

APPENDIX B PROJECT FIGURES

Appendix B-1: Project Figures

New England Power Company

N12/M13 Double Circuit Tower Separation Project Somerset and Fall River, Massachusetts

Single Environmental Impact Report

POWER Engineers, Inc
2 Hampshire Street Suite 301
Foxborough, MA 02035

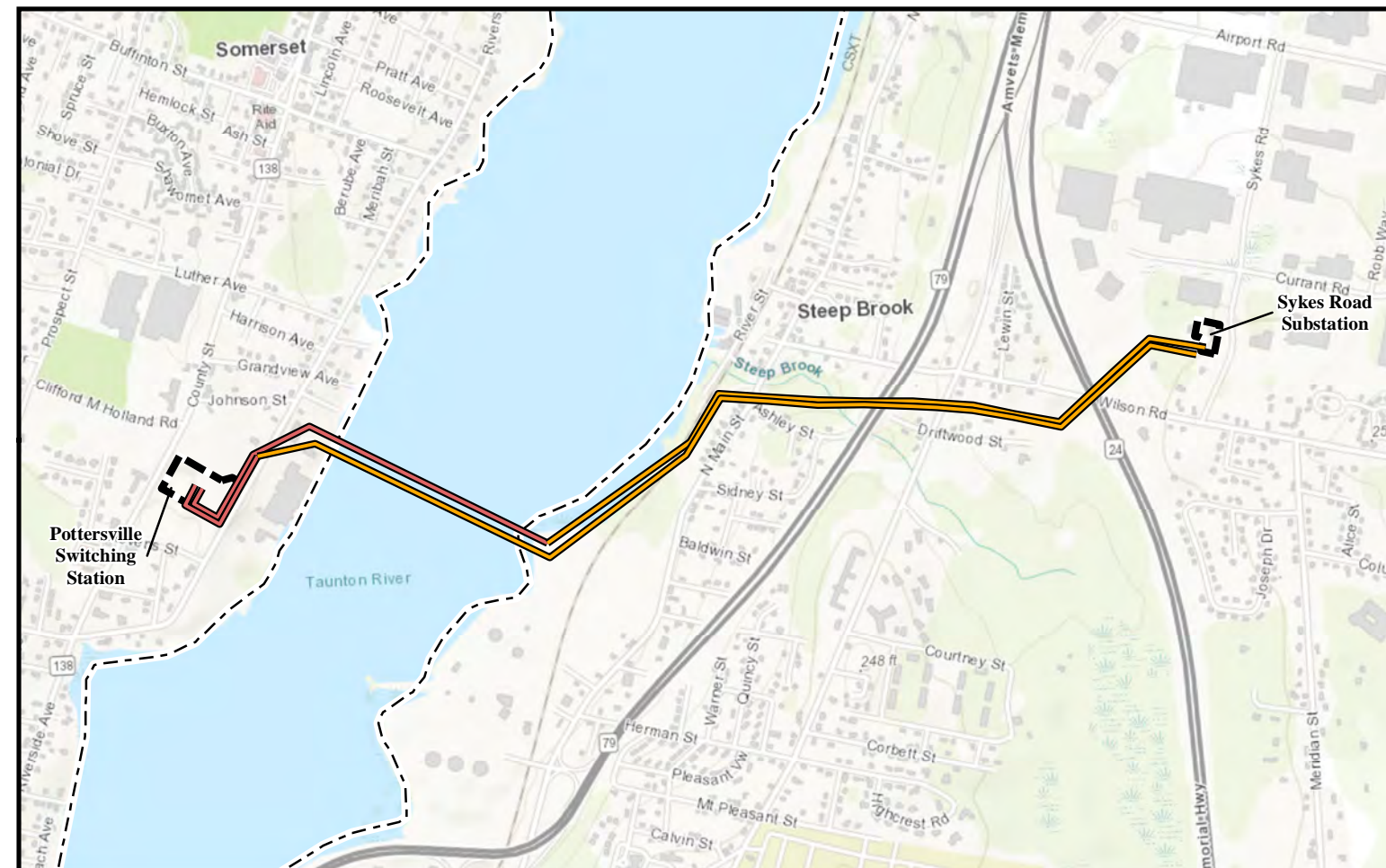
Owner/Applicant:
New England Power Company
40 Sylvan Road
Waltham, MA 02451-1120
Phone: (781) 907-2558 (Waltham)

Plans

Date Issued: April 11, 2023
Latest Issue: April 11, 2023

Index

No.	Drawing Title	Latest Issue
1	Title Sheet and Notes	04/11/2023
2	Page Index	04/11/2023
3 to 8	Proposed Project Construction Features	04/11/2023
9	Environmental Justice Map	04/11/2023
10	Typical ROW Cross Sections	04/11/2023



1" = 1,500 Feet

This document has been reviewed for Critical Energy Infrastructure Information (CEII). [July 2021]

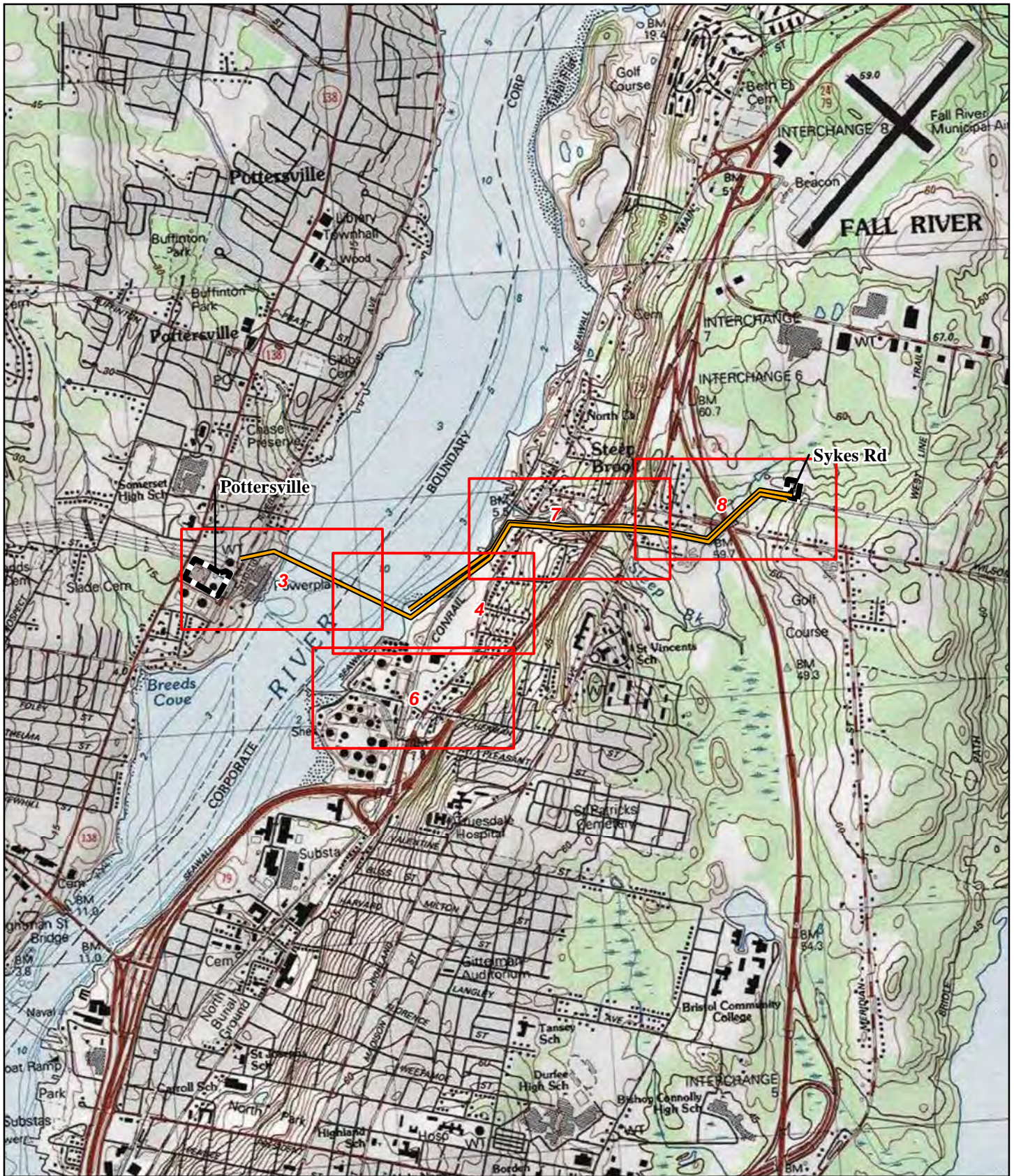


Plan Set Notes

1. Planimetric Base Mapping - Planimetric base mapping obtained from a variety of sources. Street centerlines obtained from ESRI StreetMap 2016. River, streams, lakes, and ponds from the National Hydrologic Dataset (NHD). Floodplains from the Federal Emergency Management Agency (FEMA). National Wetland Inventory (NWI) and MassGIS State Wetland Boundaries were identified prior to field wetland collection. Existing Utility transmission pole locations, substation locations, and transmission line locations were provided by New England Power Company and verified against aerial photography.
2. Contour Data - Contour data was acquired from MassGis (Massachusetts GIS System) website (<https://docs.digital.mass.gov/dataset/massgis-data-lidar-terrain-data>). 2011 LiDAR for the Northeast covered the project area, and contours were derived from the LiDAR data at a 1' interval.
3. Aerial Mapping - Aerial imagery shown is from Google Earth, and was obtained on September, 2021.
4. Wetland field assessments occurred in November 2015, September 2017, May 2018, and May 2019. Vernal pool surveys were conducted during spring 2015 to spring 2019.
5. Wetland flags were located in the field with a Trimble GeoXT or Geo XH GPS receivers. Field data was postprocessed, differentially corrected, and back-checked on a series of 1:2000 scale aerial photo base maps.
6. Existing pole structure numbers and right-of-way boundary location is based on the following transmission line sheets (T-sheets) provided by New England Power Company: T5660 Rev.6 issued July 3, 2013, T5661 Rev. 9 issued September 25, 2009.
7. Limits of ROW shown are approximate.
8. Proposed transmission structure locations are approximate.

N12/M13 DOUBLE CIRCUIT TOWER SEPARATION PROJECT NEW ENGLAND POWER CO.			PLAN SET TITLE SHEET AND NOTES SOMERSET AND FALL RIVER, MASSACHUSETTS	
DATE: 4/11/2023	DRAWN: TDH	146782	REV 6	Page 1 of 10

Path: G:\Projects0_NationalGrid\146782_N12_M13Apps\DCI_Const\CombinedW13_N12_Construction_Features_DCT_Separation_Title_Page.mxd



Legend

- Project Alignment Page Index
- Proposed Overhead Line
- Existing Substation Site

