2018 NH Coastal Climate Summit
Municipalities Rising to the Climate Challenge

Exeter Resilience Initiatives
Wastewater Treatment Facility Upgrades

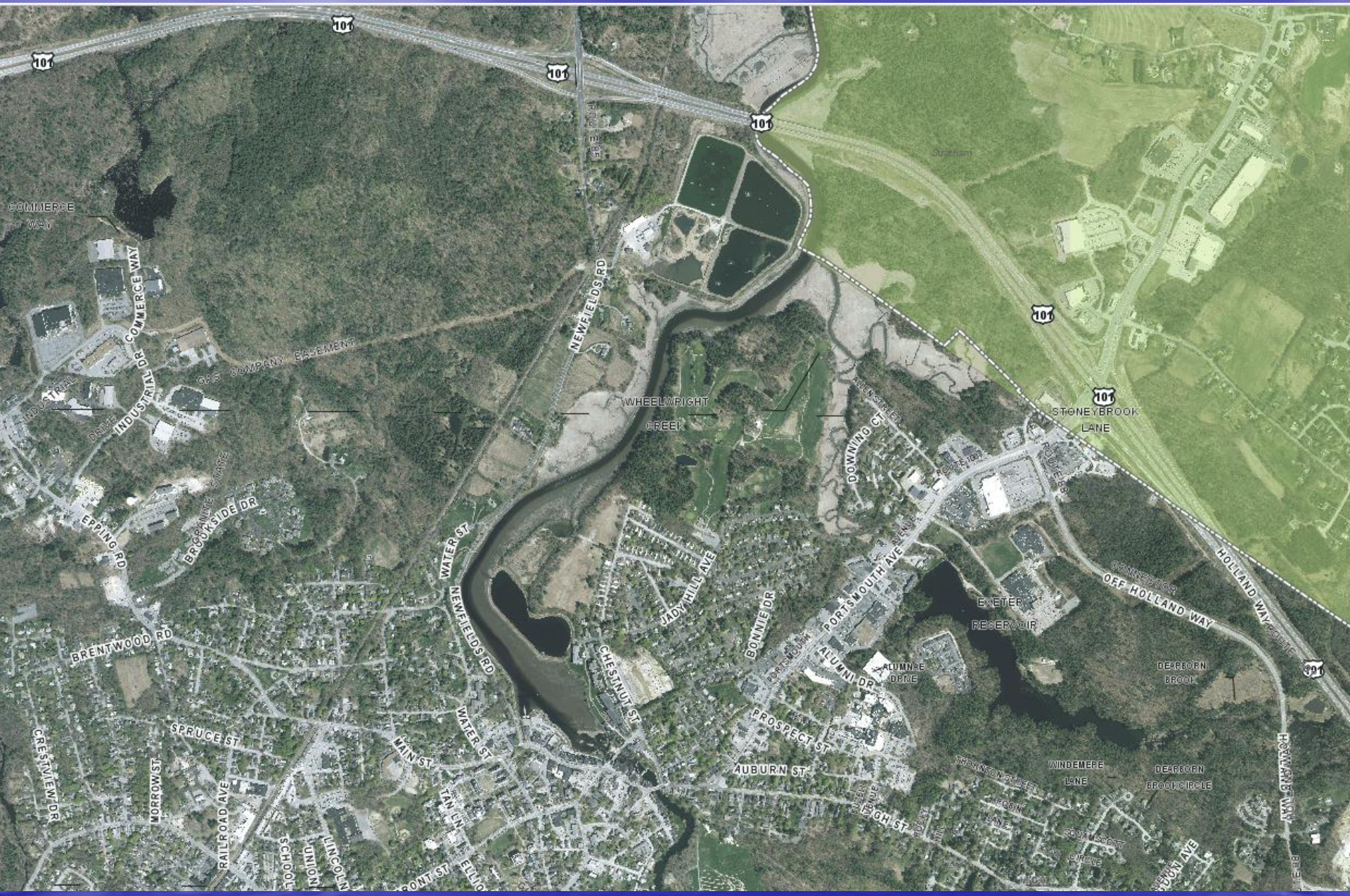
Great Bay National Estuarine Research Reserve

Greenland, NH

June 20, 2018

Exeter WWTF Construction October 2017

Exeter WWTF Construction June 2018



$54 Million WWTF Project Areas


NEWFIELDS RD
WATER ST
NEWFIELDS RD
WATER ST
ARK ST
DEWEY ST
GREEN ST
JADY HILL AVE
CHESTNUT ST
GLENERVIN LN
JADY HILL AVE
HAVEN LN
HAVEN LN
WEBSTER AVE
DOUGLASS WAY
BONNIE DR
GREEN HILL RD
HIGHLAND S
PORTSMOUTH AVE
ALUMNI DR
DOWNING CT
STEVENS CT

