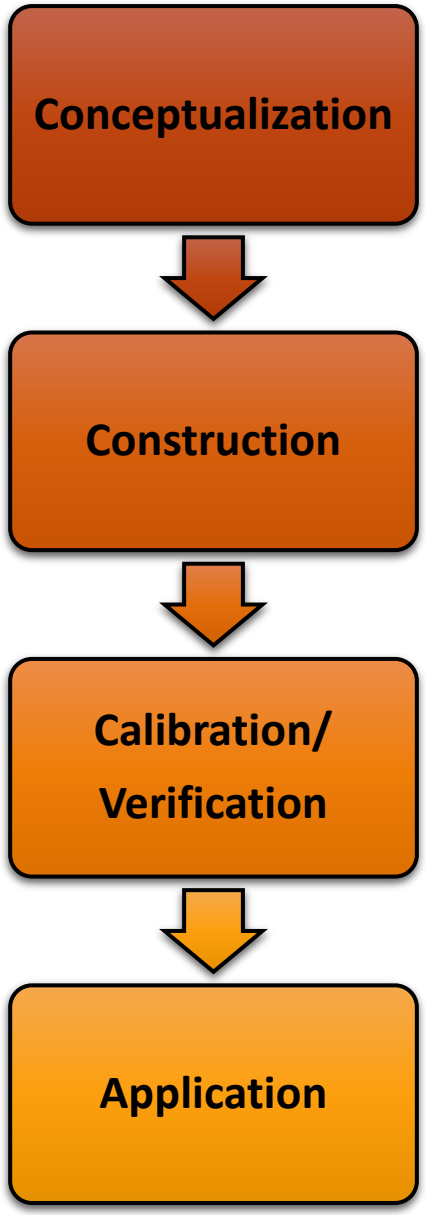
Modeling Objectives & Approach

1. Construct a groundwater flow model for the bedrock aquifer occurring in the Site vicinity based on available data and information; and

2. With support from the model, assess potential long-term viability of proposed withdrawal rates based on drawdown effects occurring away from the proposed well network.

Common modeling code applied (MODFLOW-USG)

