



# PROJECT DRIVERS

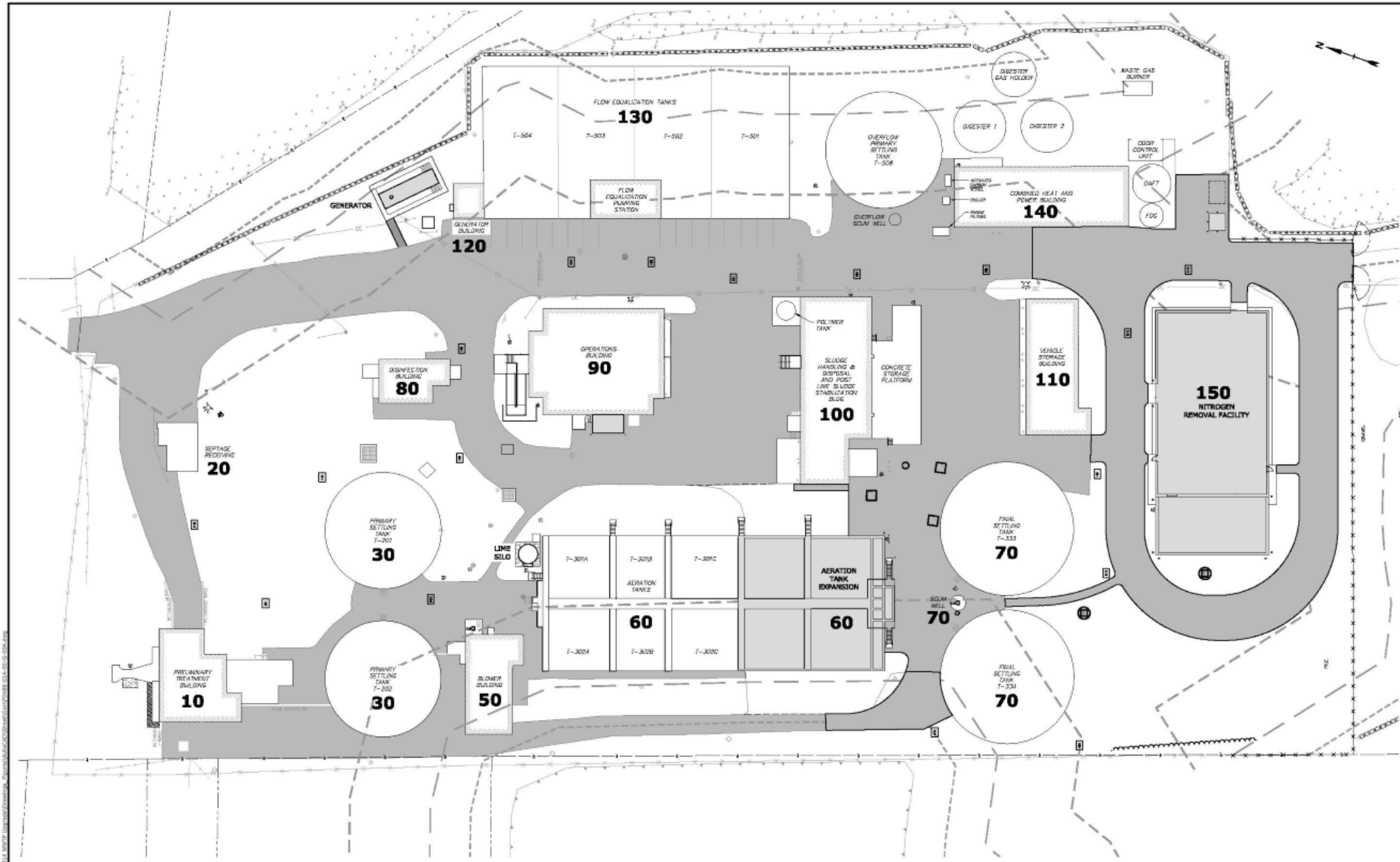
- **Discharge Permit History**
  - Draft NPDES Permit Issued 2009
  - Final Permit Issued 2017
    - Town Appealed Limit For Effluent Nitrogen
    - EPA & Town Negotiated Implementation Schedule Resulting In Consent Order In April, 2018
  - Consent Order Requires Upgrades to be Complete by December 31, 2025 & Meeting New Limits by October 1, 2026
  - Newly Issued (2023) General Permit Affirms Schedule & Limits

# PROJECT BACKGROUND

- **Existing Facility Constructed In 1969**
  - Significant Upgrades In 1986, 2009, 2017
  - Many Portions of the Facility Last Updated In 1986 & Require Upgrade
- **WPCF Utilizes Activated Sludge Process**
  - Removes Organic Loading But Not Nitrogen
- **Proposed Upgrade Expands Activated Sludge Process to Remove Nitrogen & Adds Denitrification Filter**
- **Other Upgrades Address Aging/Obsolete Infrastructure & Upgrade Effluent Disinfection**

# Fairhaven Water Pollution Control Facility Upgrade

- Consulting engineers Tighe & Bond hired to design essential upgrades to Fairhaven's Water Pollution Control Facility (WPCF).
- Project involves upgrading the WPCF to meet total nitrogen limits, improve safety for plant workers, and replace aging/obsolete infrastructure.
- Upgrading the WPCF is necessary to meet increasingly stringent total nitrogen limits to meet NPDES permit limits issued in 2017, and subsequent 2023 Authorization to Discharge under the Medium WWTF General Permit and Administrative Order (AO) from EPA dated April 23, 2018.
- Fairhaven must implement necessary facility upgrades by Dec. 31, 2025 and must be meeting the new permit removal limit by October 1, 2026.
- Fairhaven WPCF is currently configured as an activated sludge facility preceded by primary clarification and followed by ultraviolet disinfection.
- Sludge is thickened and then typically hauled off site for disposal.
- Treated effluent from the plant flows to New Bedford inner harbor Acushnet River.



**SITE KEY PLAN**  
SCALE: 1" = 30'

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**FAIRHAVEN  
WPCF  
UPGRADES**

Town of  
Fairhaven  
Department of  
Public Works

Fairhaven, MA

B	11/27/2022	NOI PERMITTING SET
A	11/14/2022	MASSDEP SUBMITTAL
REV.	DATE	DESCRIPTION
PROJECT NO:	F0488-014	
DATE:	FEBRUARY 2023	
TITLE:	FEARH-014-02-G-004.dwg	
DESIGN BY:	NIC	
DESIGNED/CHECKED BY:	SAT	
APPROVED BY:	BC	

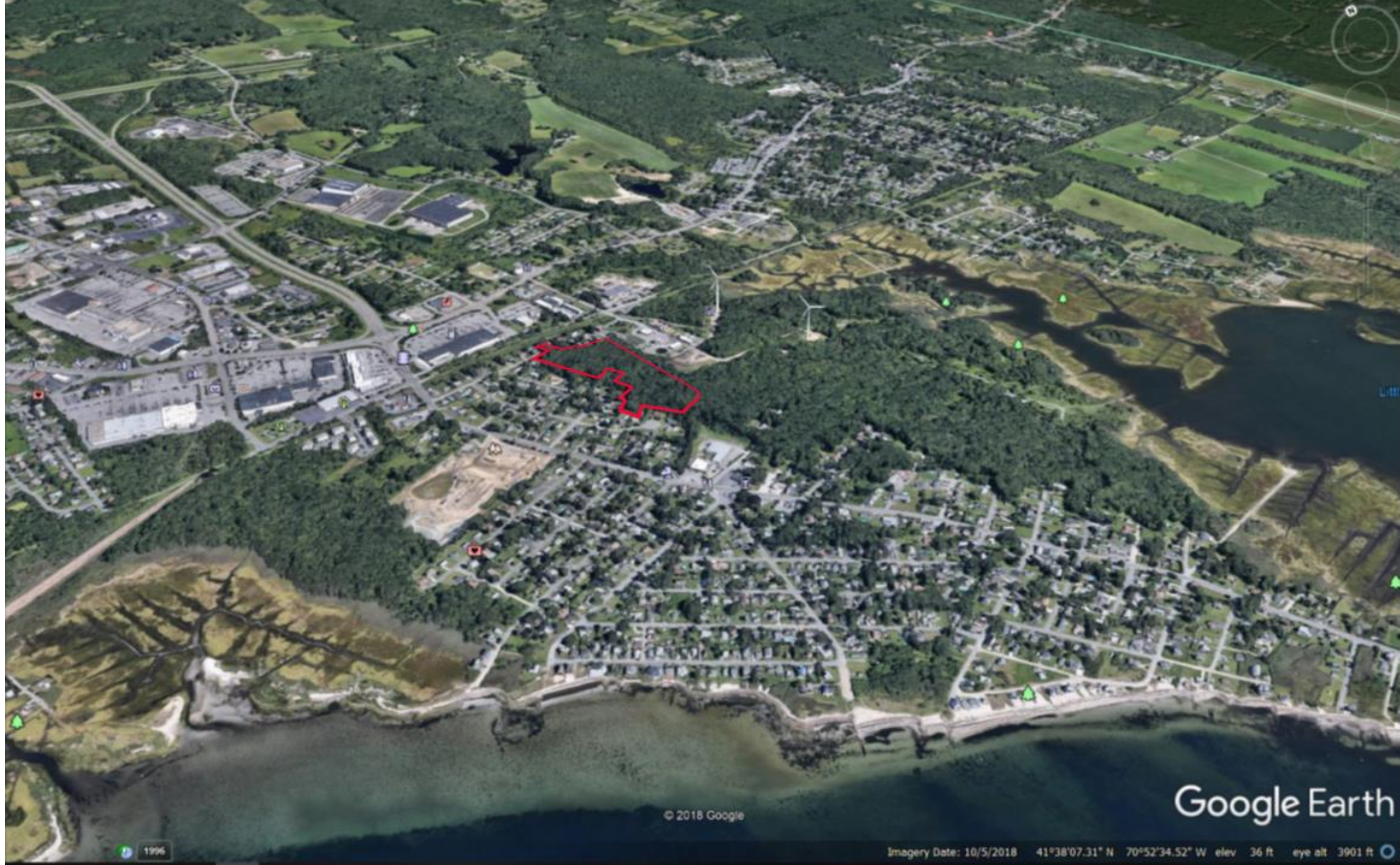
**SITE OVERVIEW  
KEY PLAN**

SCALE: 1" = 30'