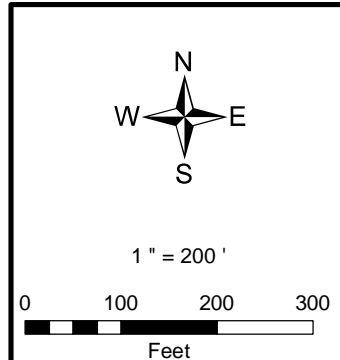
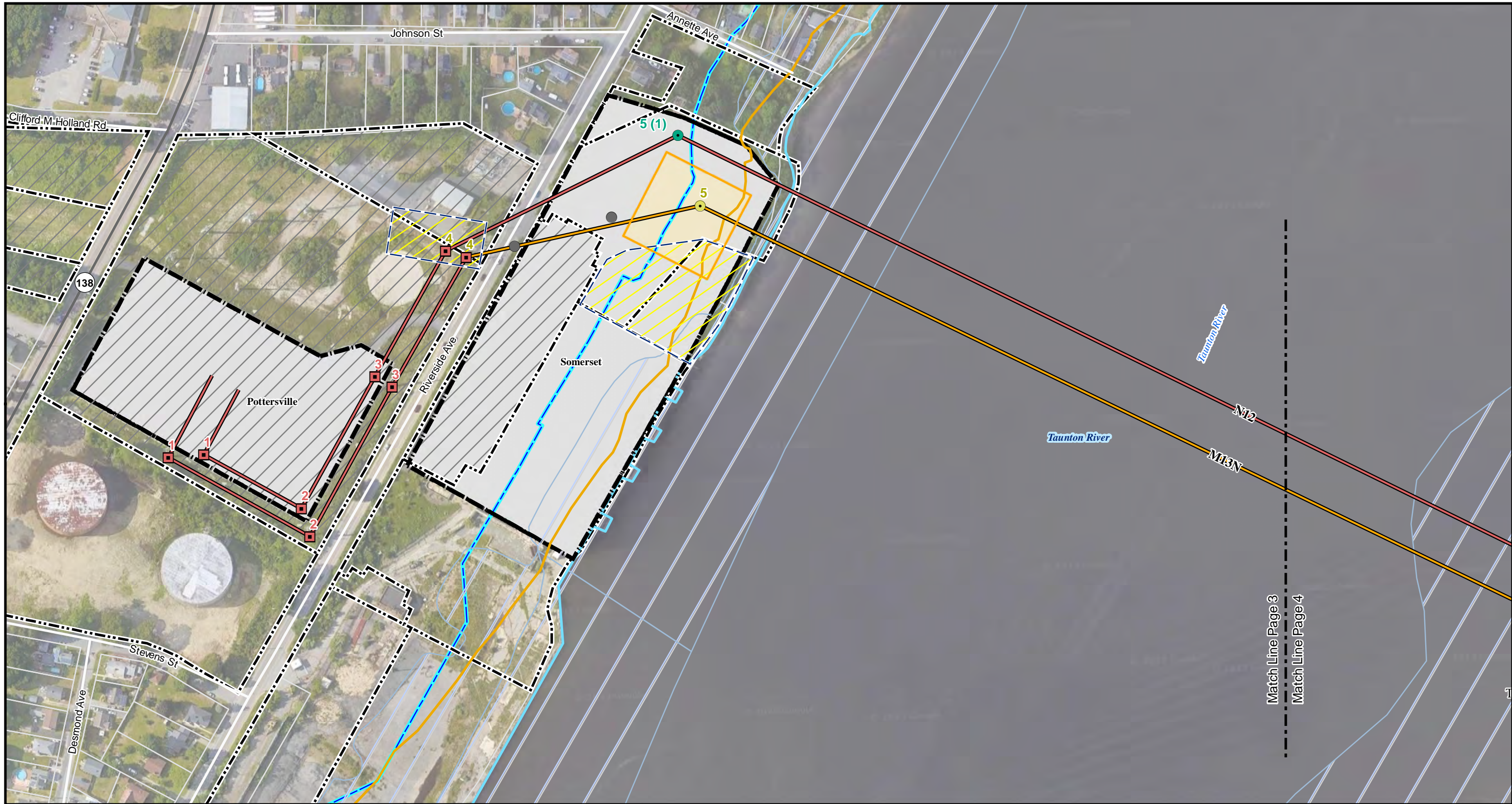
The State of Massachusetts
 Bristol County
 Town of Somerset
 and City of Fall River

N12/M13 Double Circuit Tower Separation Project
Project USGS Locus Map
 Page 2 of 10
 New England Power Company

NAD 1983 UTM Zone 18N USFt
 Foot US
 Transverse Mercator
 North American 1983

0 1,000 2,000 3,000
 Feet

 Date: 4/11/2023



- Structure Maintenance & Improvements**
- Existing Structure
 - Proposed or Replacement Structure
 - To Be Reconductored
- Transmission Line Improvements**
- Proposed Overhead Line
- Work Envelopes**
- Work Envelope (Mow Only)
 - Pull Pad Work Envelope (Mow Only)

- Existing Conditions**
- Existing Transmission Line
 - Existing or Proposed Substation Site
 - Existing Right of Way
 - National Grid Owned Land
 - Parcel Boundary
 - Field GPS Survey Point
 - Man Hole
 - Field GPS Survey Line
 - Mean Annual High Water Line
 - Riverfront Area
- Jurisdiction (Tidelands)**
- Jurisdiction - Ch 91
 - Historic High Water (Tidelands Jurisdiction - Ch 91)
- FEMA Flood Hazard (DFIRM 100yr)**
- State Highway
 - Local Road

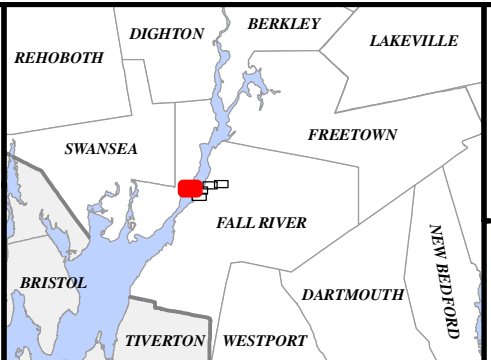
N12/M13 Double Circuit Tower Separation Project

Single Environmental Impact Report Figures

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New England Power Company

Date: 4/11/2023 Author: TDH

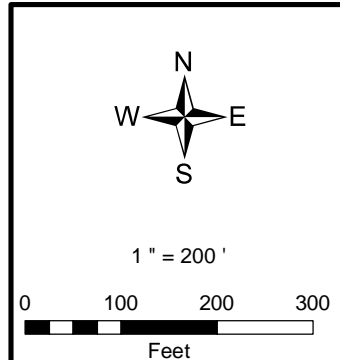
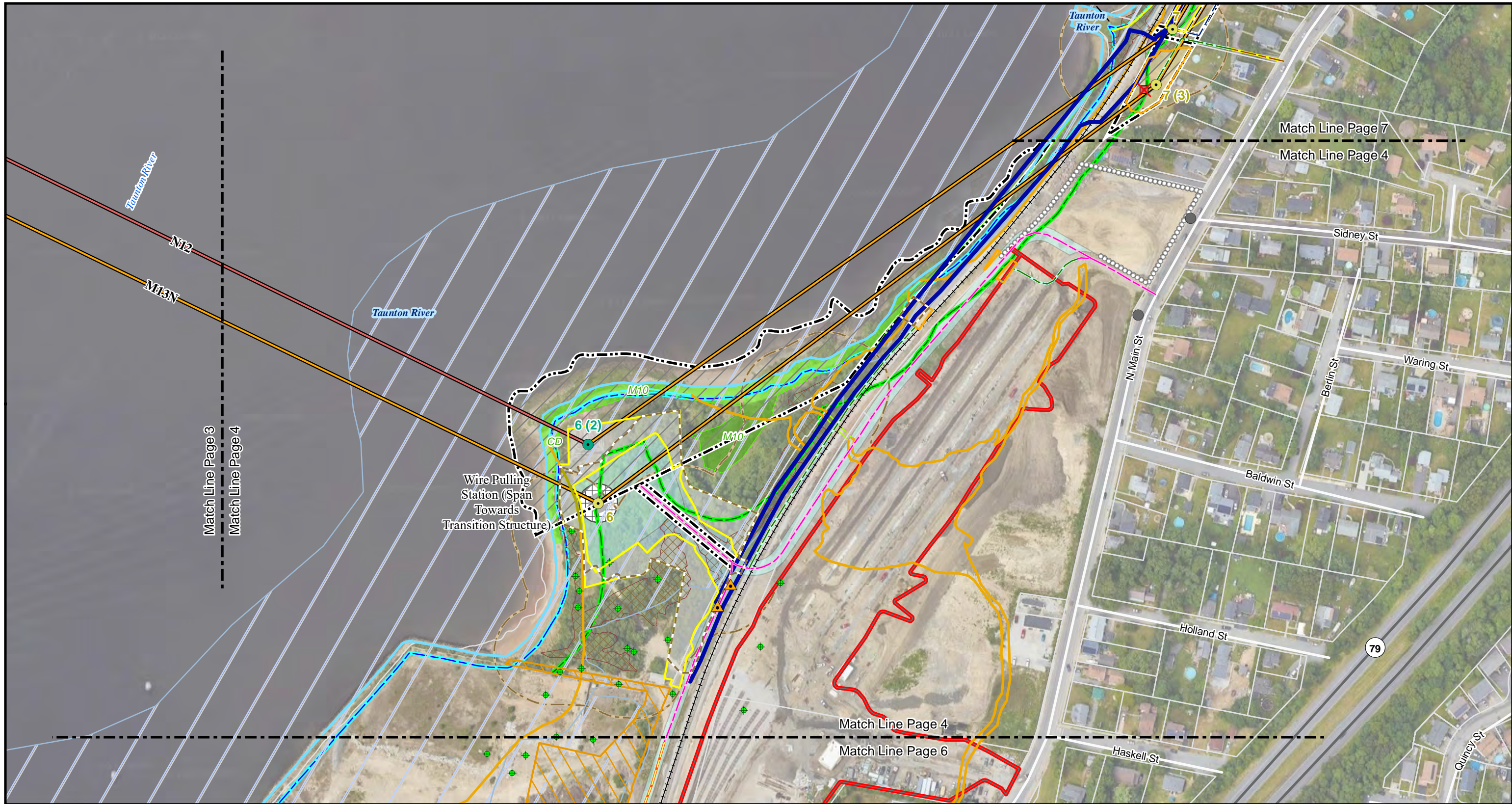


Commonwealth of Massachusetts

Bristol County:
Town of Somerset

NAD 1983 UTM Zone 18N USFT

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<p>Structure Maintenance & Improvements</p> <ul style="list-style-type: none"> Proposed or Replacement Structure To Be Reconductored Structure to Be Removed <p>Transmission Line Improvements</p> <ul style="list-style-type: none"> Proposed Overhead Line <p>Road Maintenance & Improvements</p> <ul style="list-style-type: none"> Improve Existing Access, Widen and Refresh with Stone Install New Access Road New Overland Access (Drive and Crush) Proposed Structure Footprint Permanent Stone Apron 	<ul style="list-style-type: none"> Access Road and Permanent Work Area Grading Area <p>Work Envelopes</p> <ul style="list-style-type: none"> Work Envelope (Mow Only) Work Envelope with Minor Grading Work Envelope, Temporary Stone and Restore Pull Pad Work Envelope (Mow Only) Temporary Staging Area Tree Clearing <p>Existing Conditions</p> <ul style="list-style-type: none"> Existing Transmission Line Existing Access - No Improvements 	<ul style="list-style-type: none"> Approximate Pipeline Location Existing Right of Way National Grid Owned Land Parcel Boundary Field GPS Survey Point Man Hole Pipeline Marker Field GPS Survey Line Stone Wall Wetland Border Mean Annual High Water Line Field Delineated Wetland Field Delineated Salt Water Marsh Delineated Coastal Bank Coastal Bank 100ft Buffer 	<ul style="list-style-type: none"> Riverfront Area 100 ft Buffer Wetland Jurisdiction (Tidelands Jurisdiction - Ch 91) Historic High Water (Tidelands Jurisdiction - Ch 91) Contemporary High Water (Tidelands Jurisdiction - Ch 91) Inferred Historic High Water (Tidelands Jurisdiction - Ch 91) Recovery Well (RTN Report 12/27/16) FEMA Flood Hazard (DFIRM 100yr) State Highway Local Road Railroad Proposed MassDOT Rail Station
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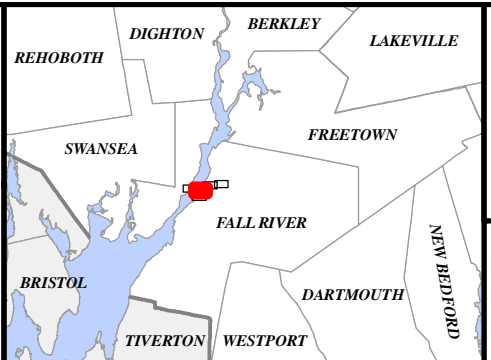
N12/M13 Double Circuit Tower Separation Project