Common modeling approach applied to address these objectives

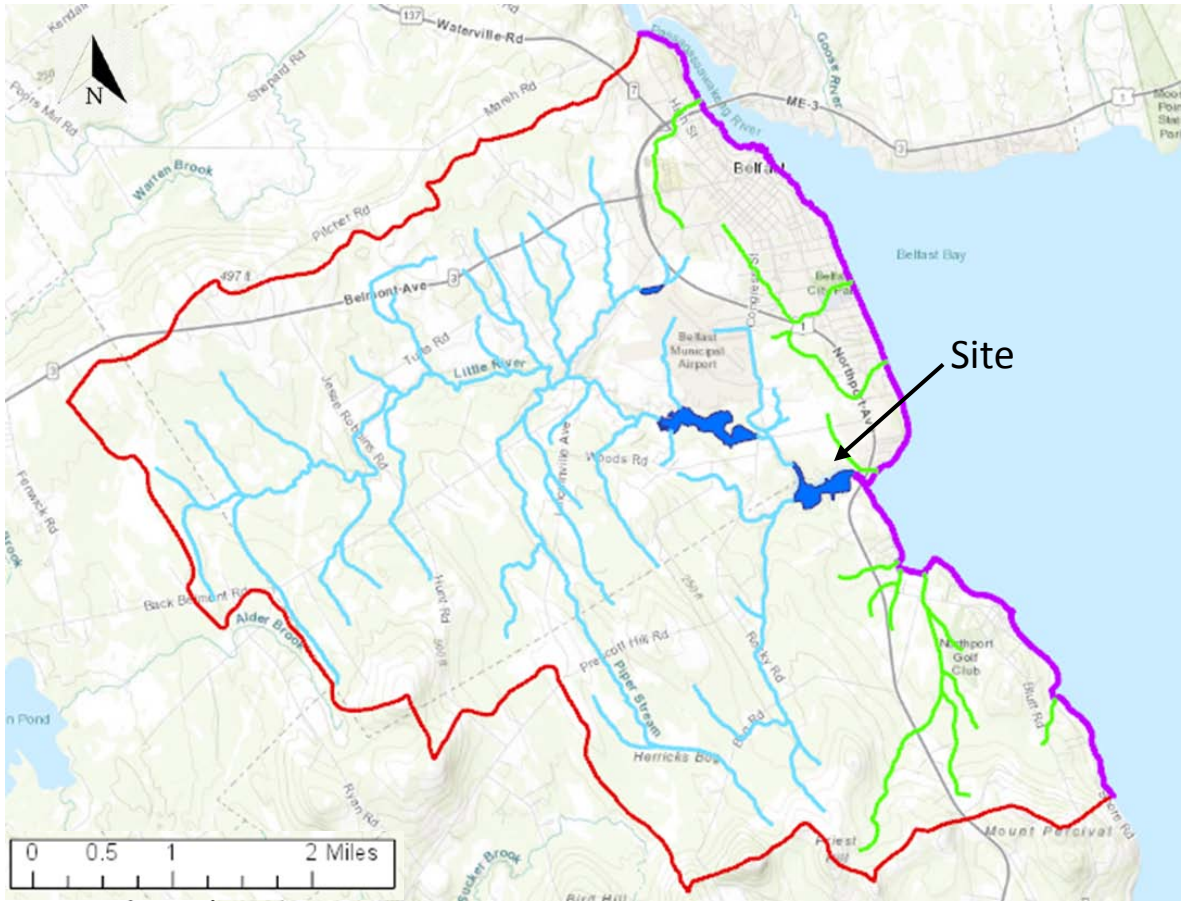


McDonald Morrissey ASSOCIATES, LLC
GROUND WATER HYDROLOGISTS

Conceptual Model

Key Components

- Perimeter boundaries
- Interior “sources and sinks”
- Recharge
- Proposed withdrawals
- Aquifer properties (e.g., storage)