**00-G-004**  
SHEET # OF XXX



TIGHE & BOND, INC. 100 WATER STREET, FAIRHAVEN, MA 01924  
 TEL: 508-548-2100 FAX: 508-548-2101  
 WWW.TIGHEANDBOND.COM



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Google Earth

1996

Imagery Date: 10/5/2018 41°38'07.31" N 70°52'34.52" W elev 36 ft eye alt 3901 ft



Google Earth

41°38'17.46" N 70°52'31.89" W elev. 19 ft eye alt. 1155 ft



© 2018 Google

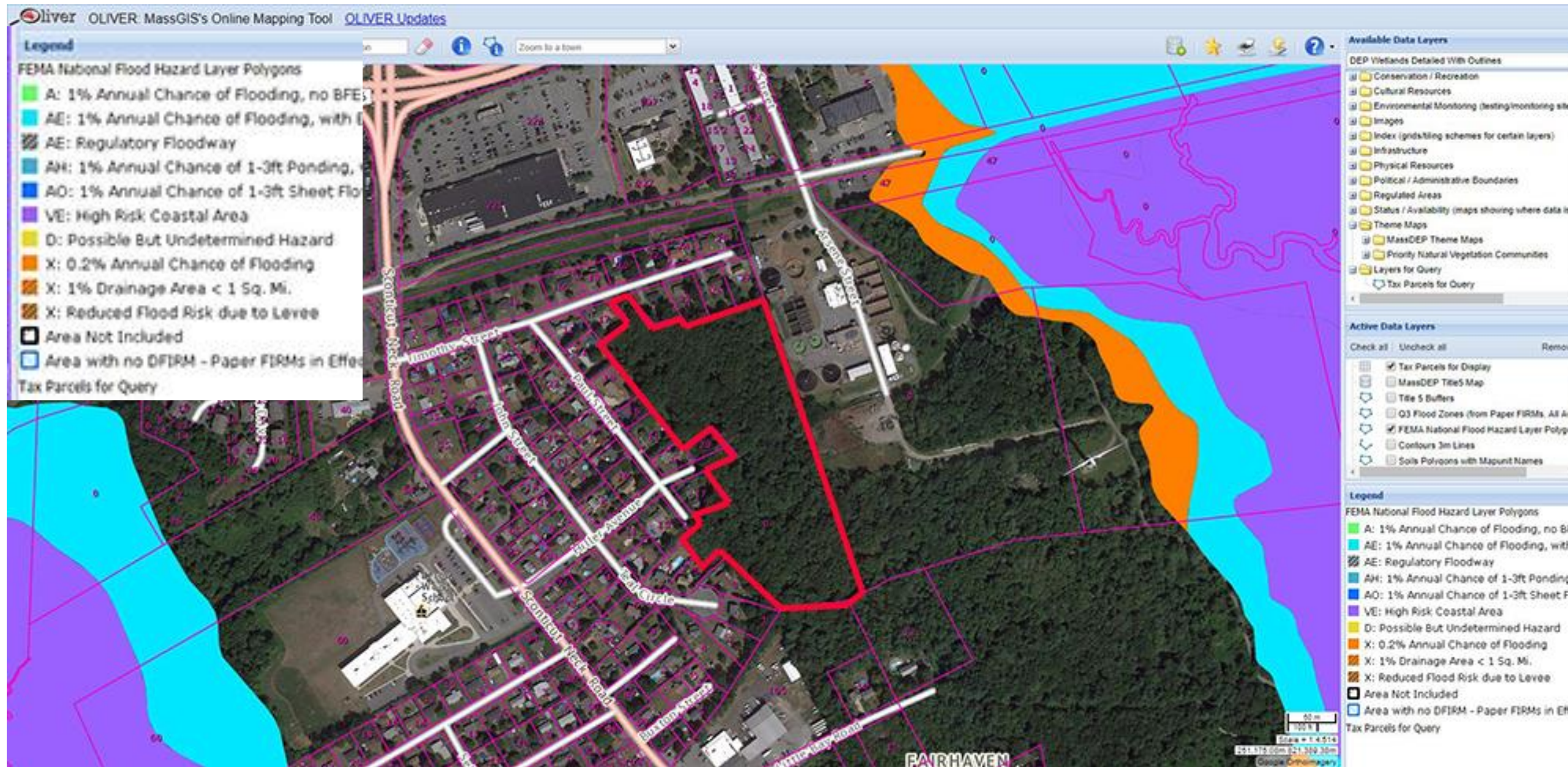
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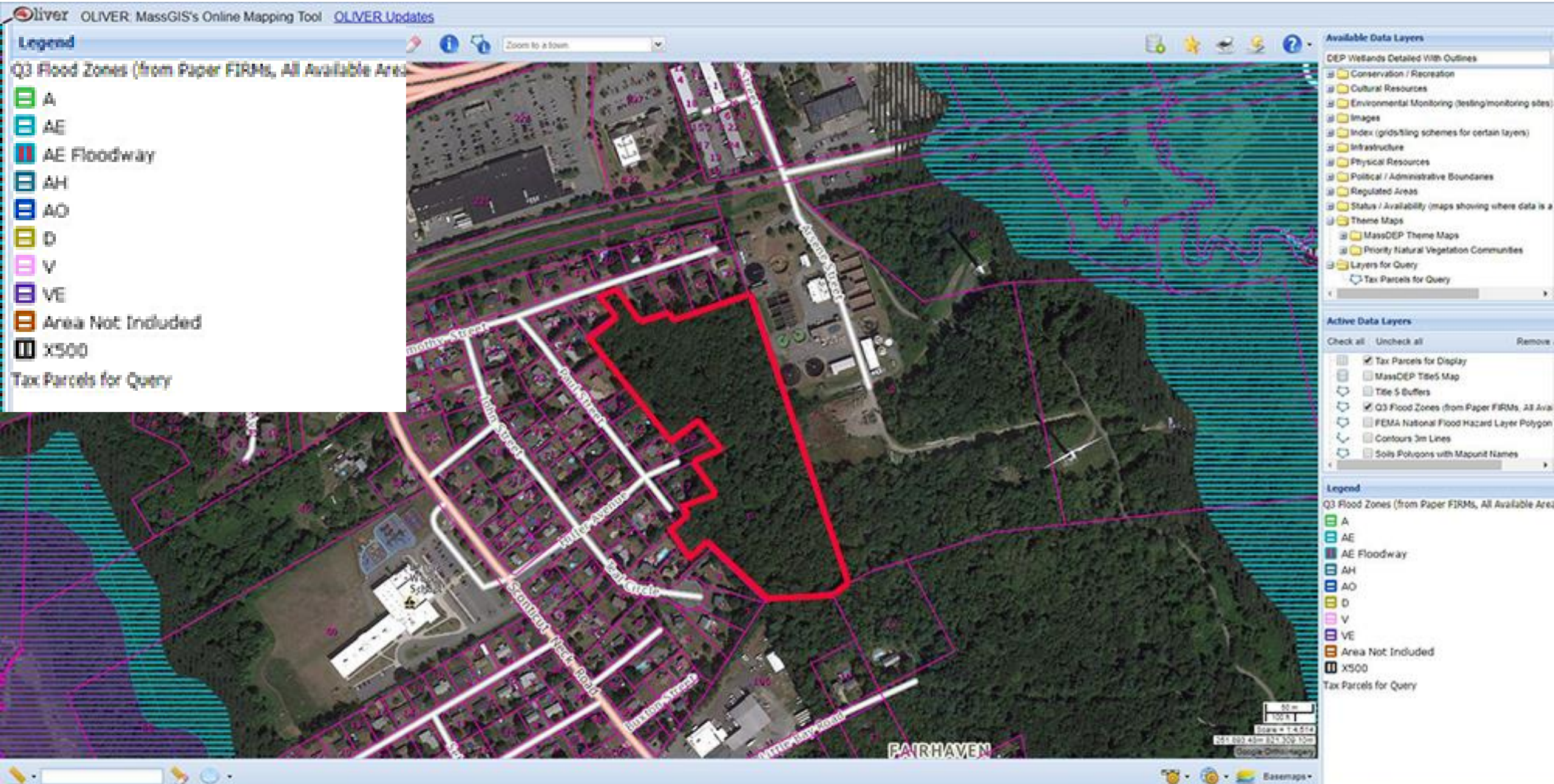
41°38'17.64" N 70°52'27.59" W elev 20 ft eye alt 1072 ft