Single Environmental Impact Report Figures

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New England Power Company

Date: 4/11/2023 Author: TDH

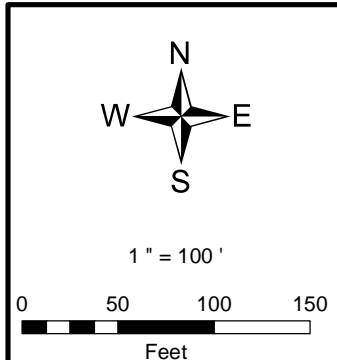
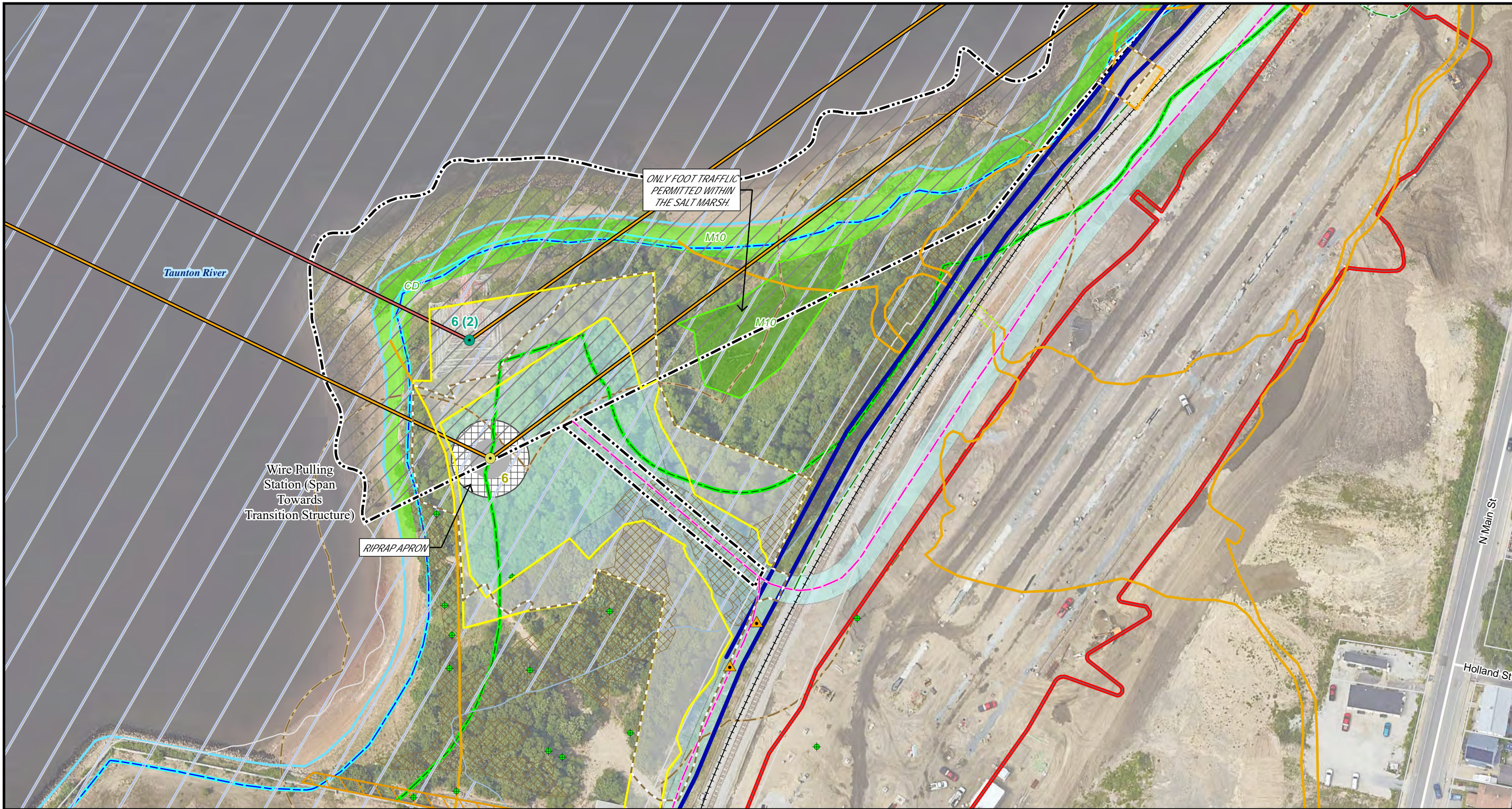


Commonwealth of Massachusetts

Bristol County:
City of Fall River

NAD 1983 UTM Zone 18N USFT

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<p>Structure Maintenance & Improvements</p> <ul style="list-style-type: none"> Proposed or Replacement Structure To Be Reconstructed <p>Transmission Line Improvements</p> <ul style="list-style-type: none"> Proposed Overhead Line <p>Road Maintenance & Improvements</p> <ul style="list-style-type: none"> Install New Access Road New Overland Access (Drive and Crush) 	<p>Proposed Structure Footprint</p> <ul style="list-style-type: none"> Permanent Stone Apron Access Road and Permanent Work Area Grading Area <p>Work Envelopes</p> <ul style="list-style-type: none"> Work Envelope (Mow Only) Work Envelope with Minor Grading Temporary Staging Area Tree Clearing 	<p>Existing Conditions</p> <ul style="list-style-type: none"> Existing Transmission Line Approximate Pipeline Location Existing Right of Way National Grid Owned Land Parcel Boundary Field GPS Survey Point Pipeline Marker Field GPS Survey Line Wetland Border Mean Annual High Water Line 	<ul style="list-style-type: none"> Field Delineated Wetland Field Delineated Salt Water Marsh Delineated Coastal Bank Coastal Bank 100ft Buffer Riverfront Area 100 ft Buffer Wetland Jurisdiction (Tidelands Jurisdiction - Ch 91) Historic High Water (Tidelands Jurisdiction - Ch 91) 	<ul style="list-style-type: none"> Contemporary High Water (Tidelands Jurisdiction - Ch 91) Inferred Historic High Water (Tidelands Jurisdiction - Ch 91) Recovery Well (RTN Report 12/27/16) FEMA Flood Hazard (DFIRM 100yr) Local Road Railroad Proposed MassDOT Rail Station
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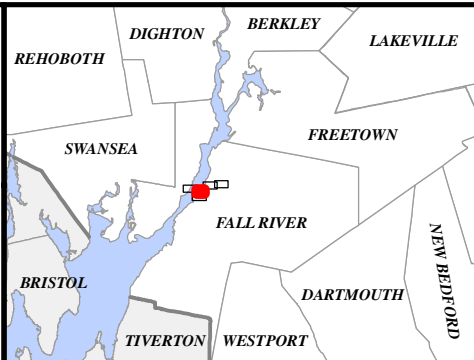
N12/M13 Double Circuit Tower Separation Project

Single Environmental Impact Report
(Structure 6 Detail)

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New England Power Company

Date: 4/11/2023 Author: TDH



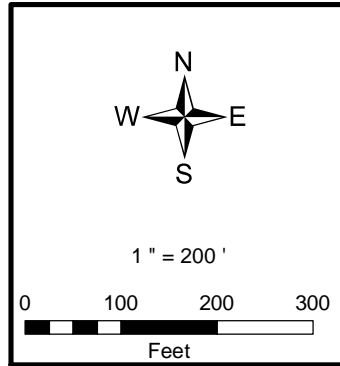
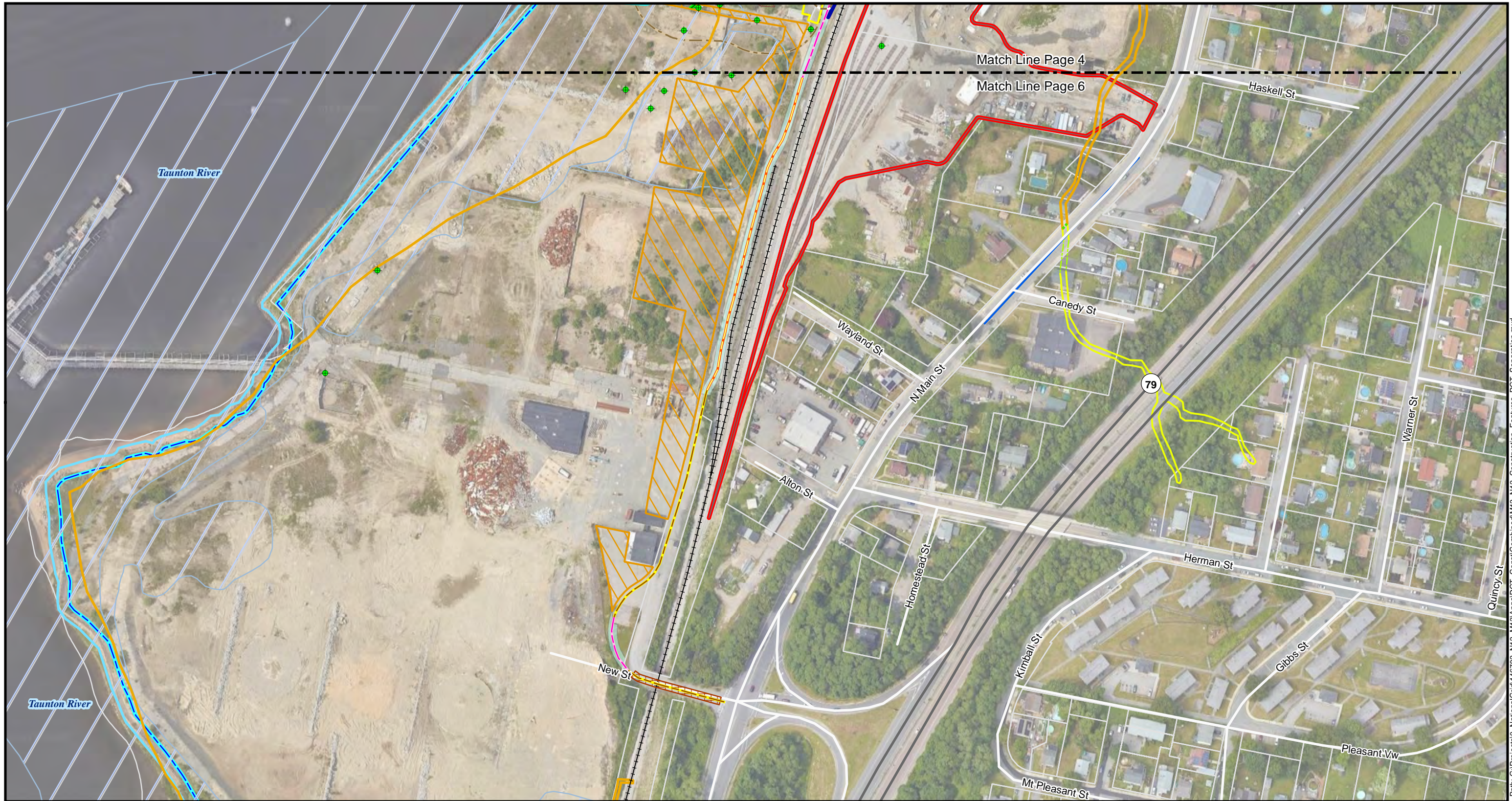
Commonwealth of Massachusetts

Bristol County:
City of Fall River

NAD 1983 UTM Zone 18N USFT

nationalgrid
POWER ENGINEERS

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Road Maintenance & Improvements	<ul style="list-style-type: none"> Improve Existing Access, Widen and Refresh with Stone Install New Access Road Access Road and Permanent Work Area Grading Area Work Envelopes Work Envelope with Minor Grading Temporary Staging Area Construction Mat Tree Clearing Existing Access - No Improvements 	<ul style="list-style-type: none"> Approximate Pipeline Location Parcel Boundary Field GPS Survey Line Mean Annual High Water Line Delineated Coastal Bank Coastal Bank 100ft Buffer Riverfront Area 100 ft Buffer Wetland Public Way (Tidelands Jurisdiction - Ch 91) Landlocked Tidelands (Tidelands Jurisdiction - Ch 91) Jurisdiction (Tidelands Jurisdiction - Ch 91) 	<ul style="list-style-type: none"> Historic High Water (Tidelands Jurisdiction - Ch 91) Inferred Historic High Water (Tidelands Jurisdiction - Ch 91) Recovery Well (RTN Report 12/27/16) FEMA Flood Hazard (DFIRM 100yr) State Highway Local Road Railroad Proposed MassDOT Rail Station
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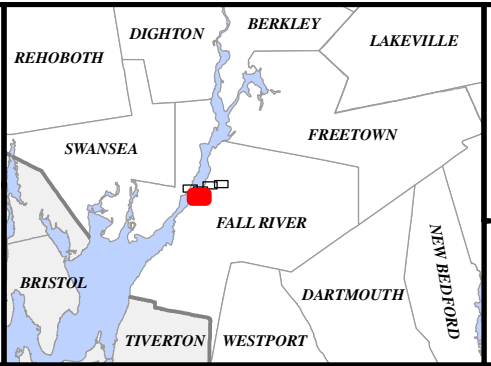
N12/M13 Double Circuit Tower Separation Project