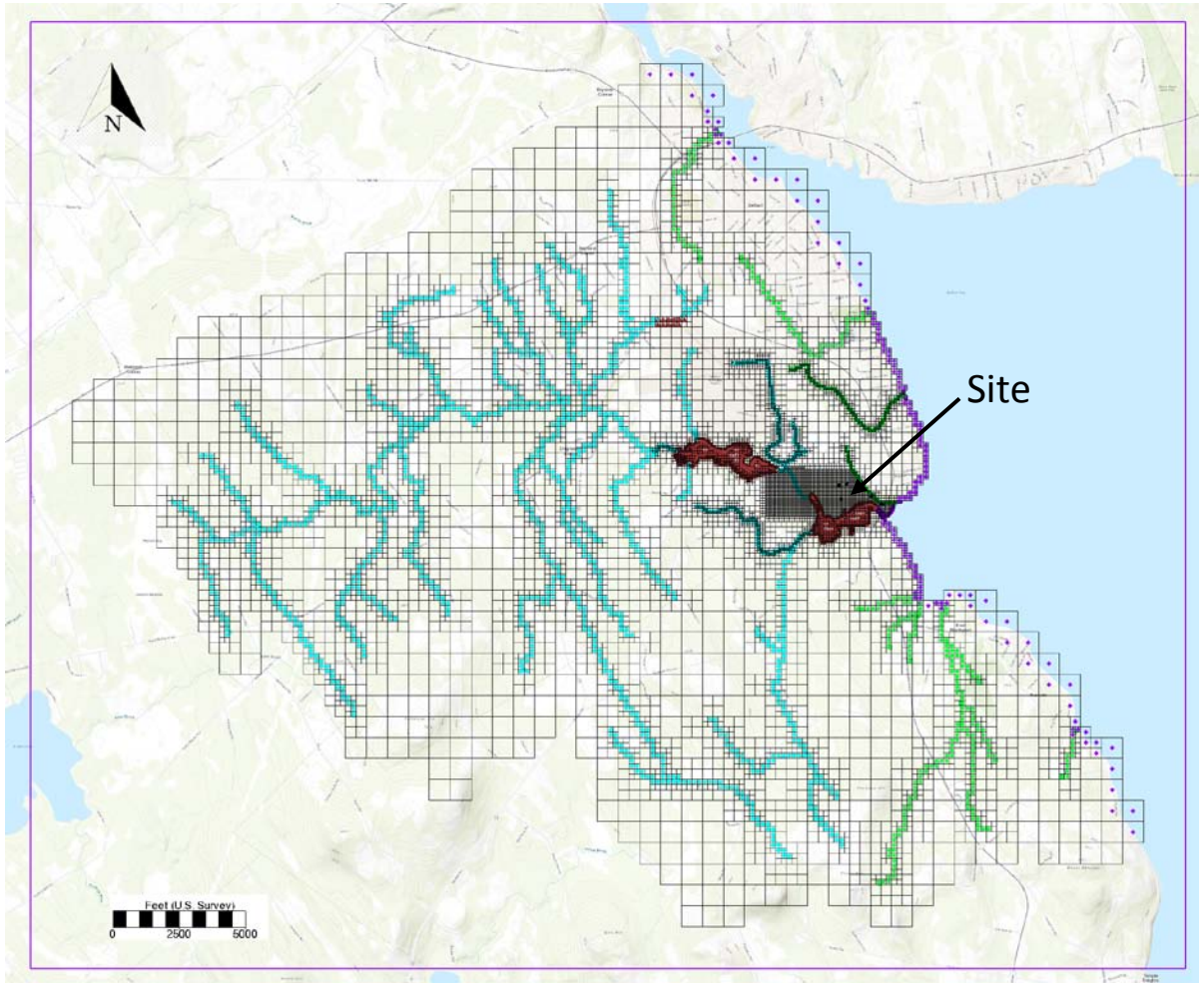


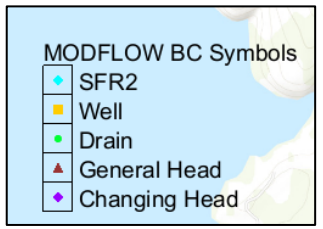
Total area = 23.2 square miles

Model Construction

Model Representation

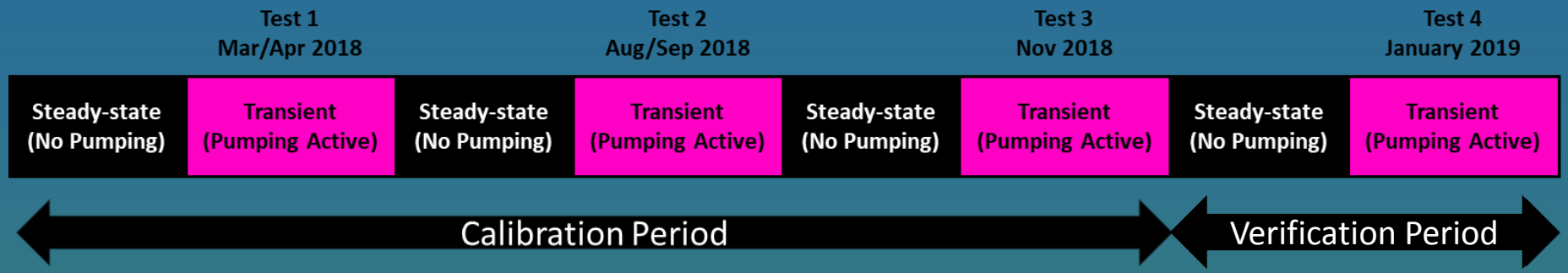
- Drainage area limits;
- Belfast Bay;
- Little River and streams;
- Reservoirs/ponds;
- Recharge; and
- Proposed withdrawals (pumping)





McDonald Morrissey ASSOCIATES, LLC
GROUND WATER HYDROLOGISTS

Model Calibration and Verification



Approach Overview:

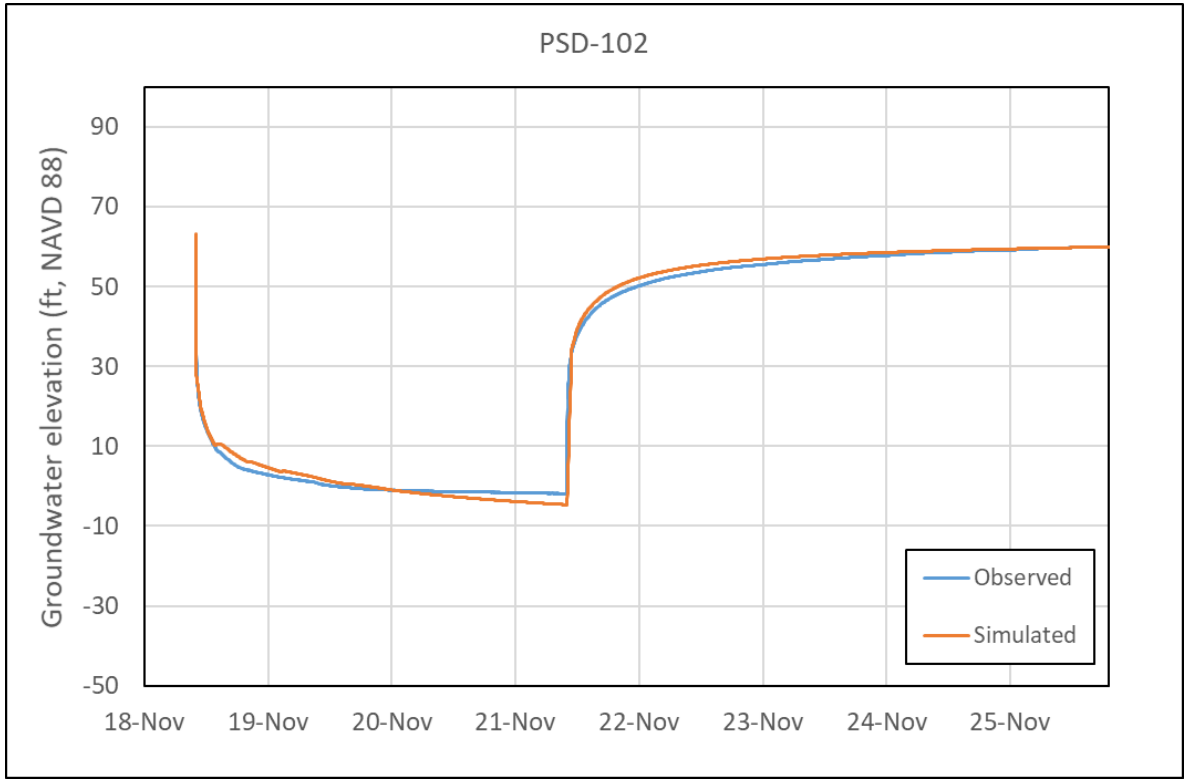
- Manual approach supplemented by automated parameter estimation
- Several hydraulic parameters considered during calibration
- Robust “target” data sets (~200,000 individual data points)