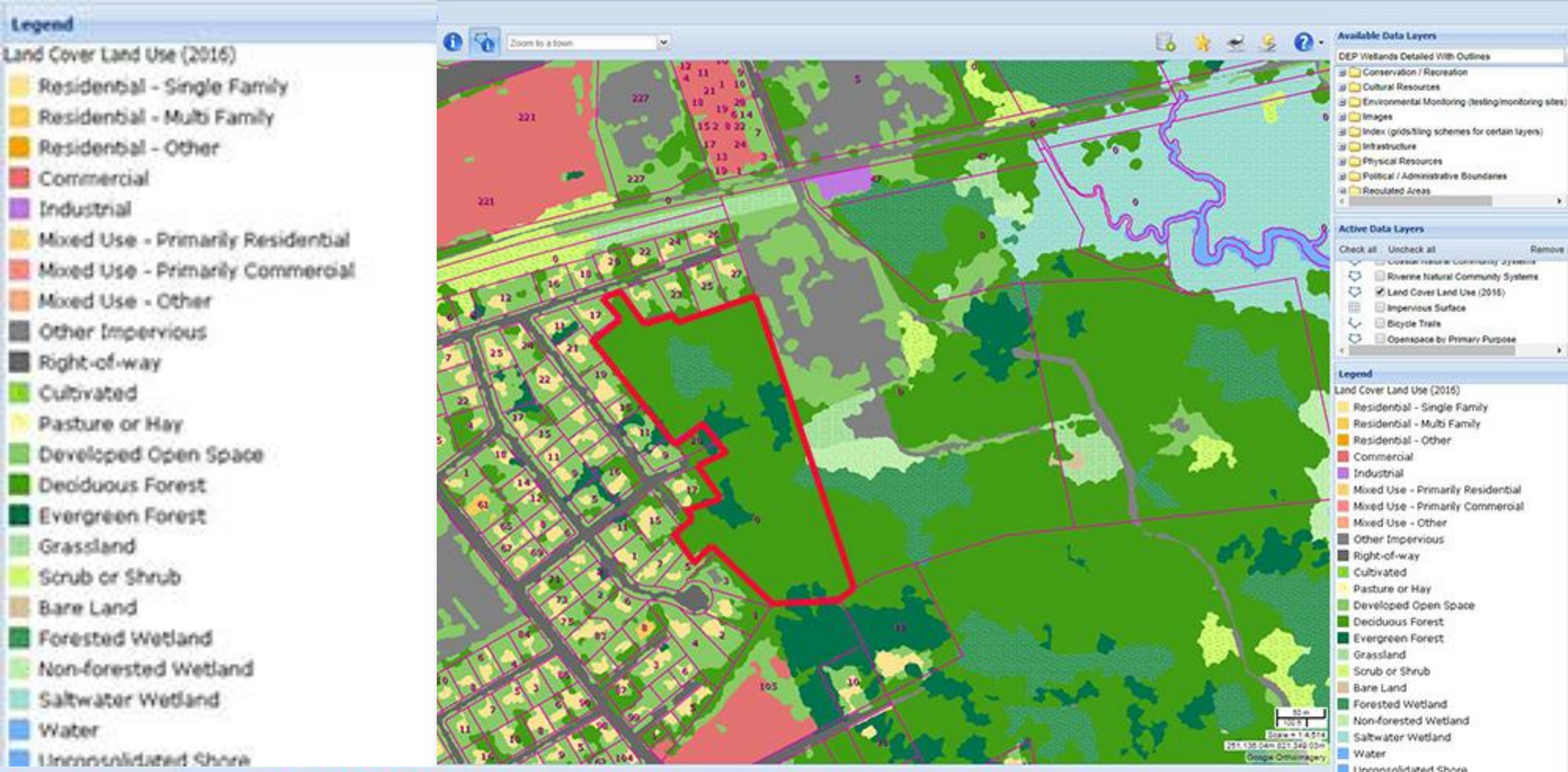
# Base FEMA Flood Map - MassGIS



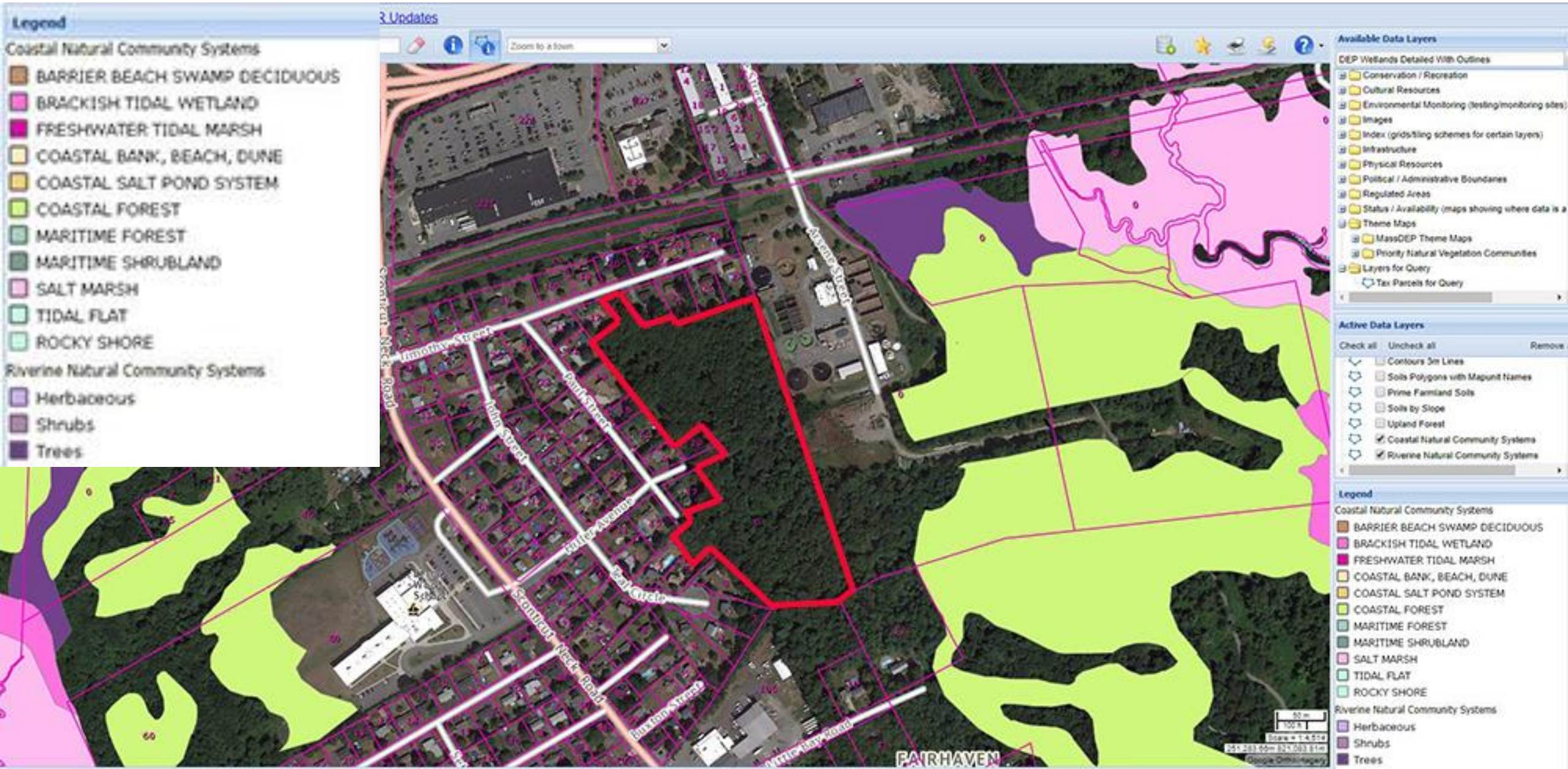
# Base Flood Zones – AE (blue stripe) is 100 Year Flood



# Land Use



# Natural Community



# MassGIS Wetlands

The screenshot displays the OLIVER MassGIS Online Mapping Tool interface. The main map area shows an aerial view of Fairhaven, Massachusetts, with various wetland and land use layers overlaid. The layers are color-coded and outlined, showing a complex network of wetlands and other environmental features. The map includes street names such as Hutton Avenue, Southwick Road, and others. The interface includes a search bar, navigation tools, and a legend on the right side.

**Available Data Layers**

- DEP Wetlands Detailed With Outlines
- Conservation / Recreation
- Cultural Resources
- Environmental Monitoring (designating monitoring sites)
- Images
- Index (grid/scheme for certain layers)
- Infrastructure
- Physical Resources
- Political / Administrative Boundaries
- Regulated Areas