Single Environmental Impact Report Figures

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New England Power Company

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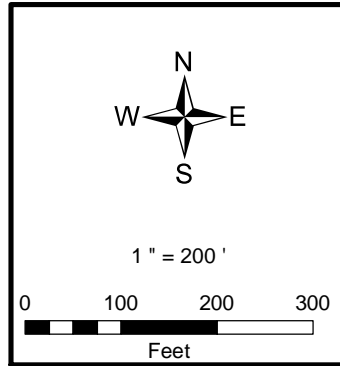
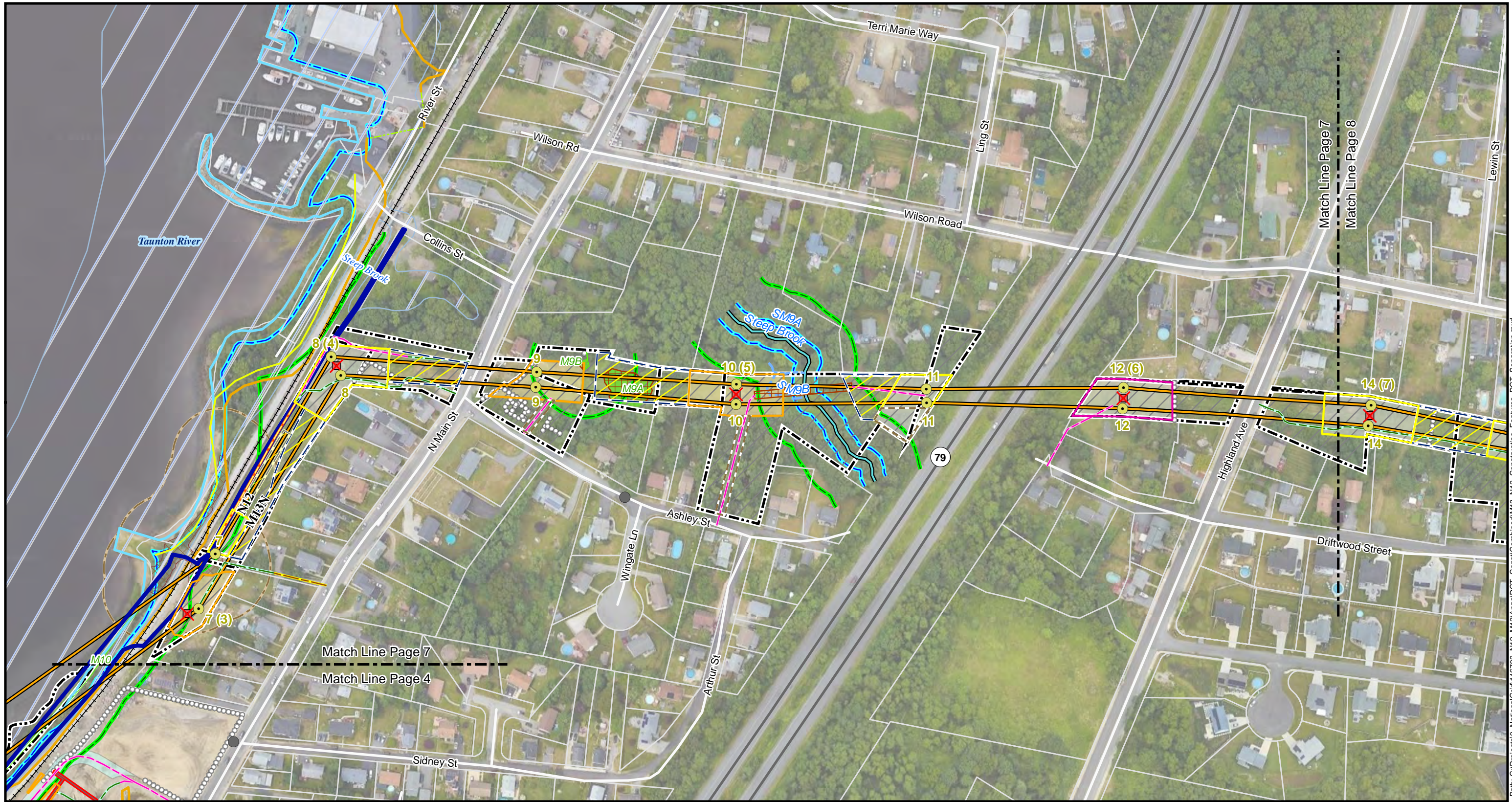


Commonwealth of Massachusetts

Bristol County:
City of Fall River

NAD 1983 UTM Zone 18N USFT

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Structure Maintenance & Improvements Proposed or Replacement Structure Structure to Be Removed Transmission Line Improvements Proposed Overhead Line Road Maintenance & Improvements Improve Existing Access, Widen and Refresh with Stone Install New Access Road New Overland Access (Drive and Crush) Access Road and Permanent Work Area	Work Envelopes Work Envelope (Mow Only) Work Envelope with Minor Grading Work Envelope with Major Grading Pull Pad Work Envelope (Mow Only) Pull Pad Work Envelope (Grading) Construction Mat Tree Clearing Existing Access - No Improvements Approximate Pipeline Location Existing Right of Way	National Grid Owned Land Parcel Boundary Field GPS Survey Point Field GPS Survey Line Stone Wall Man Hole Wetland Border Perennial Stream or River Mean Annual High Water Line Ephemeral Stream Field Delineated Wetland Delineated Coastal Bank Coastal Bank 100ft Buffer Riverfront Area 100 ft Buffer Wetland	Jurisdiction (Tidelands Jurisdiction - Ch 91) Historic High Water (Tidelands Jurisdiction - Ch 91) Inferred Historic High Water (Tidelands Jurisdiction - Ch 91) FEMA Flood Hazard (DFIRM 100yr) State Highway Local Road Railroad Proposed MassDOT Rail Station
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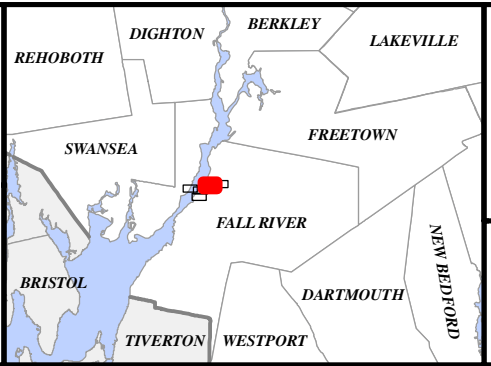
N12/M13 Double Circuit Tower Separation Project

Single Environmental Impact Report Figures

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New England Power Company

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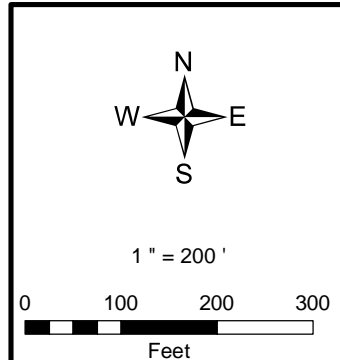
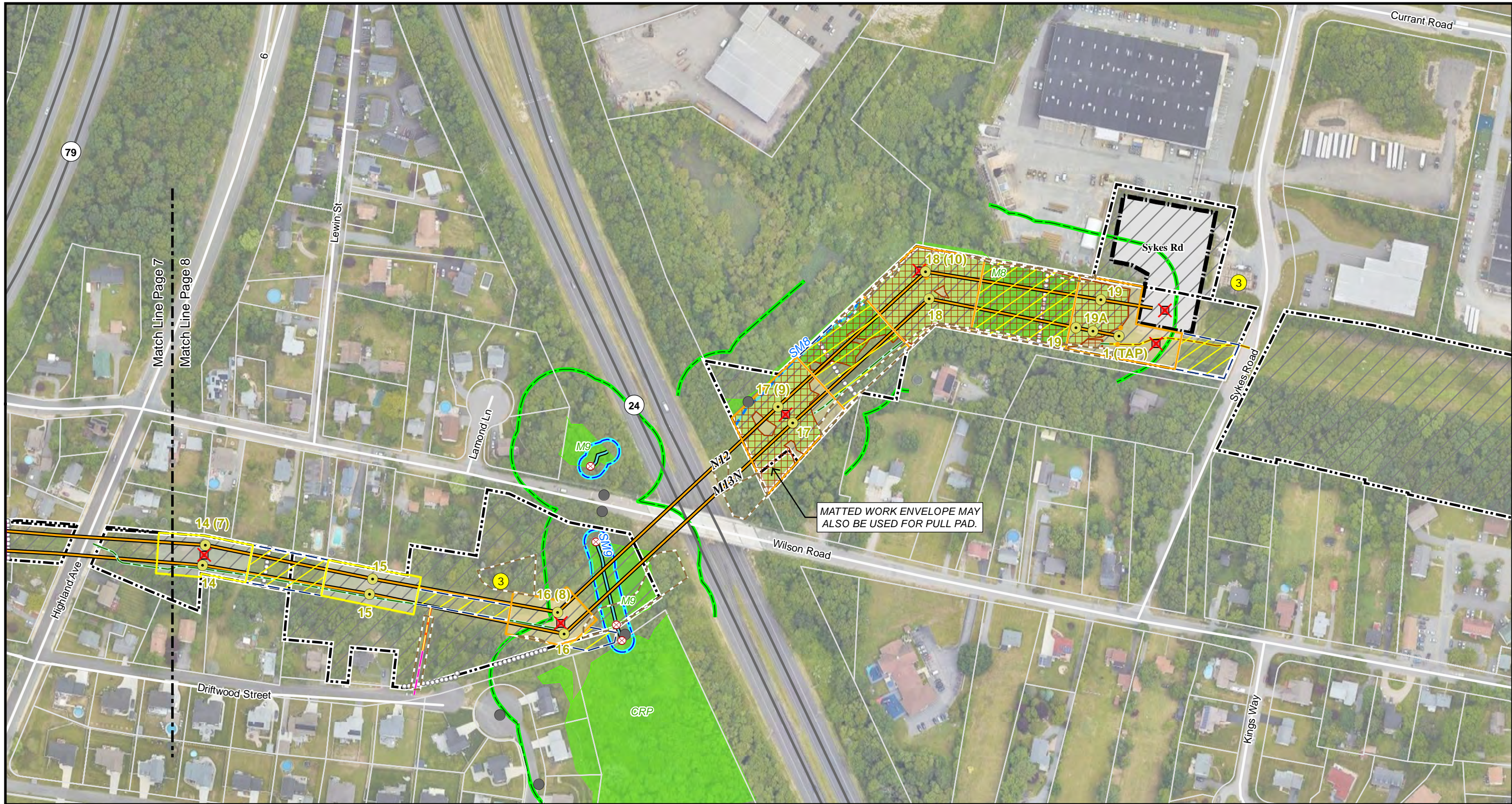


Commonwealth of Massachusetts

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Structure Maintenance & Improvements Proposed or Replacement Structure Structure to Be Removed Transmission Line Improvements Proposed Overhead Line Road Maintenance & Improvements Improve Existing Access, Widen and Refresh with Stone Install New Access Road New Overland Access (Drive and Crush) Work Envelopes Work Envelope (Mow Only) Work Envelope with Minor Grading Work Envelope with Major Grading Pull Pad Work Envelope (Mow Only)	Potential Laydown or landing area Construction Mat Tree Clearing Existing Access - No Improvements Existing or Proposed Substation Site Existing Right of Way National Grid Owned Land Parcel Boundary Field GPS Survey Point Culvert Man Hole Field GPS Survey Line Stone Wall Wetland Border Perennial Stream or River Intermittent Stream Field Delineated Wetland Riverfront Area 100 ft Buffer Wetland	State Highway Local Road
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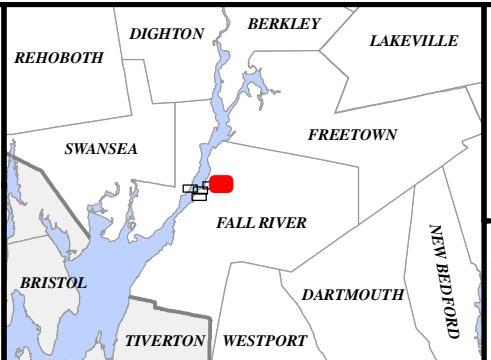
N12/M13 Double Circuit Tower Separation Project