McDonald Morrissey ASSOCIATES, LLC
GROUND WATER HYDROLOGISTS

Model Calibration and Verification

Summary of Results

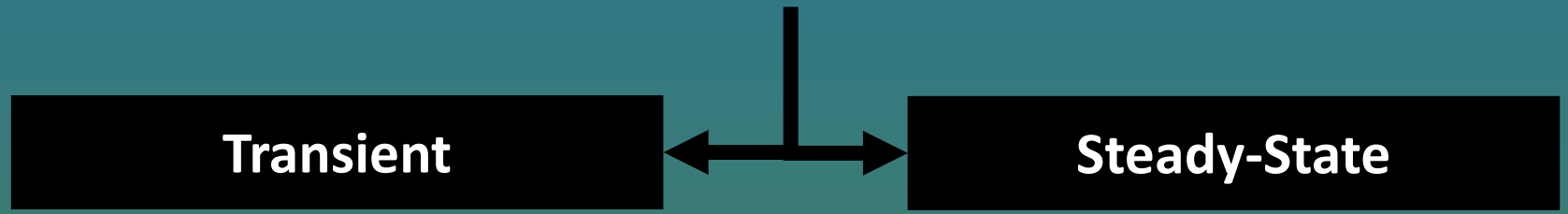
1. Hydraulic heads (water levels)
2. Flow rates
3. Verification – similar consistency



McDonald Morrissey ASSOCIATES, LLC
GROUND WATER HYDROLOGISTS

Model Application Approach

Pumping "Scenario" of 455 gallons per minute (gpm)