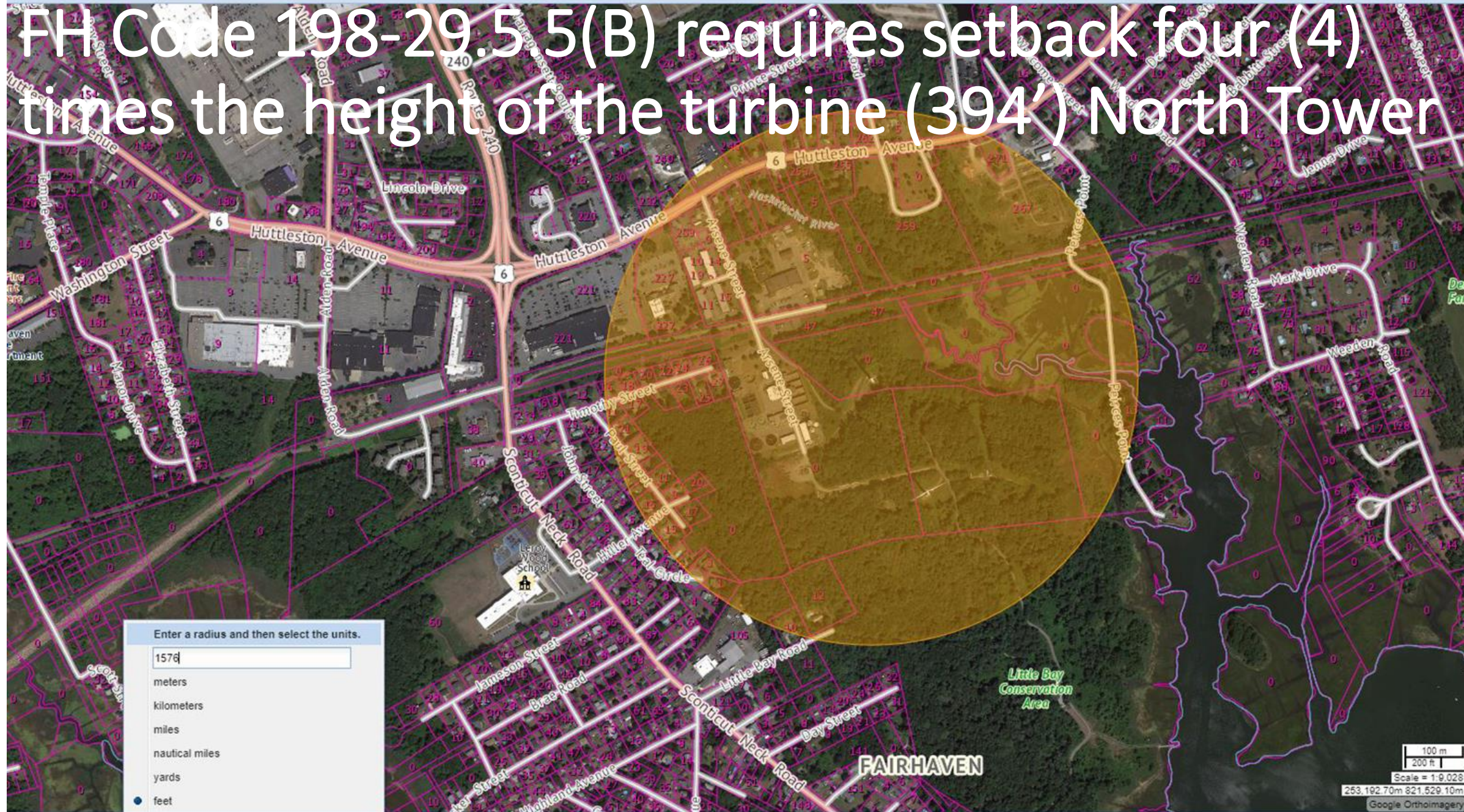
**Active Data Layers**

- OpenSpace by Level of Protection
- OpenSpace by Ownership Solid
- DEP Wetlands Detailed With Outlines
- Tax Parcels for Query
- Detailed Features

**Legend**

- DEP Wetlands Detailed With Outlines
- Barrier Beach System
- Barrier Beach-Deep Marsh
- Barrier Beach-Wooded Swamp Mixed Tree
- Barrier Beach-Coastal Beach
- Barrier Beach-Coastal Dune
- Barrier Beach-Marsh
- Barrier Beach-Salt Marsh
- Barrier Beach-Shrub Swamp
- Barrier Beach-Wooded Swamp Coniferous
- Barrier Beach-Wooded Swamp Deciduous
- Bog
- Coastal Bank Bluff or Sea Cliff
- Coastal Beach
- Coastal Dune
- Cranberry Bog
- Deep Marsh
- Barrier Beach-Open Water
- Open Water
- Rocky Intertidal Shore
- Salt Marsh
- Shallow Marsh Meadow or Fen
- Shrub Swamp

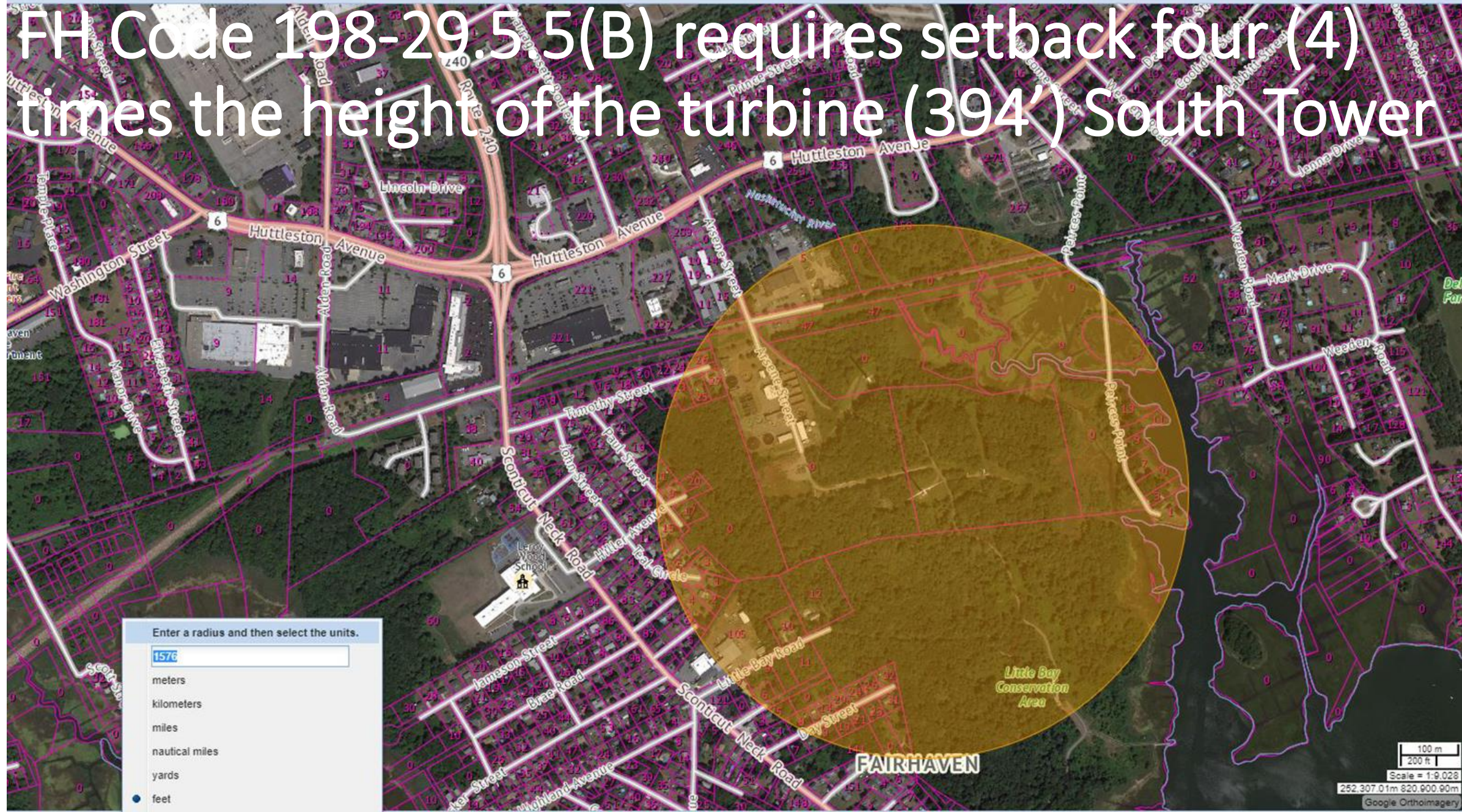
FH Code 198-29.5.5(B) requires setback four (4) times the height of the turbine (394') North Tower



Enter a radius and then select the units.