Single Environmental Impact Report Figures

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New England Power Company

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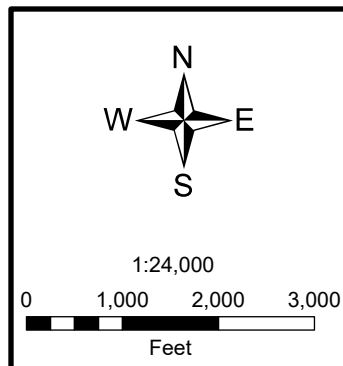
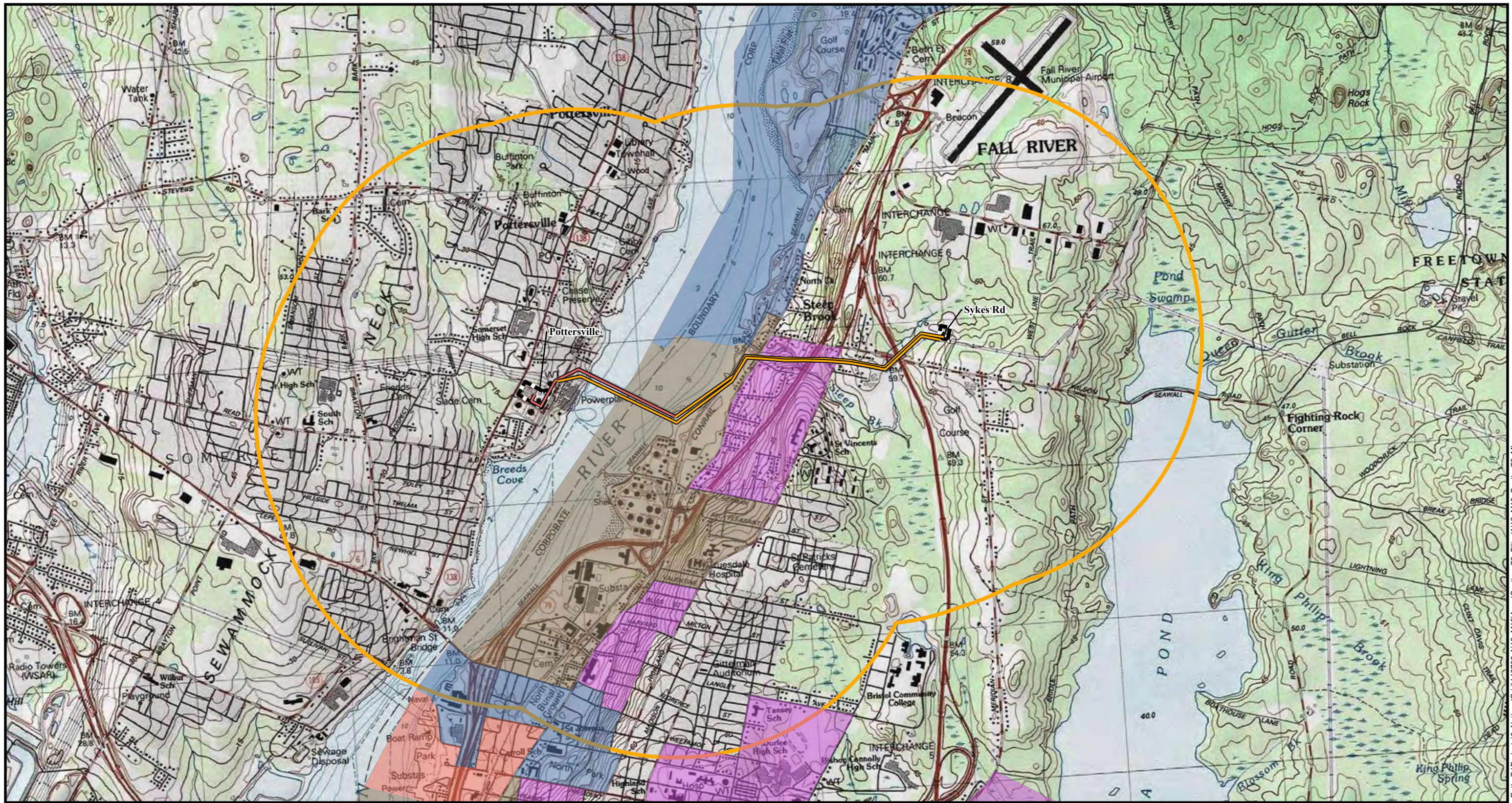


Commonwealth of Massachusetts

Bristol County:
City of Fall River

NAD 1983 UTM Zone 18N USFT

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- Proposed Overhead Line
- Existing Transmission Line
- Existing Substation Site
- Income
- Income and English isolation
- Minority
- Minority and English isolation
- Minority and income
- Minority, income and English isolation
- 1 Mile Project Buffer
- English isolation