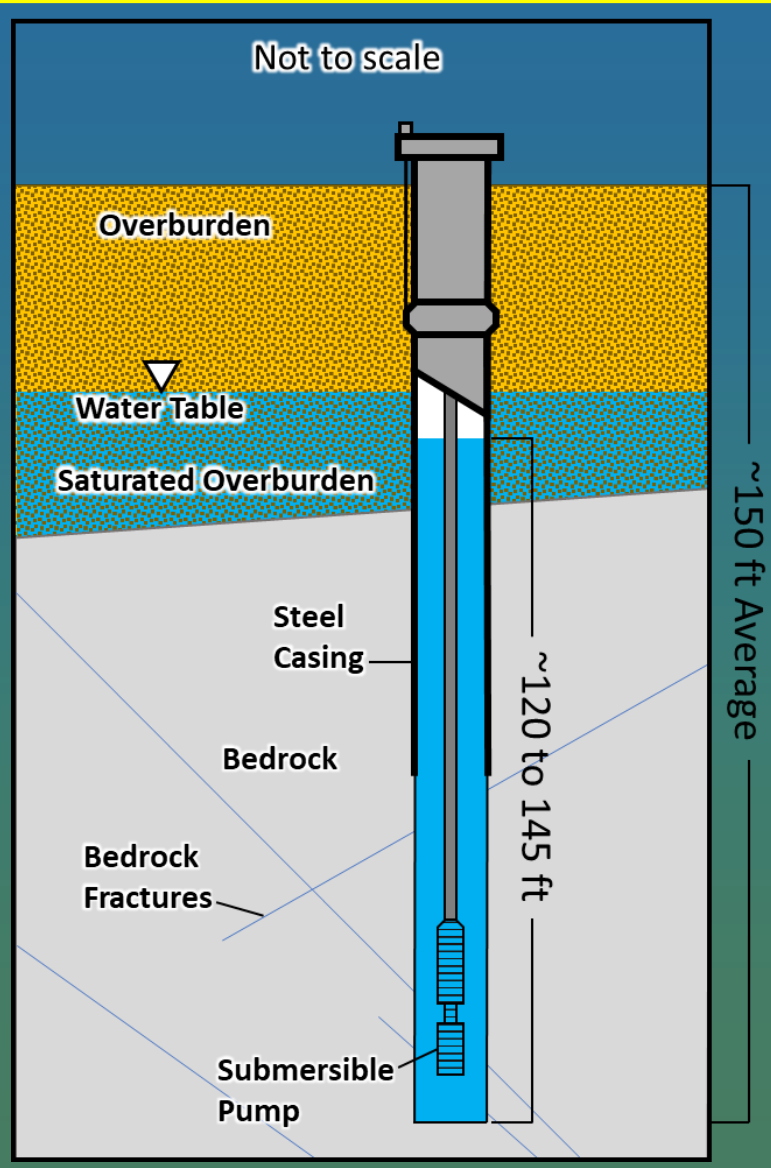


- **Time-varying condition**
- **Estimates rates of change**

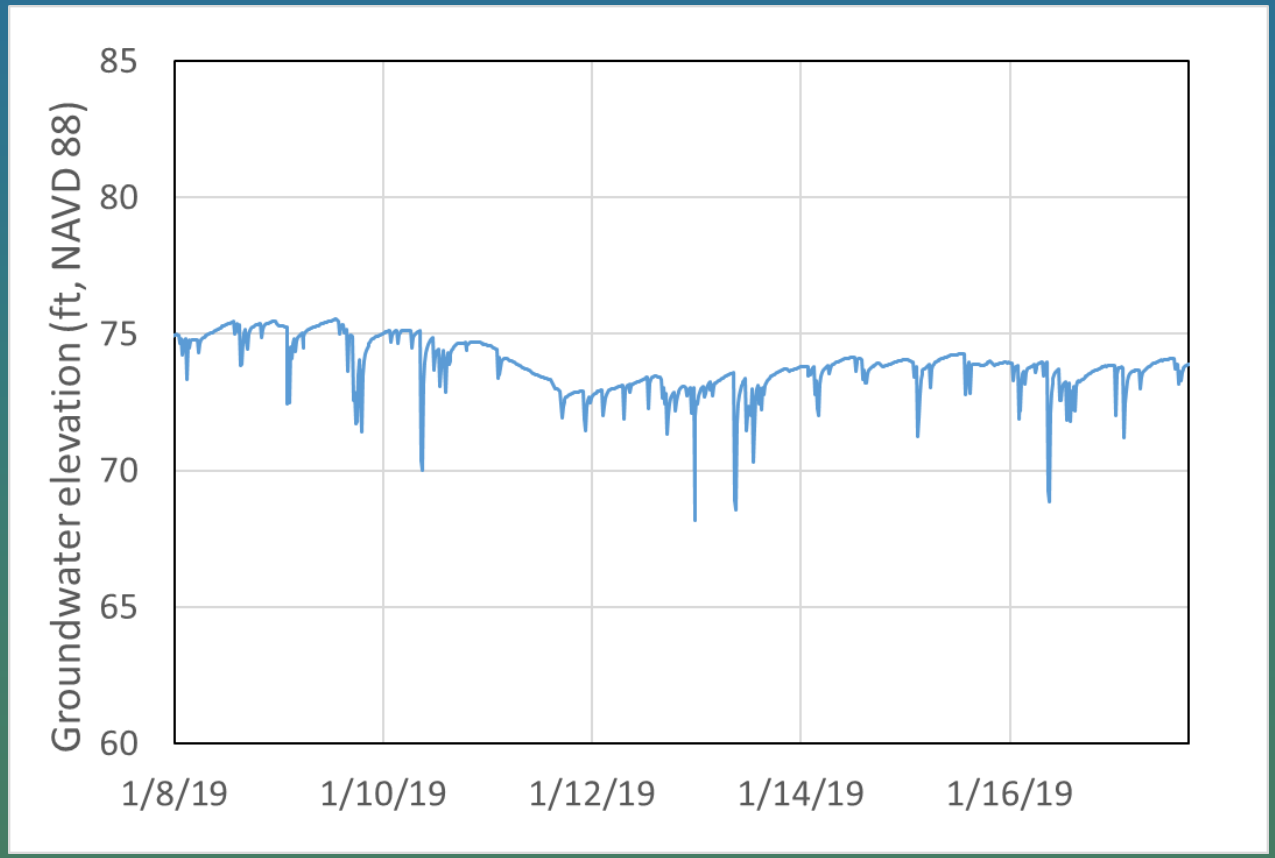
- **Unvarying condition**
- **Estimates maximum change**

McDonald Morrissey ASSOCIATES, LLC
GROUND WATER HYDROLOGISTS

Model Results



Typical Domestic Supply Well Fluctuations



McDonald Morrissey Associates, LLC
GROUND WATER HYDROLOGISTS

Summary

- A mathematical model of groundwater flow in the Site vicinity was created using common techniques and a significant amount of field data.
- Calibration and verification results suggest the model is a reasonable representation of hydraulic responses to Site withdrawals.
- Model results indicate a proposed withdrawal scenario of 455 gpm is not anticipated to influence current use of domestic wells.
- Data gathering to establish thresholds and monitor private supply well conditions