- meters
- kilometers
- miles
- nautical miles
- yards
- feet

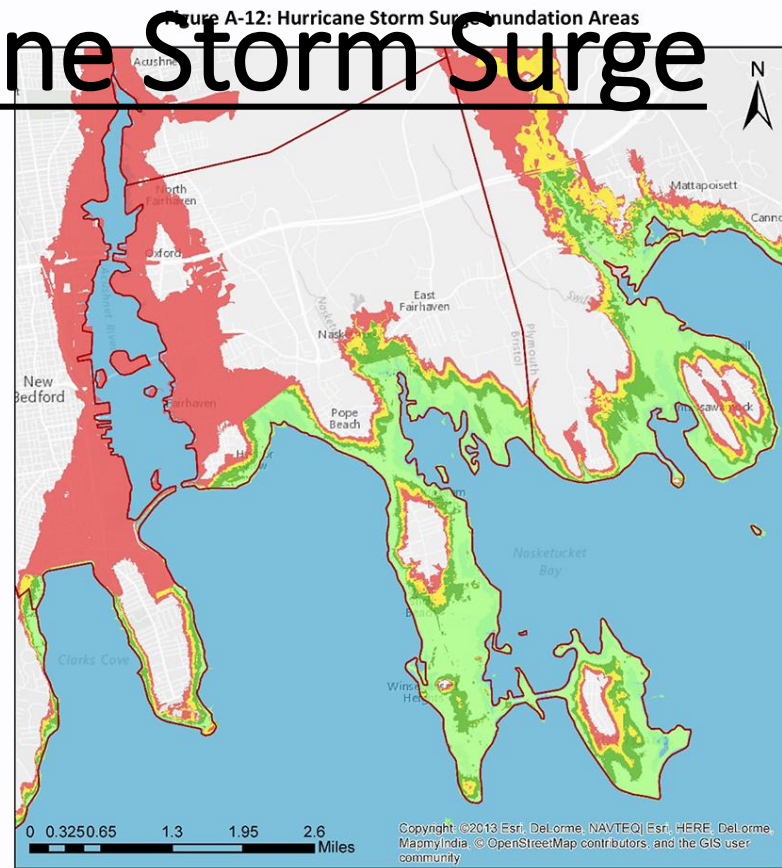
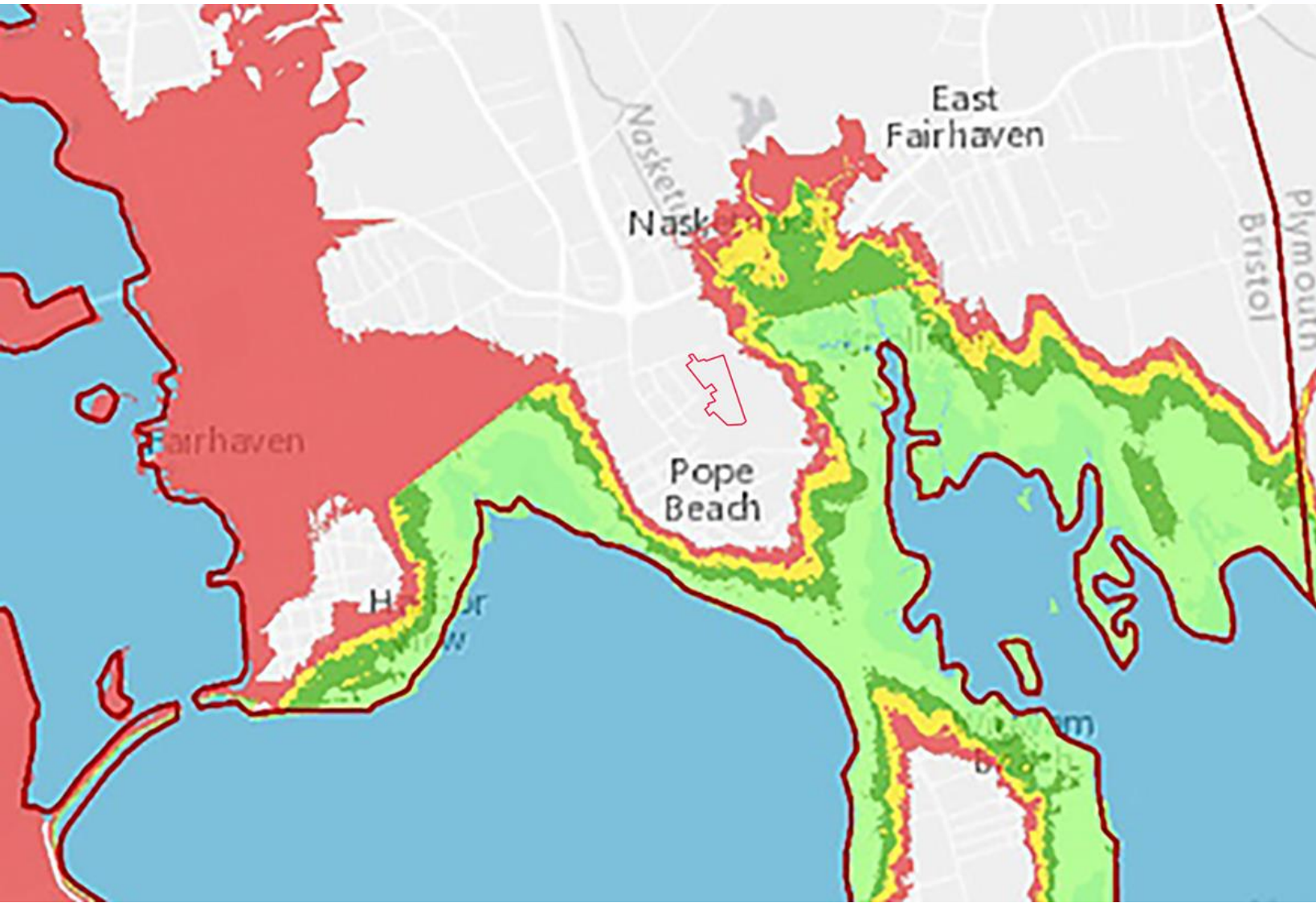
FH Code 198-29.5.5(B) requires setback four (4) times the height of the turbine (394') South Tower



Enter a radius and then select the units.

- meters
- kilometers
- miles
- nautical miles
- yards
- feet

# FH Hazard Mitigation Plan – Hurricane Storm Surge



**Legend**

**Worst-case Hurricane Surge Inundation Zones**

**Hurricane Category**

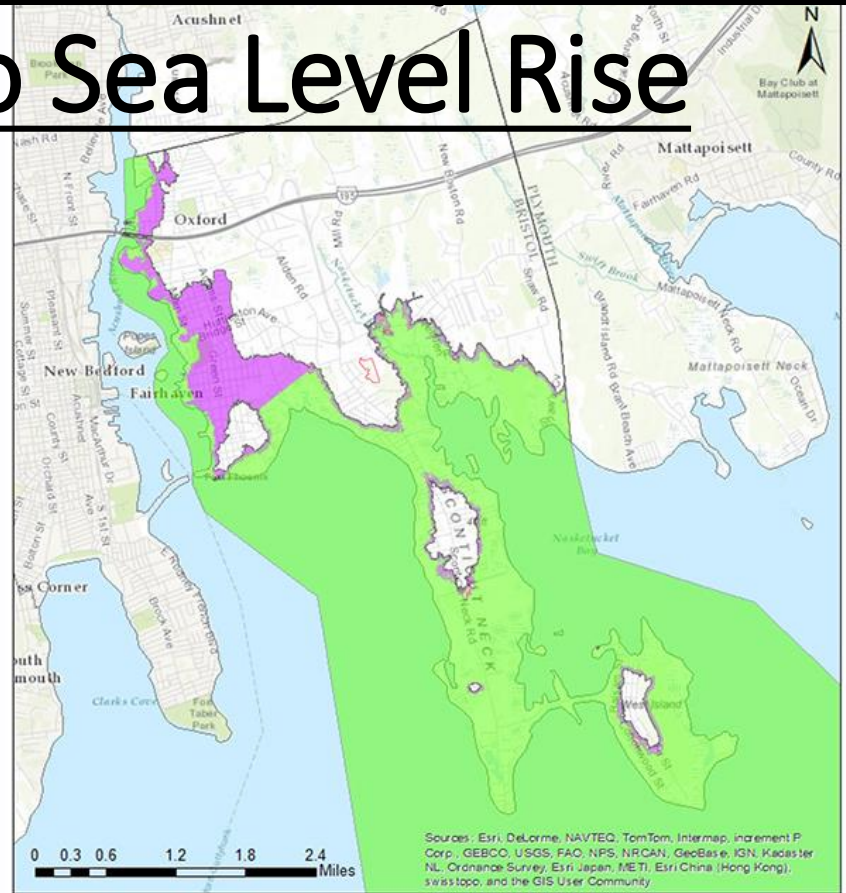
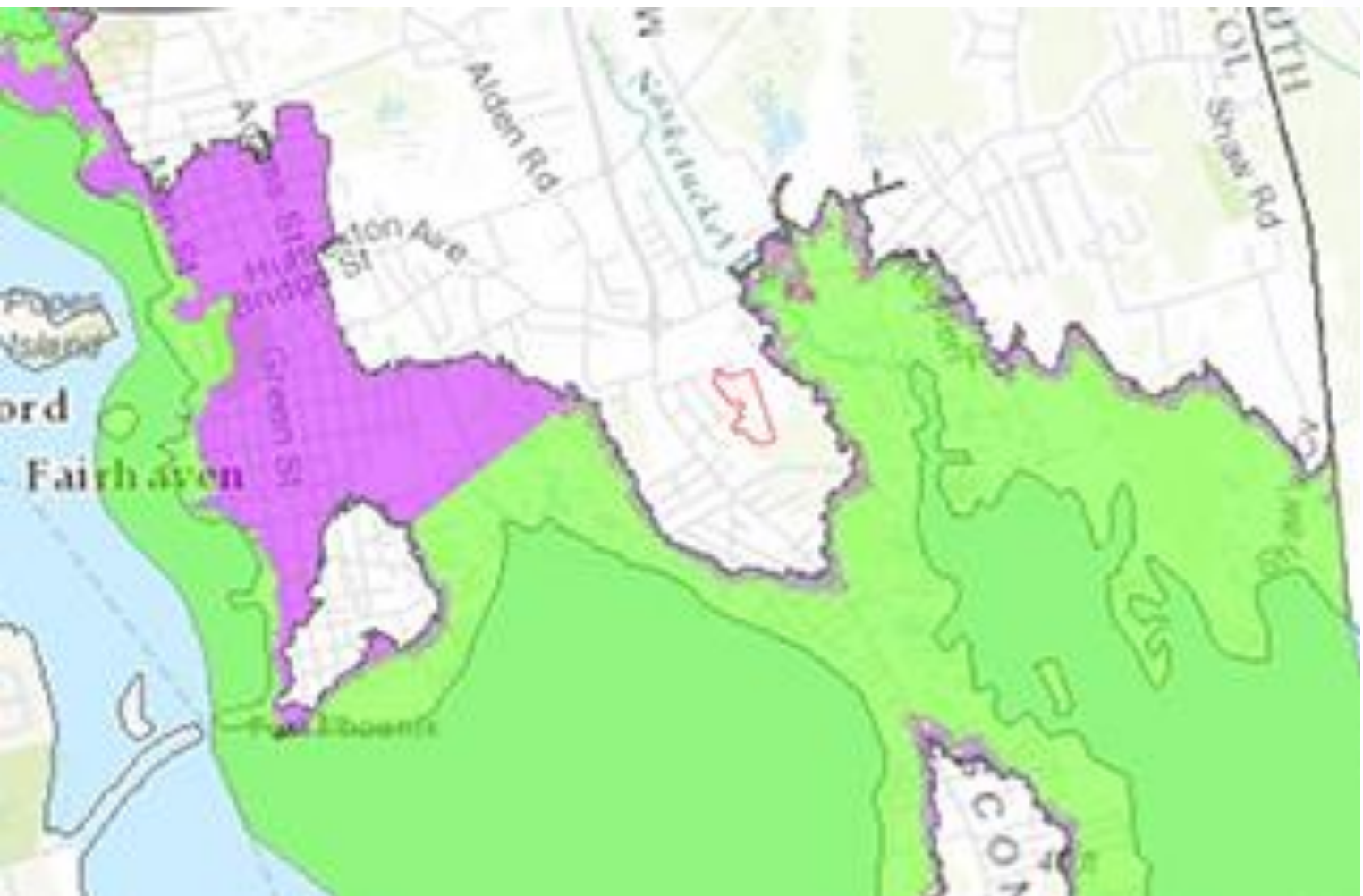
- Category 1
- Category 2
- Category 3
- Category 4
- Town Boundary