Environmental Justice Criteria

N12/M13 Double Circuit Tower Separation Project

Environmental Justice Map
Page 9 of 10
New England Power Company

Date: 4/11/2023

Author: ML

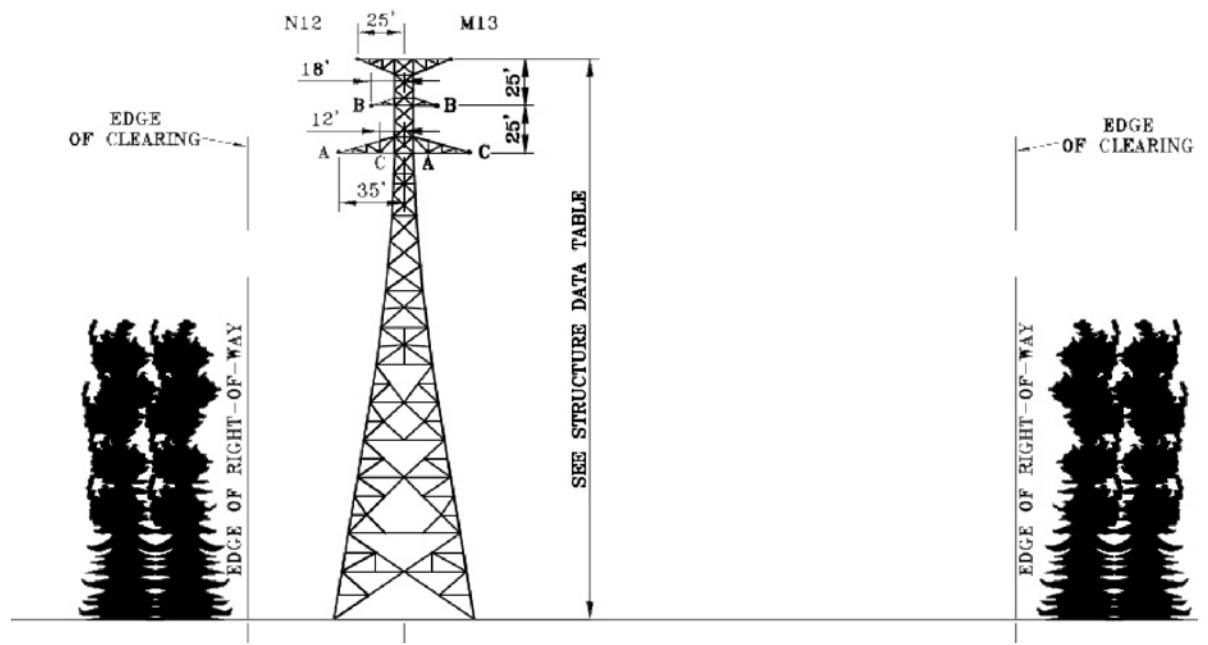


Commonwealth of Massachusetts

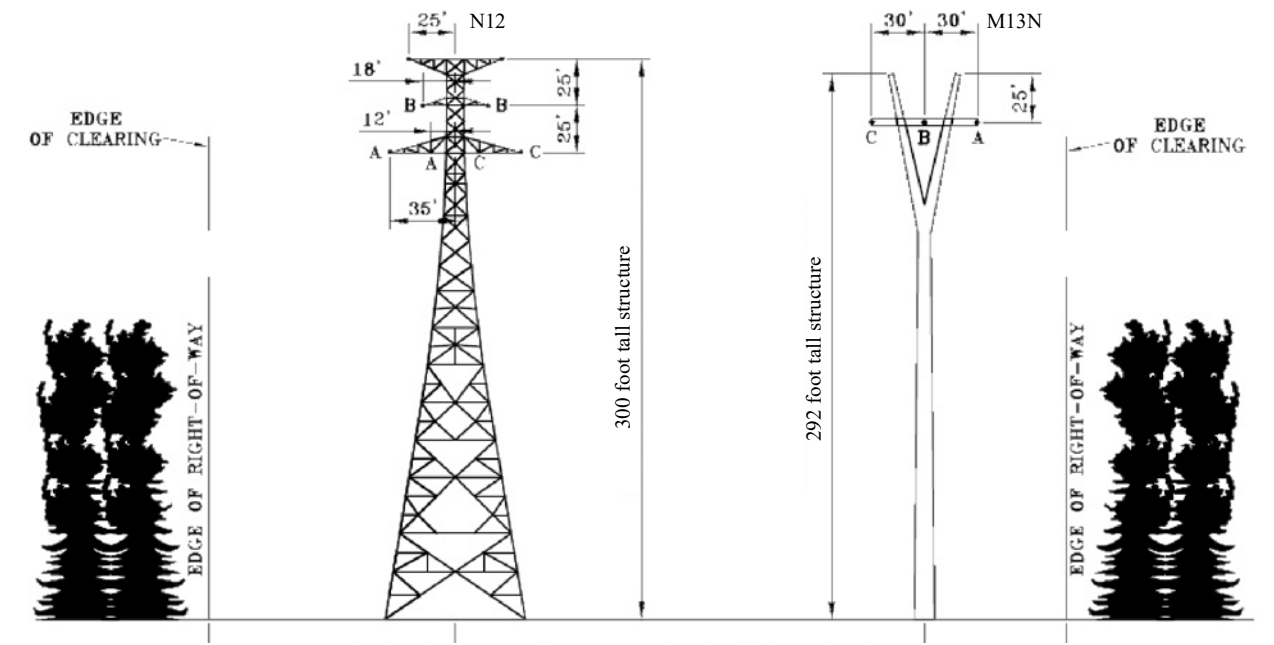
Bristol County:
City of Fall River

NAD 1983 UTM Zone 18N USFT



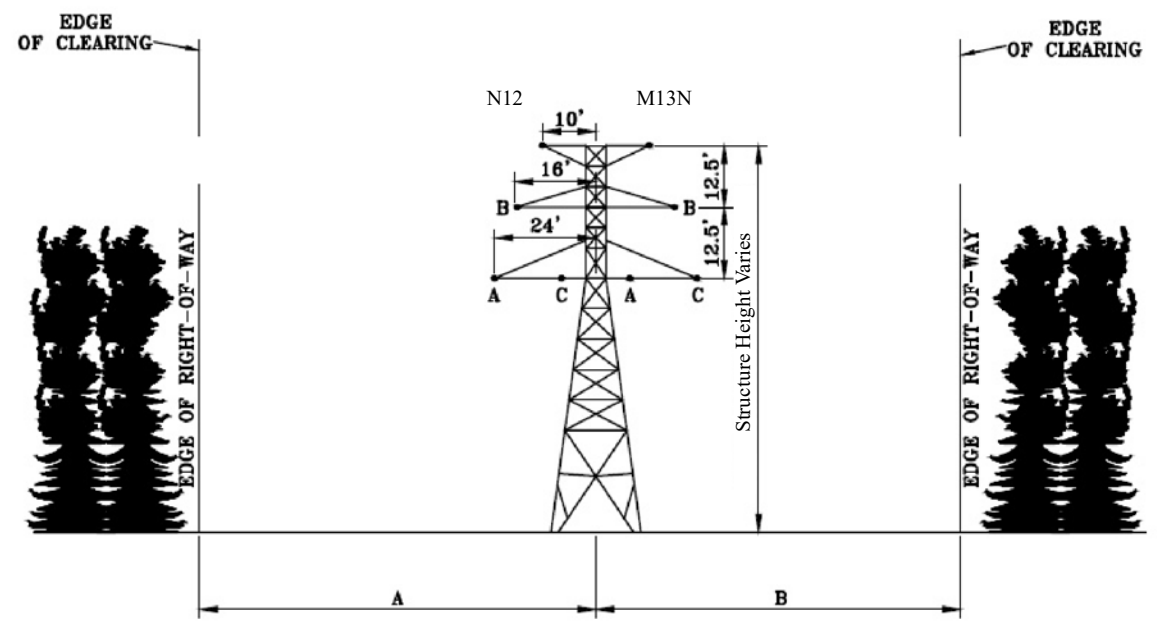


Existing Conditions View

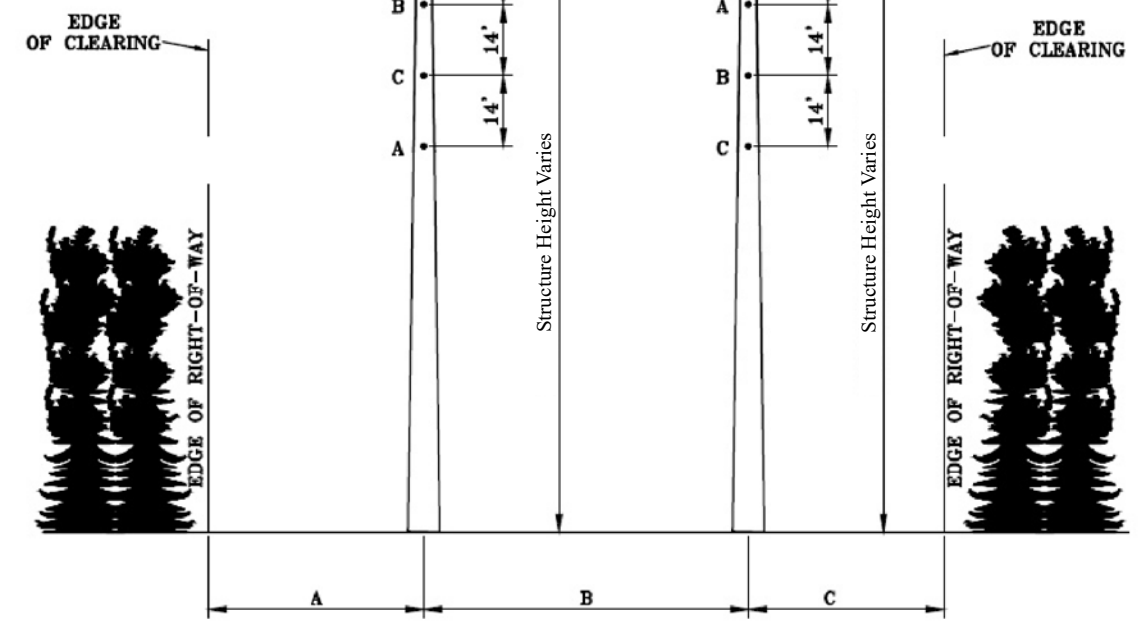


Proposed Conditions View

River Crossing Structures, View to the East



Existing Conditions View



Proposed Conditions View

Tangent Transmission Structures, View to the East



N12/M13 Double Circuit Tower Separation Project

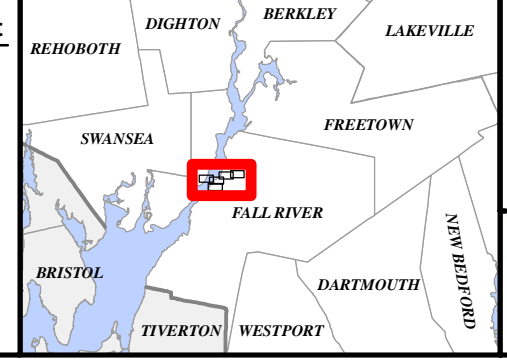
Typical ROW Cross Sections

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New England Power Company

Date: 4/11/2023

Author: TDH



Commonwealth of Massachusetts

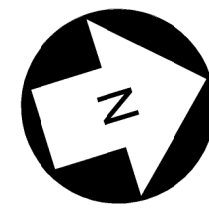
Bristol County:
City of Fall River

NAD 1983 UTM Zone 18N USFT



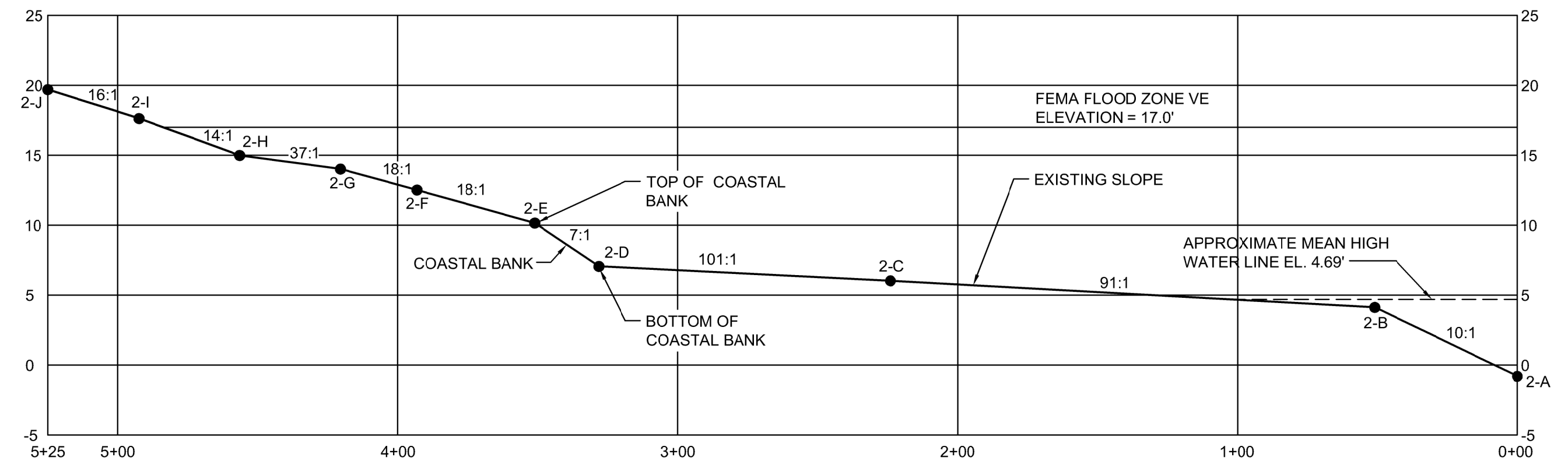
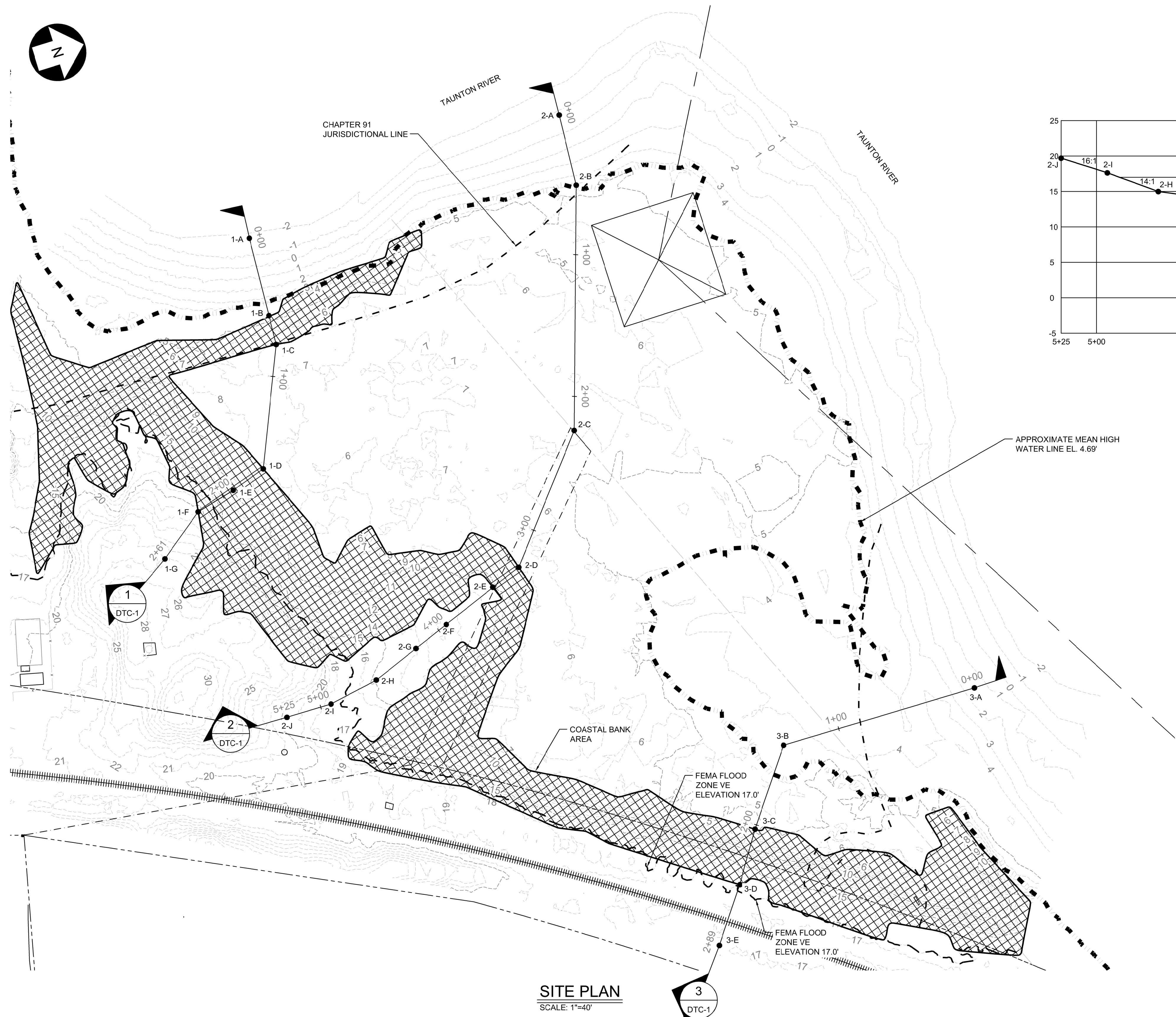
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Appendix B-2: Coastal Bank Resource Delineation