Agenda

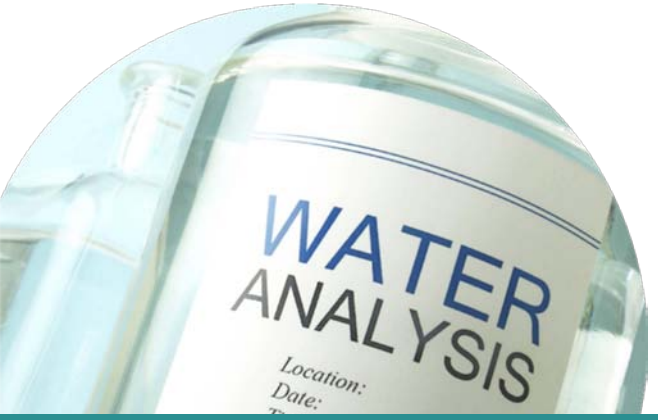
- Construction sequencing
- Visual Impacts
- Alternatives Analysis
- Stormwater
- Noise, Odor and Air
- Water Supply
- **Monitoring Plan (10 minutes)**
- Natural Resources
- Wetlands Compensation
- MEPDES
- Q&A

Sensitive Receptors

- Private Water Supply Wells
- Wetlands
- Streams
- Lower Reservoir & Little River

Monitoring Points

- Production Wells
- Bedrock Monitoring Wells
- Private Water Supply Wells
- Piezometers
- Overburden Monitoring Wells
- Surface Water Stages
- Biomonitoring
- Precipitation



Monitoring Parameters

- Water Levels
- Conductivity
- Nitrogen & Phosphorus
- Drinking Water Quality
  - Bacteria, nitrate, nitrite, fluoride, copper, iron, manganese, arsenic, hardness, pH, total dissolved solids
- Vegetation
- Aquatic Macroinvertebrates
- Precipitation

Monitoring Methodology

- Data Evaluation
- Performance Criteria
- Threshold Levels
- Action Plan

Agenda

- Construction sequencing
- Visual Impacts
- Alternatives Analysis
- Stormwater
- Noise, Odor and Air
- Water Supply
- Monitoring Plan
- **Natural Resources (15 minutes)**
- Wetlands Compensation
- MEPDES
- Q&A

Wetlands

- Review of wetlands on site were conducted during May, July, and August 2018
- Wetland boundaries were delineated according to the applicable U.S. Army Corps of Engineers Wetland Delineation Manuals
- Wetland identification and determination of their jurisdictional limits was completed using a three parameter approach

Vernal Pools

- The vernal pool survey was completed using the Maine Department of Inland Fisheries and Wildlife (IF&W) guidelines

- Review of the project area for vernal pools took place on May 3 and 4 with a return visit on May 18

- No vernal pools were found on the project site

Streams

- Review of drainages on site were conducted on May 3 and 4, July 24, and August 27 and 28, 2018 and February 28, 2019 to observe flows to aid in the determination of NRPA jurisdiction