Source: U.S. Army Corps of Engineers, New England District



# FH Hazard Mitigation Plan – Potential Expansion of Flood Hazard Areas Due to Sea Level Rise

Figure A-1: Potential Expansion of Flood Hazard Areas Due to Sea Level Rise



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swiss topo, and the GIS User Community

- Legend**
- Study Baseline Floodplain
  - In Floodplain with 1 ft SLR
  - In Floodplain with 2 ft SLR
  - In Floodplain with 4 ft SLR
  - Town Boundary

Source: CZM, Buzzards Bay National Estuary Program



# FAIRHAVEN WPCF UPGRADE OVERVIEW

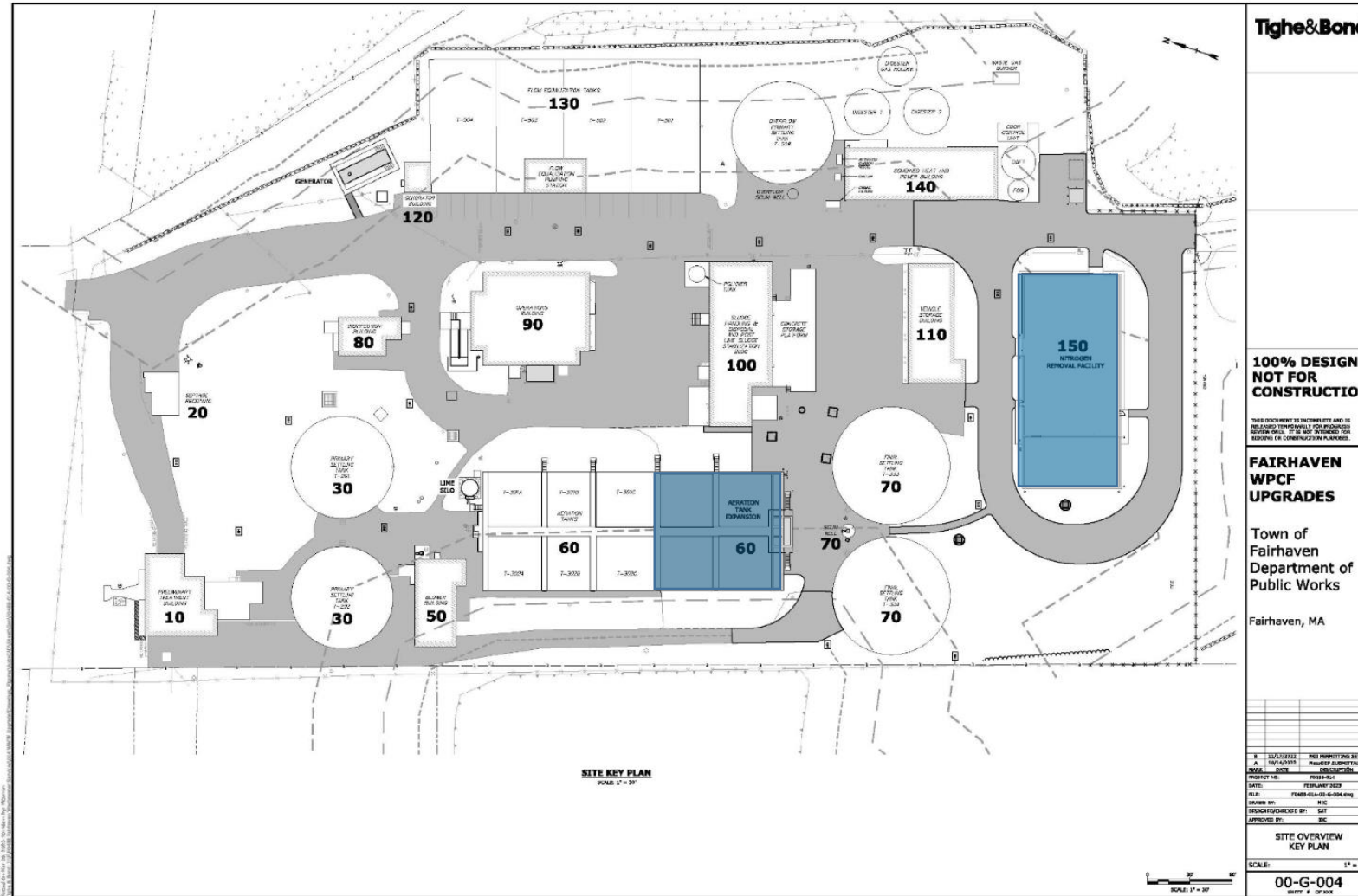
March 28, 2023

Project Director: Ian Catlow, PE

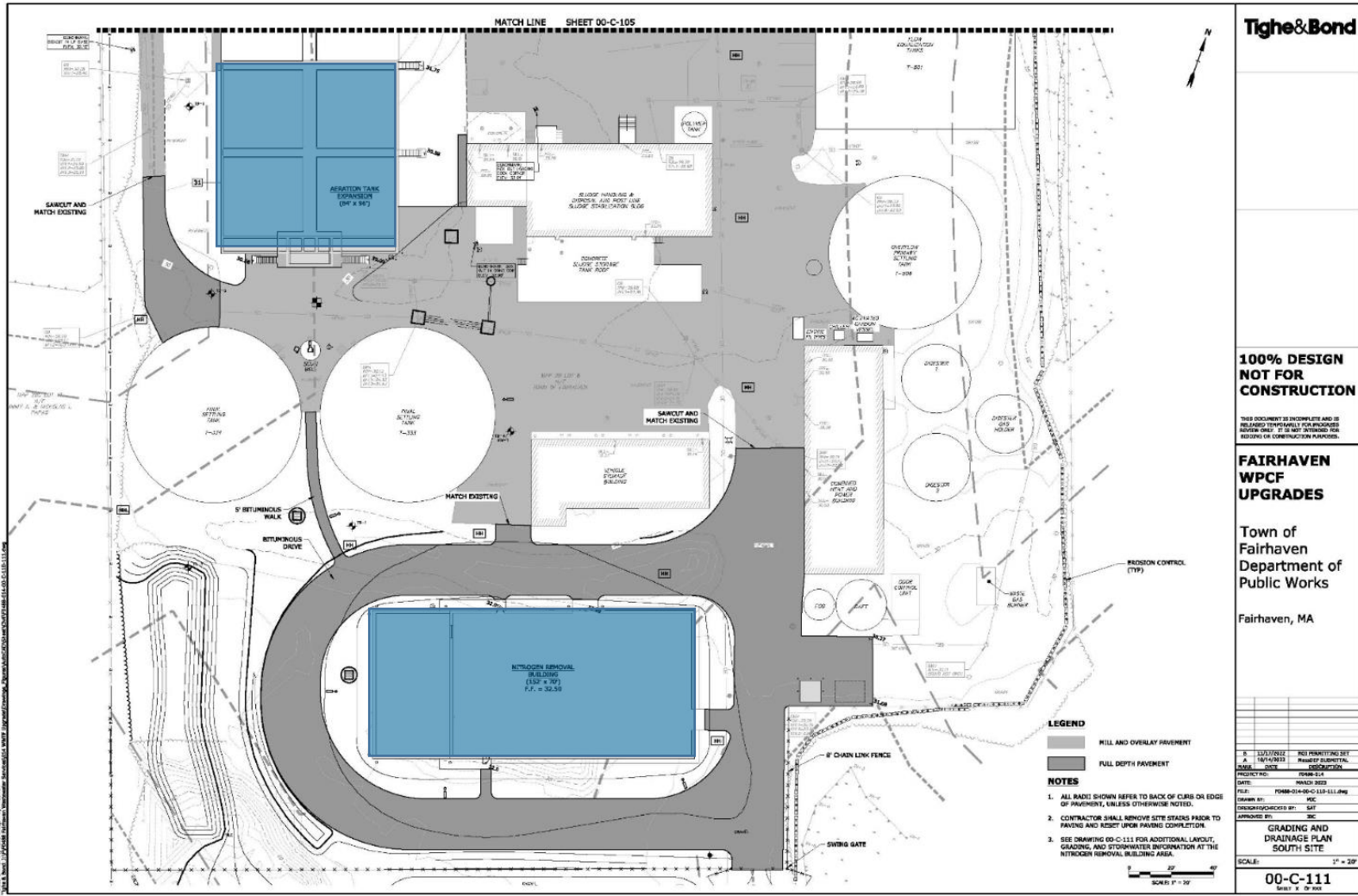
# WPCF SITE LOCUS



# PROJECT OVERVIEW



# OVERVIEW NEW CONSTRUCTION



**Tighe & Bond**

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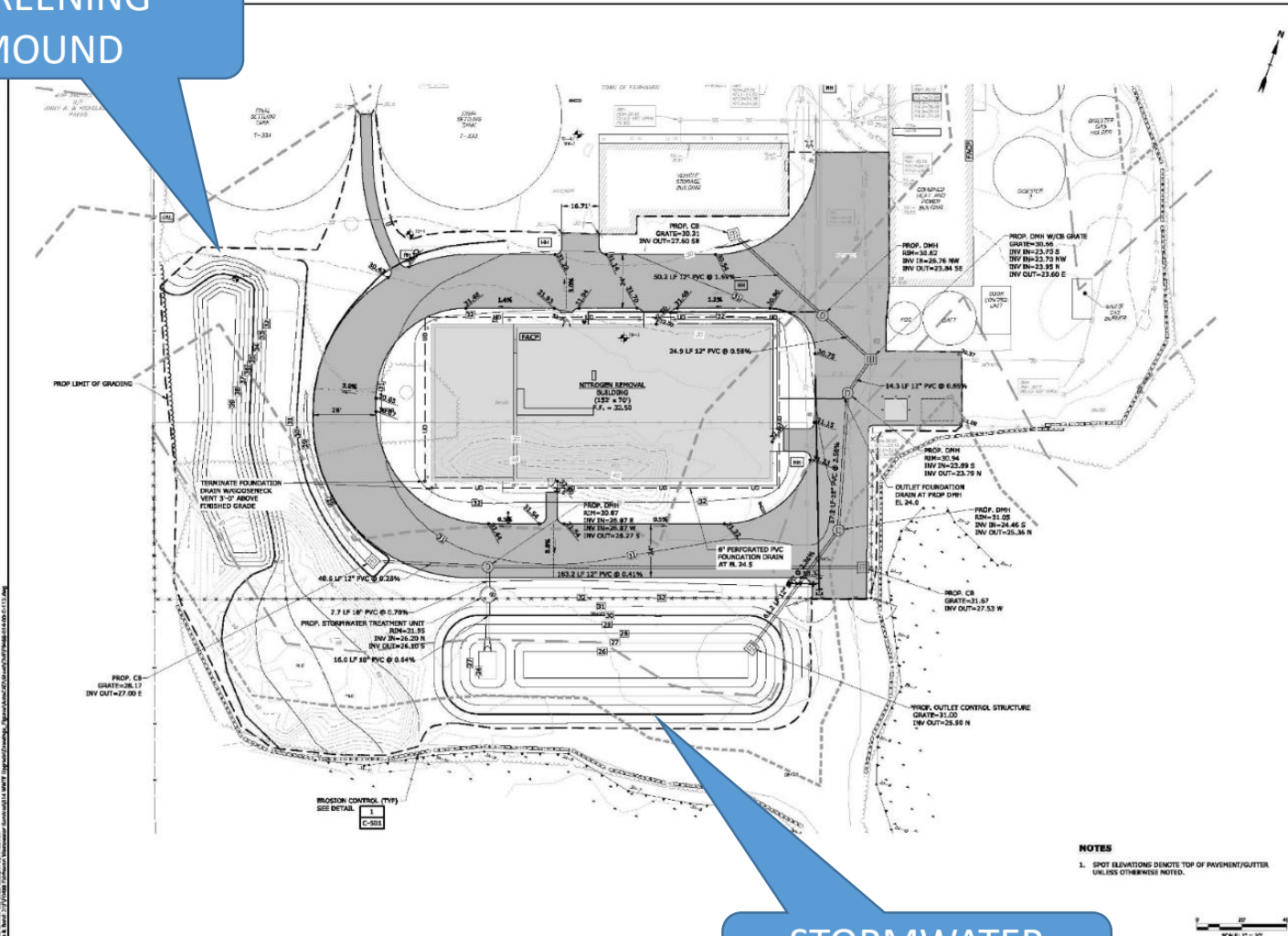
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**FAIRHAVEN WPCF UPGRADES**

Town of Fairhaven  
Department of Public Works

Fairhaven, MA

SCREENING  
MOUND



STORMWATER  