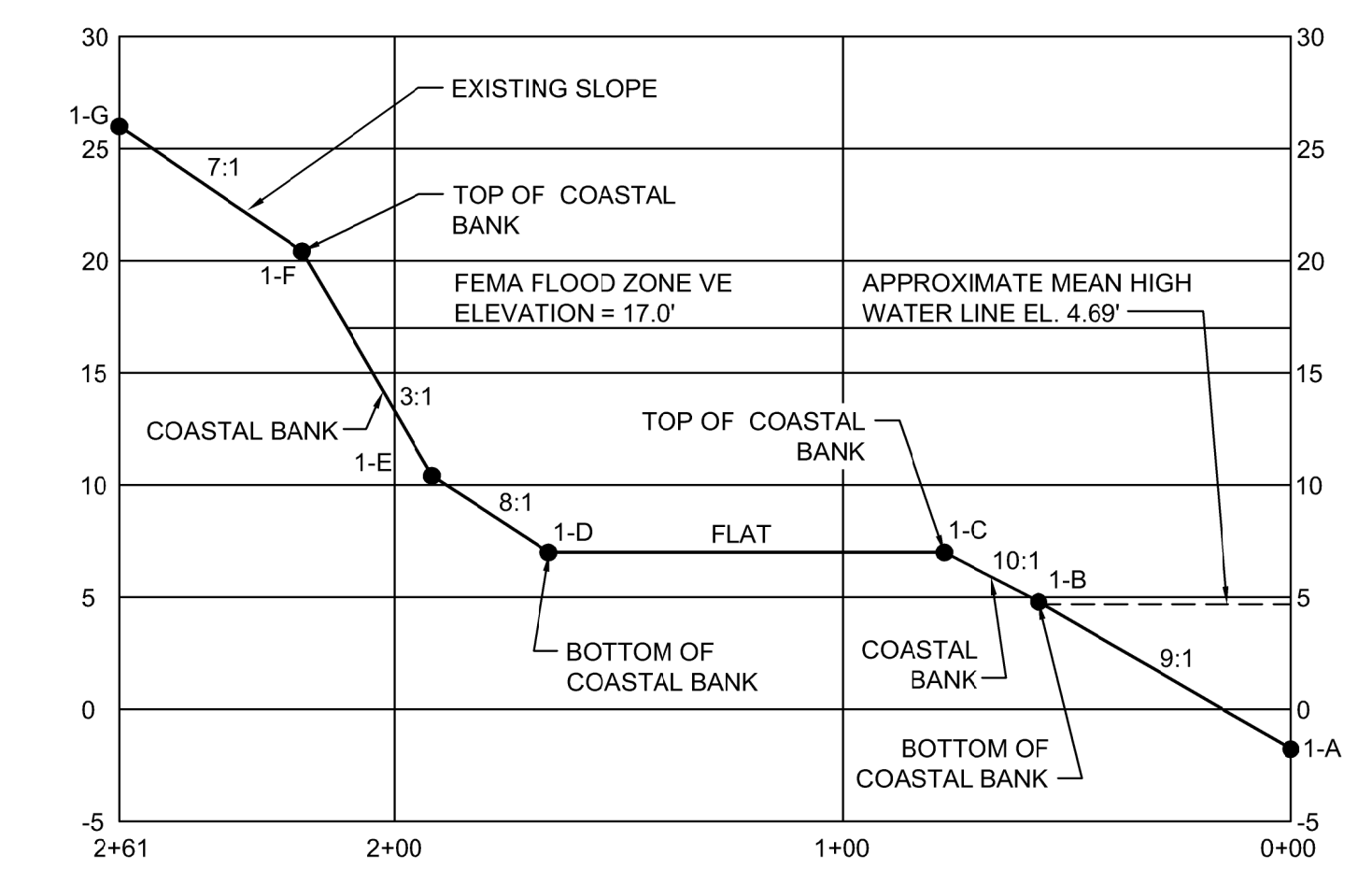


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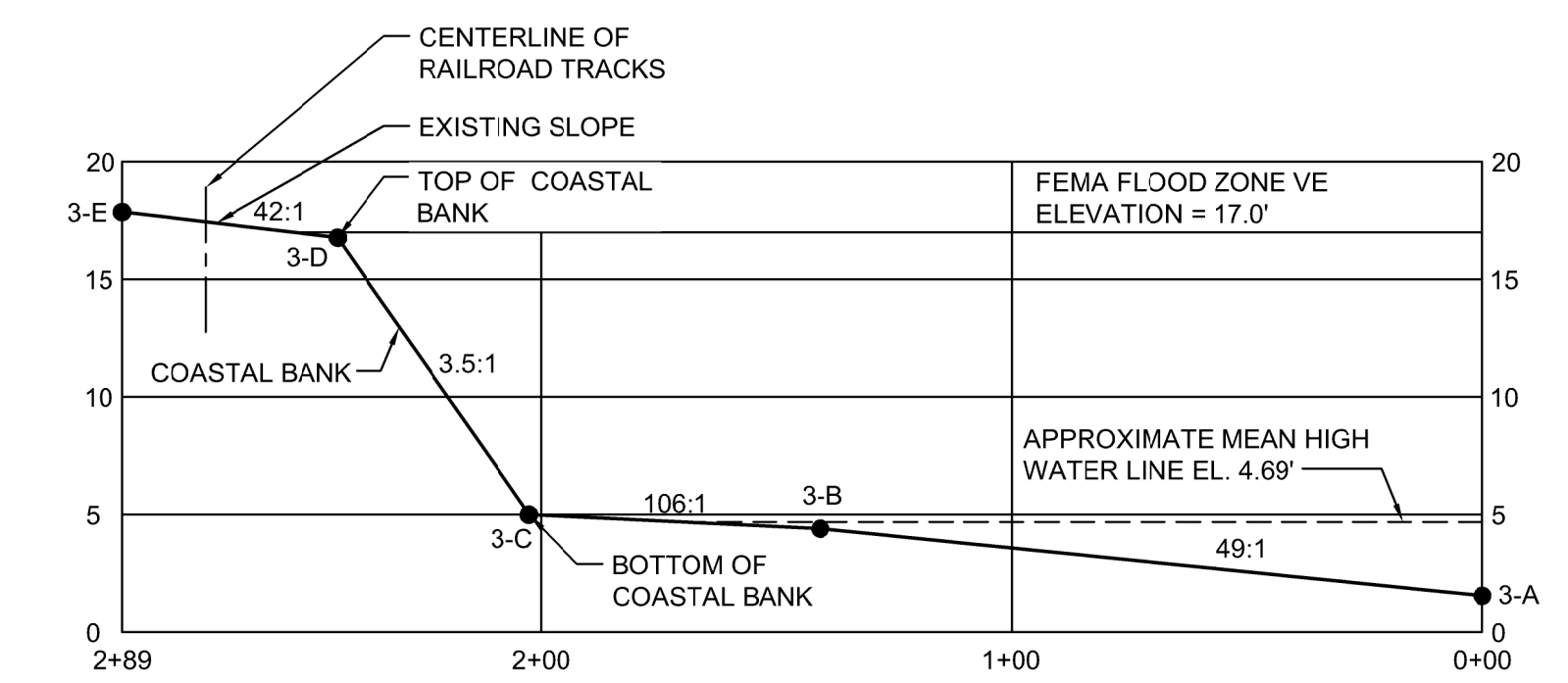
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- TIDAL DATA BASED ON MLLW AT STATION 8447281, STEEPBROOK, MA.



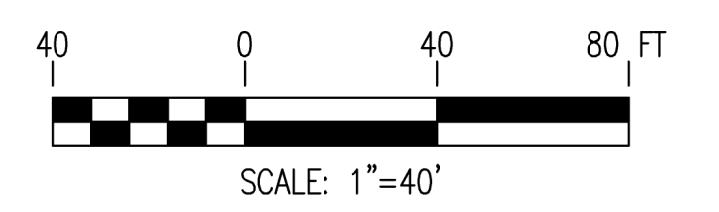
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 SCALE: 1"=5' (VERT)



1 SECTION
 DTC-1 SCALE: 1"=40' (HORIZ)
 SCALE: 1"=5' (VERT)



3 SECTION
 DTC-1 SCALE: 1"=40' (HORIZ)
 SCALE: 1"=5' (VERT)



SITE PLAN
 SCALE: 1"=40'

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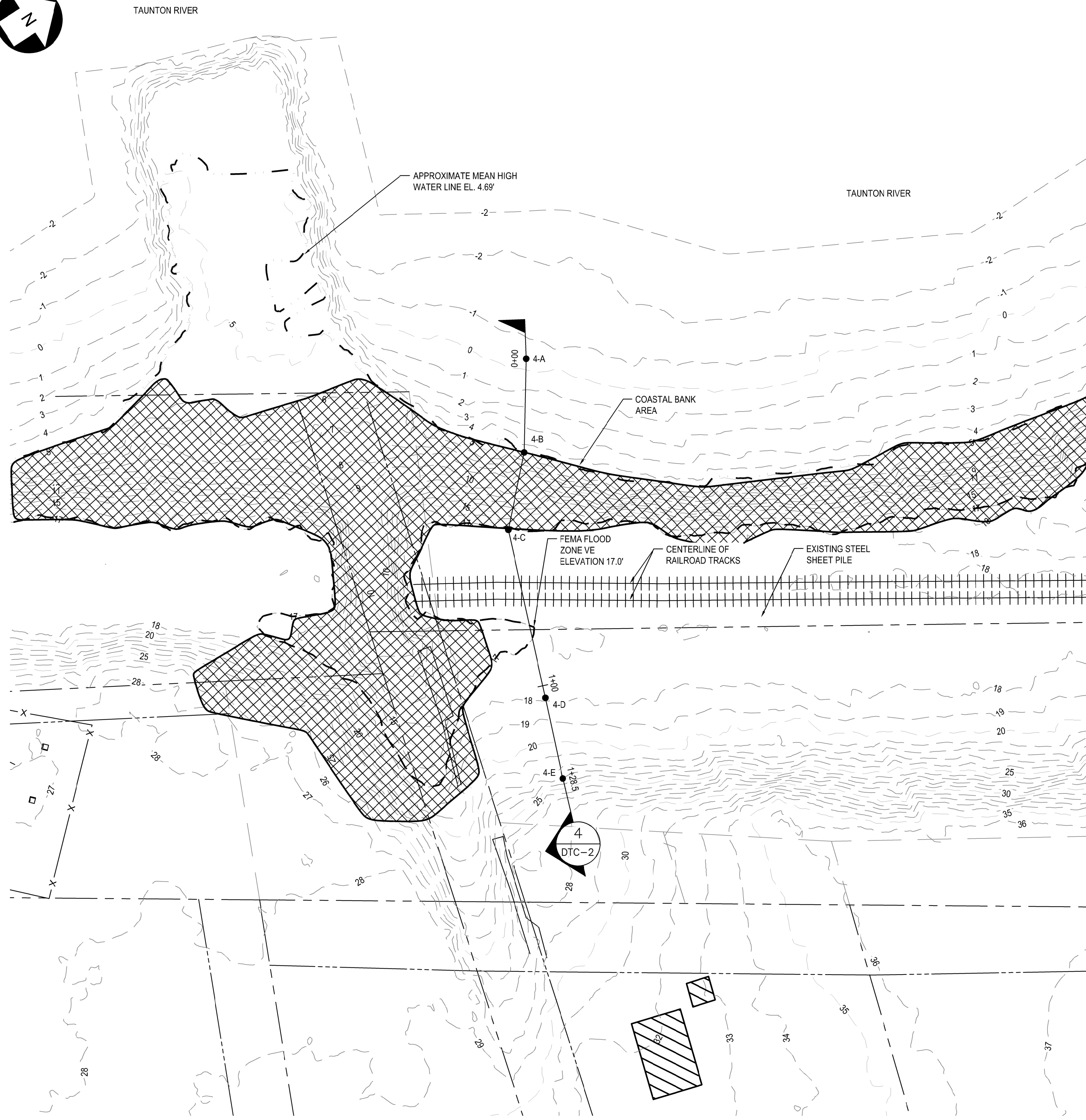
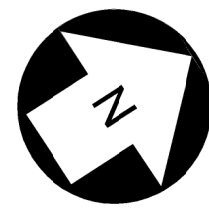


No	DATE	REVISION	BY	CHKD	ENGR	SUPV



PROJ #	DTC PERMIT PLAN			
WORK #	NATIONAL GRID, N12 & M13N 115 KV			
DRAWN	EVD	TRANSMISSION LINES		
CHECKED		FALL RIVER, MA		
DESIGN ENG		DATE	SCALE	SHEET
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		146782-DTC-1		

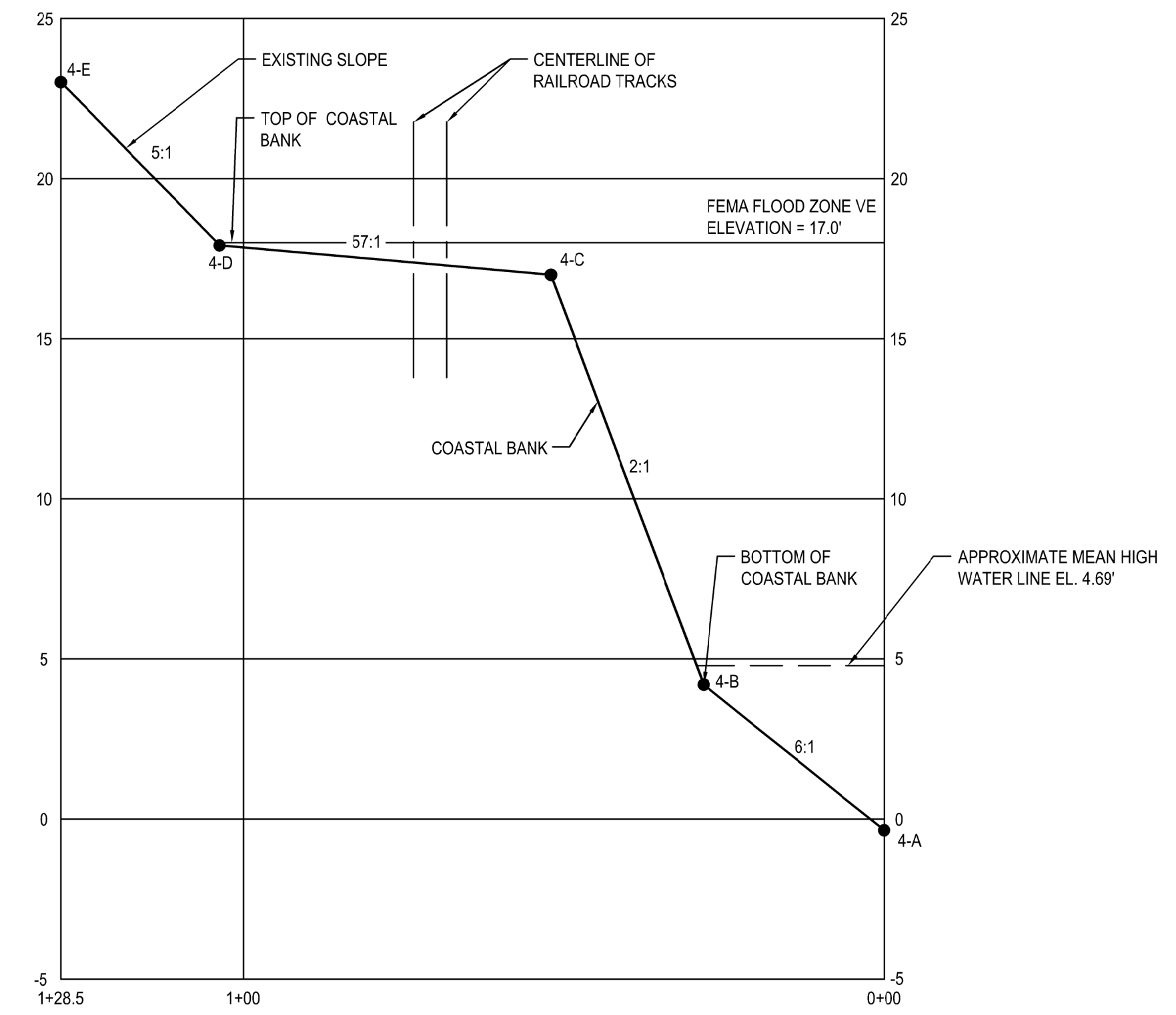
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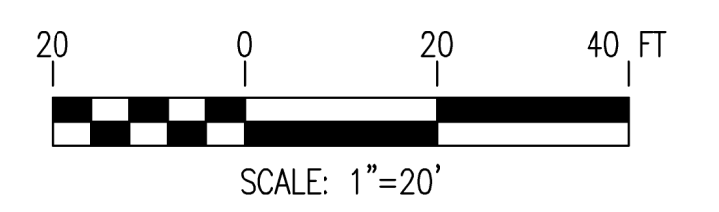
SITE PLAN
SCALE: 1"=20'

NOTES:

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- TIDAL DATA BASED ON MLLW AT STATION 8447281, STEEPBROOK, MA.