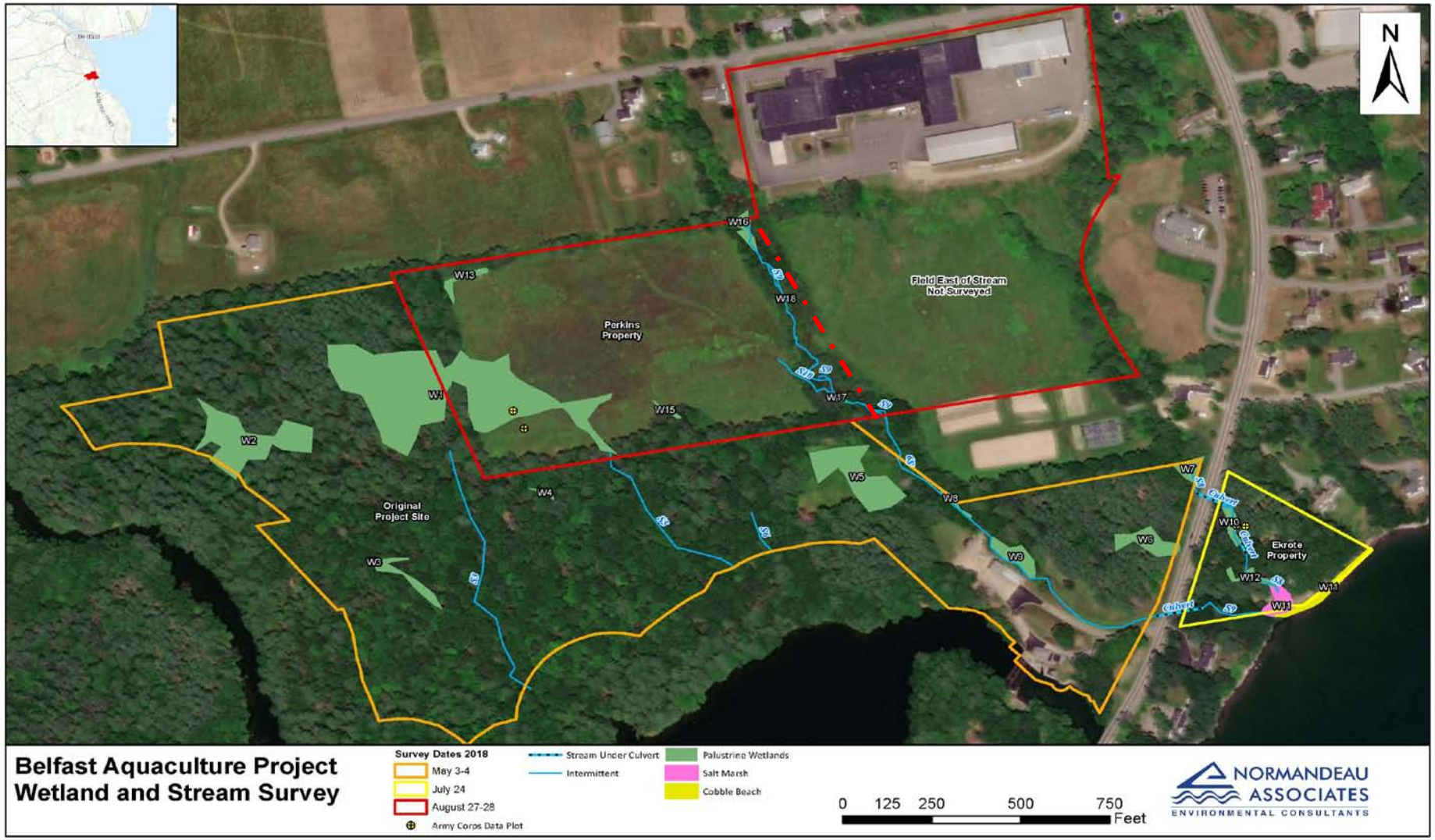
- NRPA Jurisdiction was determined based on the criteria outlined in "*NRPA Identification Guide for Rivers, Streams and Brooks*"

Jurisdictional Stream

Has a defined channel and 2 or more of the following characteristics:

A. It is depicted as a solid or broken blue line on the most recent edition of the U.S. Geological Survey topographic map;
B. It contains or is known to contain flowing water continuously for a period of at least 6 months of the year in most years;
C. The channel bed is primarily composed of mineral material;
D. The channel contains aquatic animals such as fish, aquatic insects or mollusks in the water or, if no surface water is present, within the stream bed;
E. The channel contains aquatic vegetation and is essentially devoid of upland vegetation.

Wetlands and Streams



Agenda

- Construction sequencing
- Visual Impacts
- Alternatives Analysis
- Stormwater
- Noise, Odor and Air
- Water Supply
- Monitoring Plan
- Natural Resources
- **Wetlands Compensation (5 minutes)**
- MEPDES
- Q&A

Mitigation Proposal

If approved by ME DEP and City of Belfast:

- Culvert upgrade to enhance aquatic passage
- Riparian buffers of approximately 4.8 acres and restoration of approximately 1 acre
- 80 Acre upper reservoir Land Conservation
- Participation in the State and Federal In-Lieu Fee Programs