MANAGEMENT

**Tighe & Bond**

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**FAIRHAVEN  
WPCF  
UPGRADES**

Town of  
Fairhaven  
Department of  
Public Works

Fairhaven, MA

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PROJECT NO.	FAH03-024
DATE	MARCH 2023
FILE	FAH03-024-C-112.dwg
DRAWN BY	KAC
DESIGNED/REVIEWED BY	SKT
APPROVED BY	KAC

**NITROGEN REMOVAL BLDG  
AREA GRADING AND  
DRAINAGE PLAN**


SCALE: 1" = 20'

**00-C-112**  
SHEET 1 OF 08


**NOTES**  
1. SPOT ELEVATIONS DENOTE TOP OF PAVEMENT/GUTTER  
UNLESS OTHERWISE NOTED.




# BUILDING ELEVATIONS



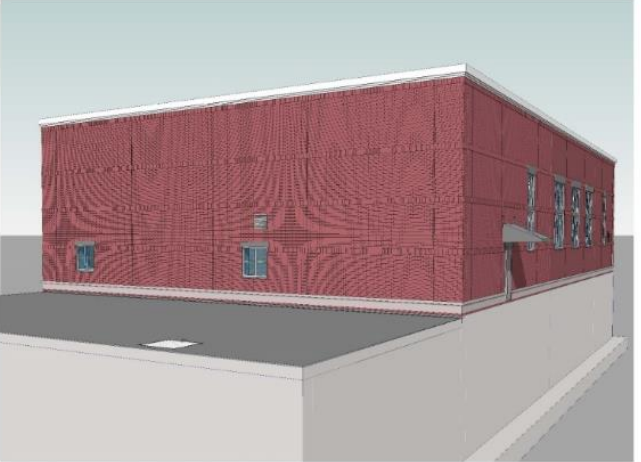
**SOUTHEAST VIEW**



**SOUTHWEST VIEW**



**EAST VIEW**



**WEST VIEW**

**Tighe&Bond**

DIGITAL SIGNATURE

DIGITAL SIGNATURE

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**FAIRHAVEN  
WPCF  
UPGRADES**

Town of  
Fairhaven  
Department of  
Public Works

Fairhaven, MA

DATE	DESCRIPTION

PROJECT NO:	150-A-001
DATE:	FEBRUARY 2023
FILE:	150-A-001
DRAWN BY:	AM
DESIGNED/CHECKED BY:	ESM
APPROVED BY:	ISC

**ISOMETRIC ELEVATION  
VIEWS**

SCALE:

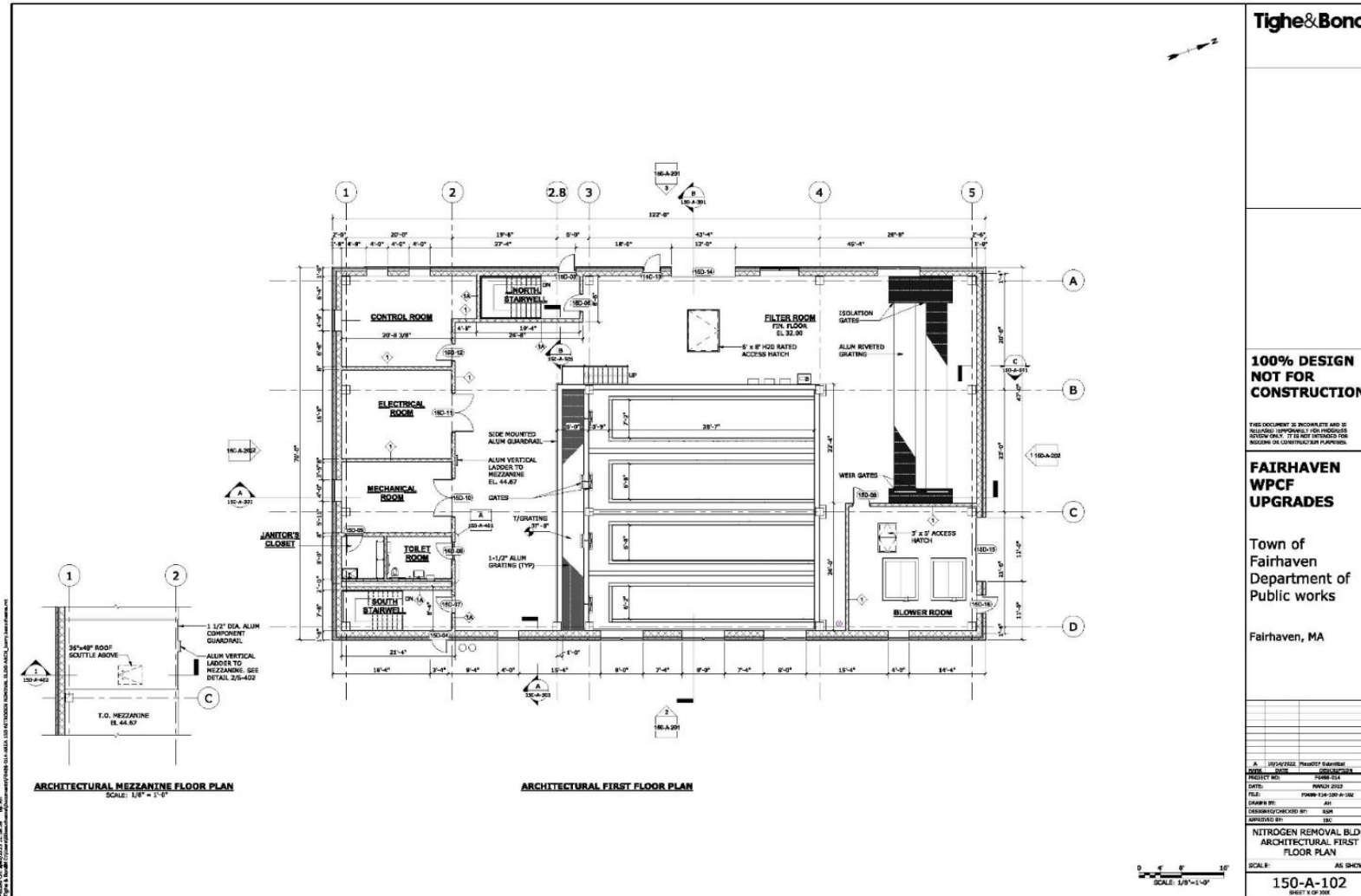
**150-A-001**

TIGHE & BOND ARCHITECTS, INC. 111 STATE ST. 2ND FL. FAIRHAVEN, MA 01924  
 TEL: 508.848.8888 FAX: 508.848.8889 WWW.TIGHEANDBOND.COM

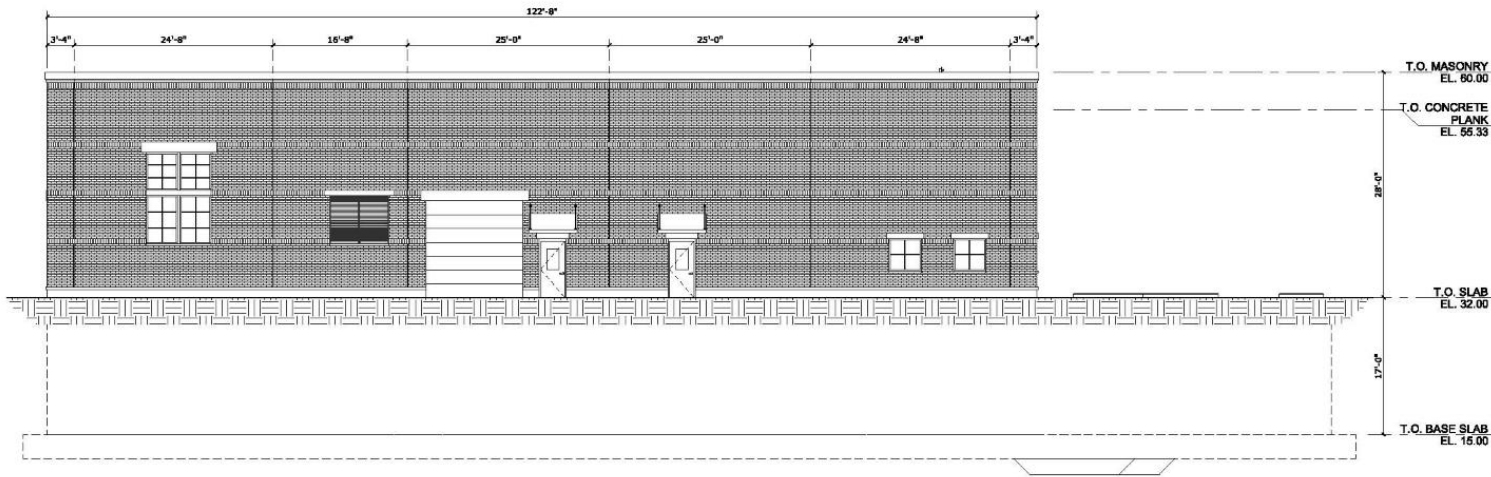




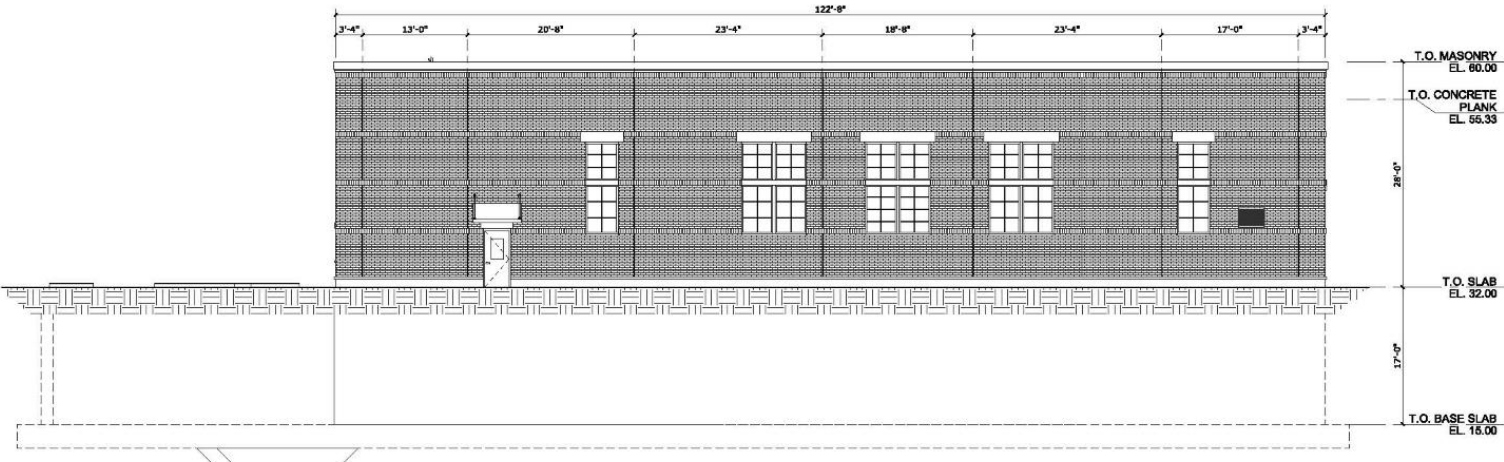
# NITROGEN REMOVAL GROUND LEVEL



# NITROGEN REMOVAL BUILDING SECTIONS

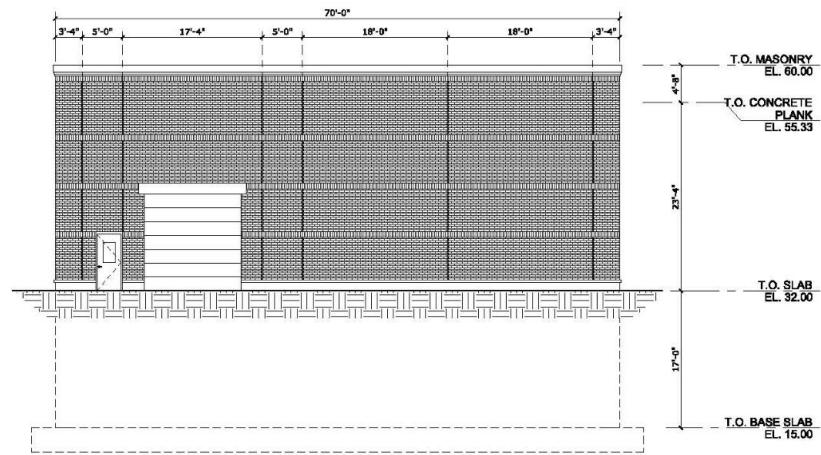


**NORTH ELEVATION**

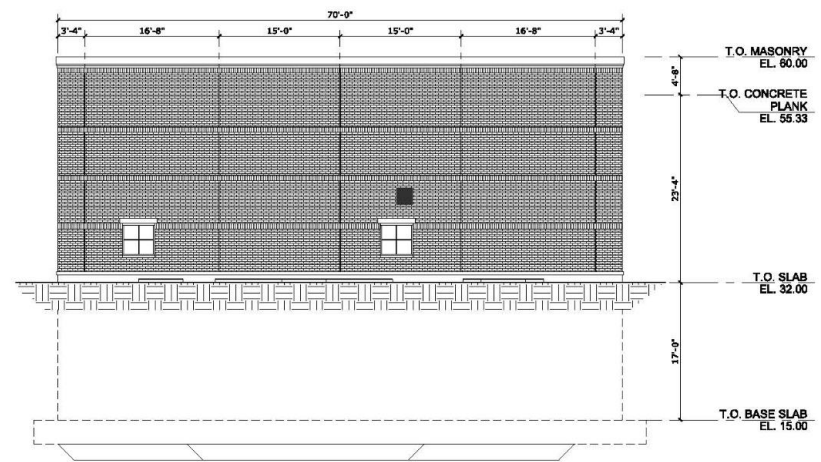


**SOUTH ELEVATION**

# NITROGEN REMOVAL BUILDING ELEVATIONS



**EAST ELEVATION**



**WEST ELEVATION**

# NOTABLE PROJECT FEATURES

- **New Backup Generator**

- Required By MassDEP
- Sound Attenuated Enclosure (75 dB @ 7 Meters)

- **Site & Building Lighting**

- All Lighting Dark Sky Compliant
- Few Lights On For Safety
- Most Lights Off & Activated By Motion Sensors

# QUESTIONS & DISCUSSION