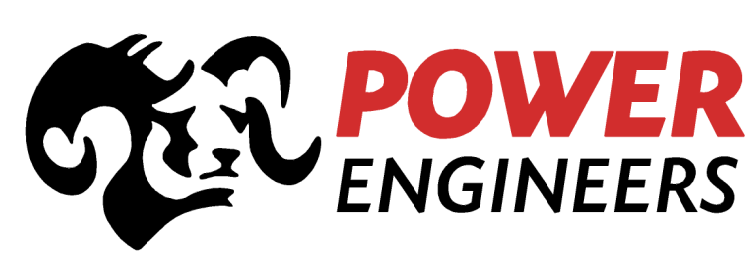
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SCALE: 1"=5' (VERT)



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CALL BEFORE YOU DIG

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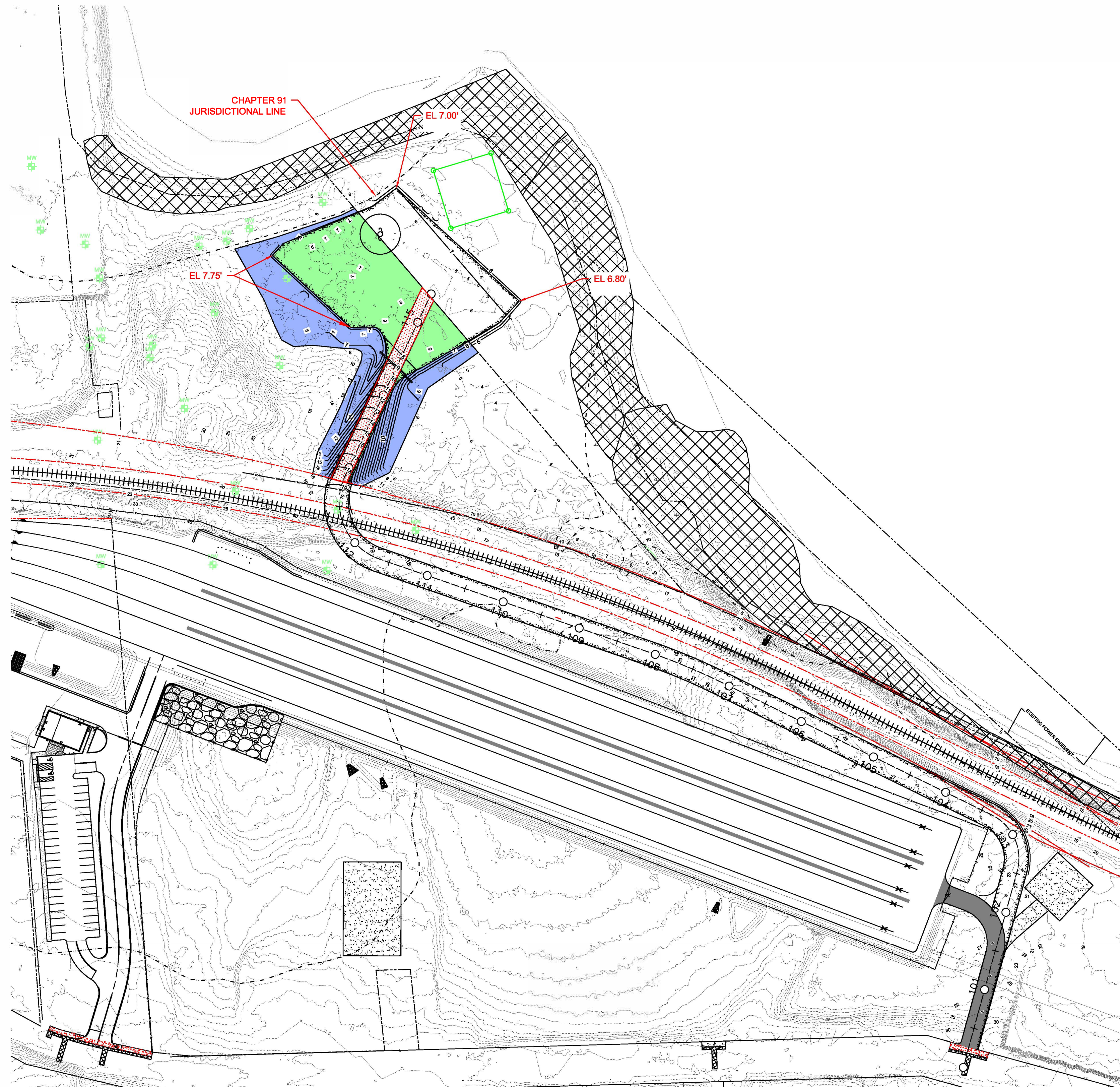
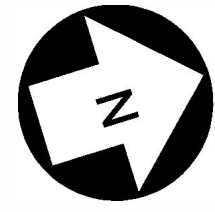


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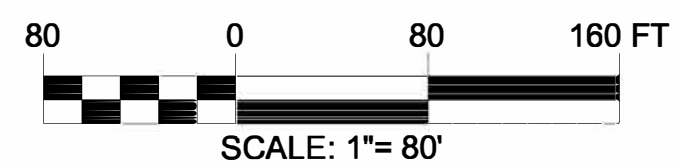


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	TRANSMISSION LINES			
	FALL RIVER, MA			
DRAWN	EVD	DATE	SCALE	SHEET
CHECKED		2022-02-16	1"=20'	1 OF 1
DESIGN ENG				
DESIGN SUPV				
SHEET NAME				
146782-DTC-2				

Appendix B-3: Preliminary Grading Plans



PRELIMINARY
 NOT FOR CONSTRUCTION
 06-27-23



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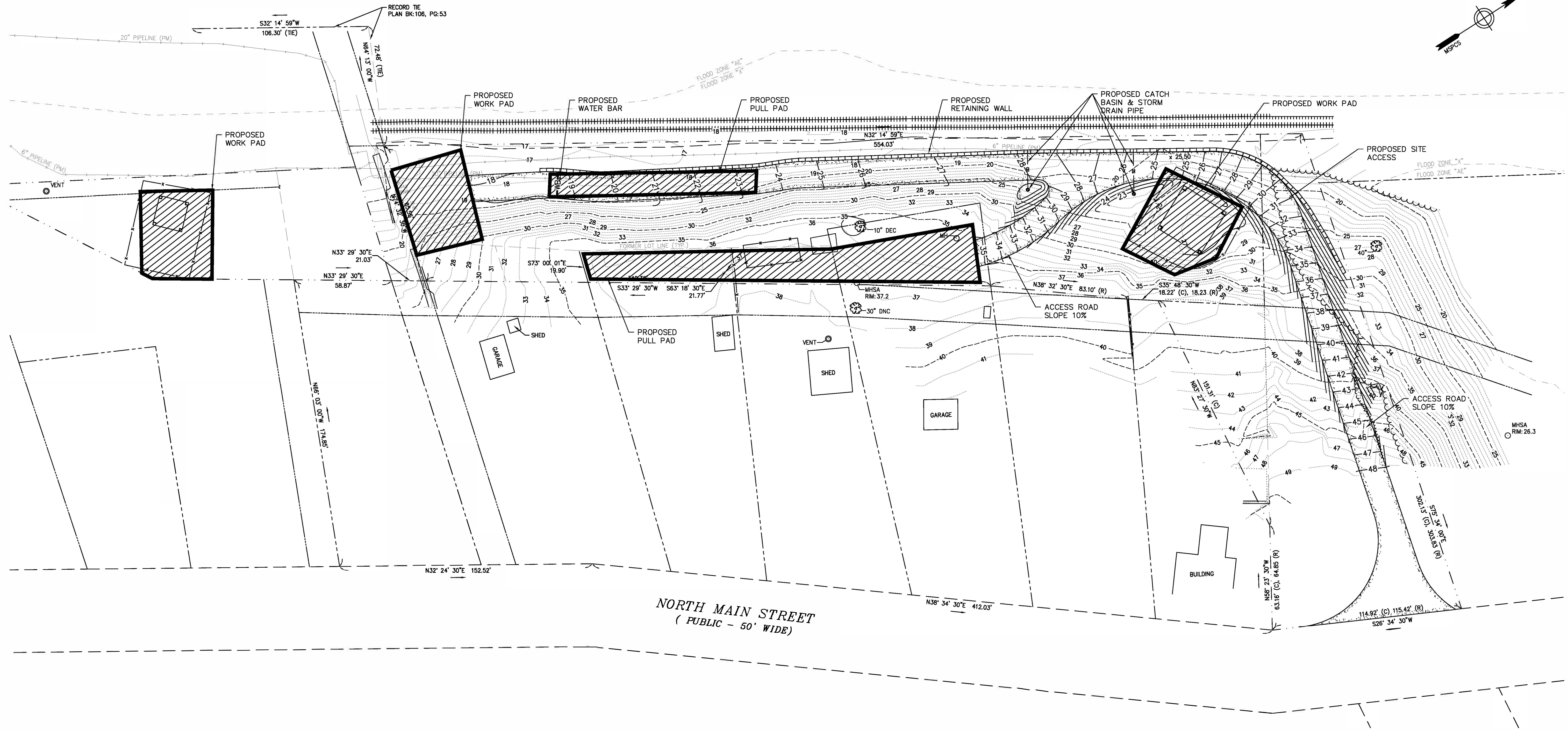
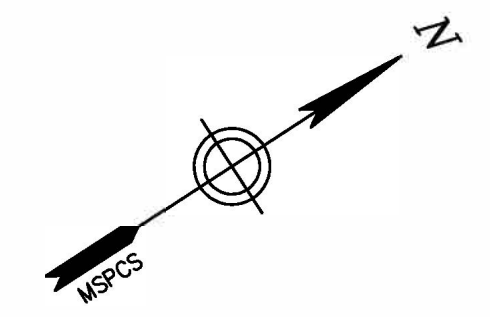


No	DATE	REVISION	BY	CHKD	ENGR	SUPV



PROJ #	
WORK #	
DRAWN	EVD
CHECKED	PSK
DESIGN ENG	
DESIGN SUPV	

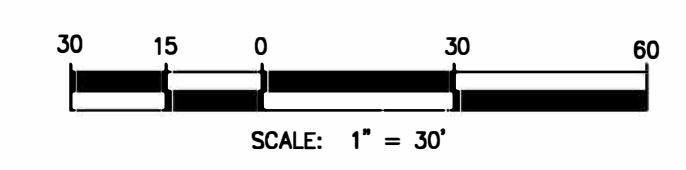
ACCESS SCHEMATIC NATIONAL GRID, N12 & M13 115 KV TRANSMISSION LINES FALL RIVER, MA			
DATE	SCALE	SHEET	SHEET NAME
2021-11-04	1" = 80'	1 0 F1	1 4882-C3



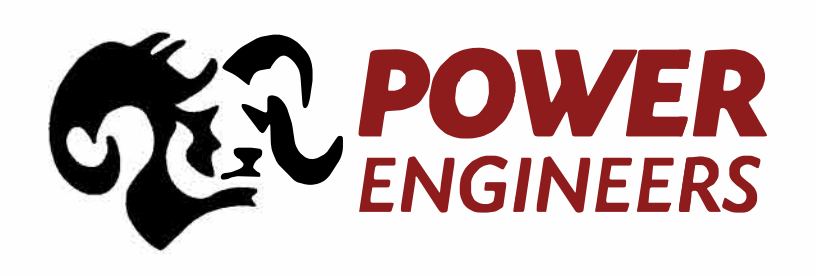
NORTH MAIN STREET
(PUBLIC - 50' WIDE)

SITE PLAN
SCALE: 1"=30'

PRELIMINARY
NOT FOR CONSTRUCTION
12-16-21



AUTOCAD FILE NAME: Fall_River_Str_3-4_Access_Plan.dwg



No	DATE	REVISION	BY	CHKD	ENGR	SUPV



PROJ #	
WORK #	
DRAWN	EVD
CHECKED	KRV
DESIGN ENG	
DESIGN SUPV	

ACCESS SKETCH N12-3 & M13N-4 NATIONAL GRID N12 & M13 115 kV TRANSMISSION LINES FALL RIVER, MA			
DATE	SCALE	SHEET	SHEET NAME
2021-XX-XX	1"=30'	1 OF 1	146782-XX