Culvert Upgrade to Enhance Aquatic Passage

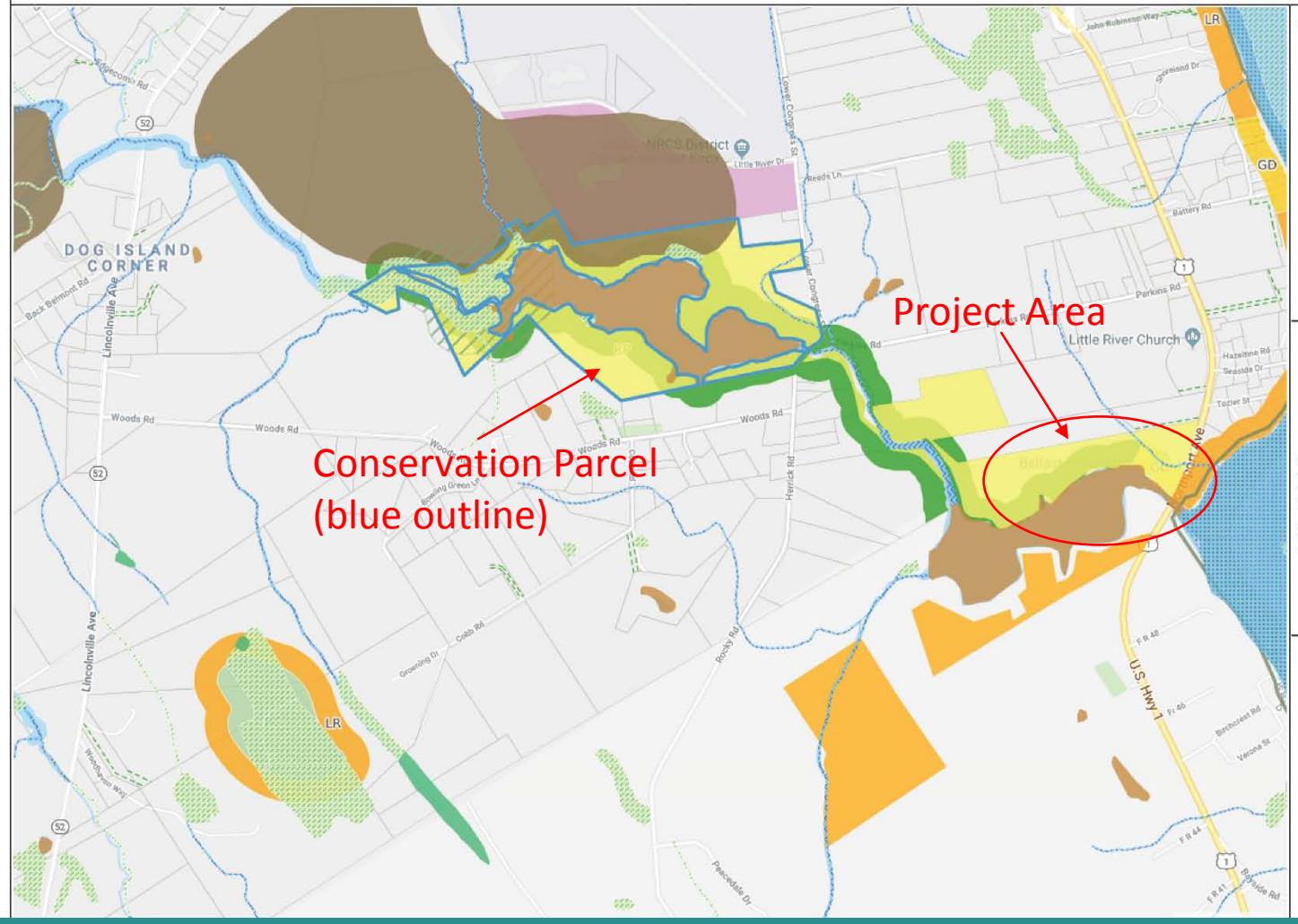
Existing condition – to be improved

Riparian Buffers and Restoration

Land Conservation

City of Belfast, ME

February 5, 2019



Property Information
Property ID 004-022
Location
Owner BELFAST WATER DISTRICT

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Belfast, ME makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated January 2016
Data updated September 11, 2018

Map Theme Legends

Shoreland Zoning

250' RESOURCE PROTECTION

Land Conservation

Other

Private

Natural Resource Protection

Deer Wintering Area

Significant Wildlife Habitat - Inland Waterfowl/Wading Bird Habitat

Agenda

- Construction sequencing
- Visual Impacts
- Alternatives Analysis
- Stormwater
- Noise, Odor and Air
- Water Supply
- Monitoring Plan
- Natural Resources
- Wetlands Compensation
- MEPDES (5 minutes)
- Q&A

What is the MEPDES Permit For?

In Maine, the state administers the discharge permits, and the Maine DEP reviews the permit applications.

- Proven wastewater treatment technologies.
- Discharge meets or exceeds all applicable water quality standards.
- Discharge will be monitored to ensure compliance.
- Submitted for 3rd party peer reviews.

Agenda

- Construction sequencing
- Visual Impacts
- Alternatives Analysis
- Stormwater
- Noise, Odor and Air
- Water Supply
- Monitoring Plan
- Natural Resources
- Wetlands Compensation
- MEPDES
- Q&A (1 hour)

Questions?

- Space is available until 9:00.
- Please identify yourself by name and use the microphone.
- Please line up in the center aisle so that we can get to the next speaker without pauses.
- Please come to the microphone and ask your question quickly, as time is limited.
- Questions should be related to the applications that are the subject of this PIM.
- Questions may be submitted in writing during or at the conclusion of the PIM.
- Insulting or aggressive behavior will result in removal from the meeting.
- There WILL BE a public hearing in front of the Board of Environmental Protection
- AND additional public meetings when we begin the City permit application process.