Swasey Park

Main Sewer Pumping Station

Squamscott River Flooding February 2010

DRAFT

National Estuarine Research Reserve System Science Collaborative

Project Title: Collaborative Planning for Climate Change Adaptation: A Case Study in Great Bay National Estuarine Research Reserve (known as the Climate Adaptation Planning for Exeter (CAPE) project)

A Final Report Submitted to the
National Estuarine Research Reserve System
Science Collaborative
August 15, 2015

Additional Information added for Town of Exeter, August 31, 2105

Project Start Date: September 1, 2012

Project Completion Date: June 30, 2015

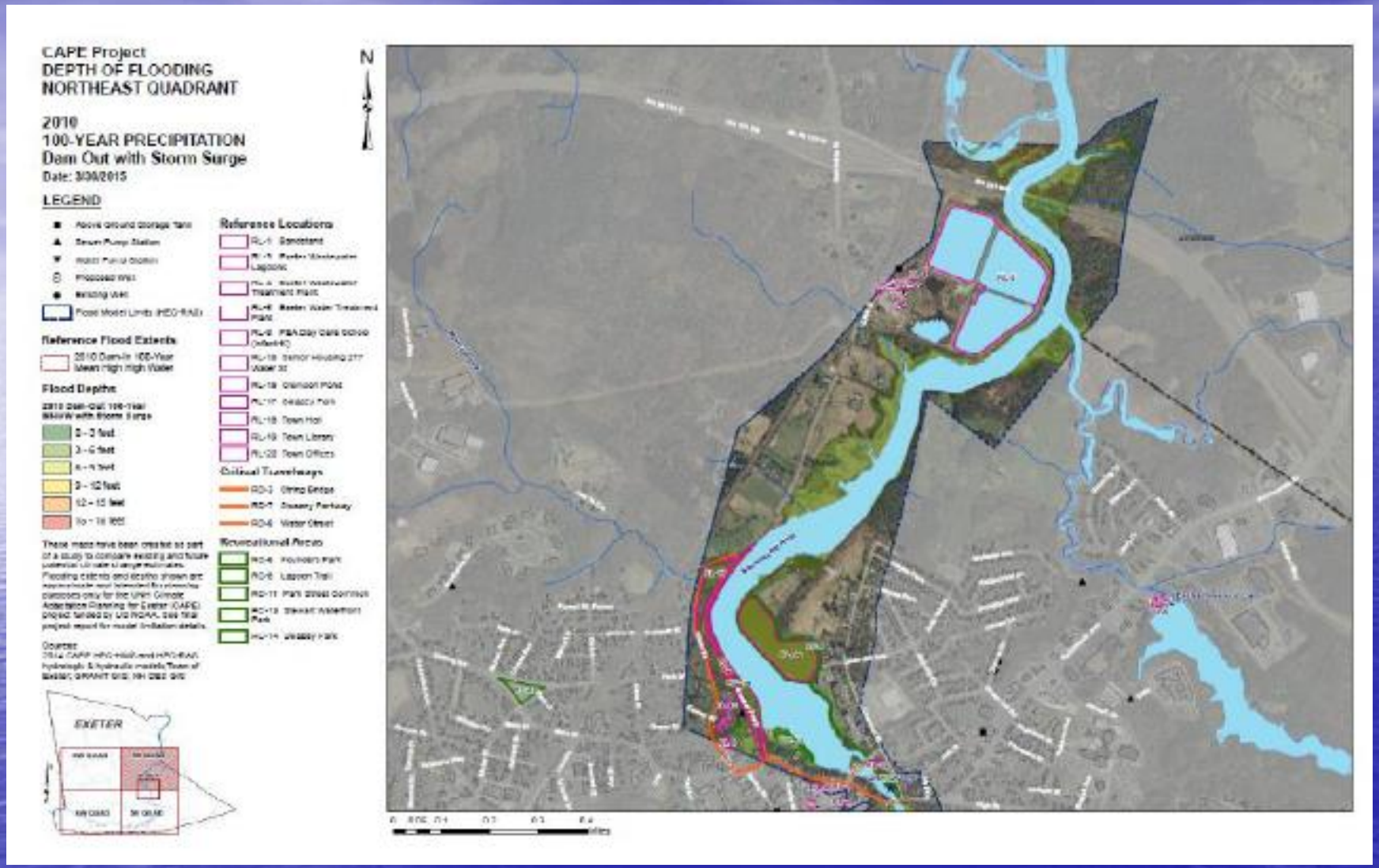
Project Coordinator: Paul Kirshen
Applied Science Lead: Paul Kirshen
Collaboration Lead: Semra Aytur

Submitted by:

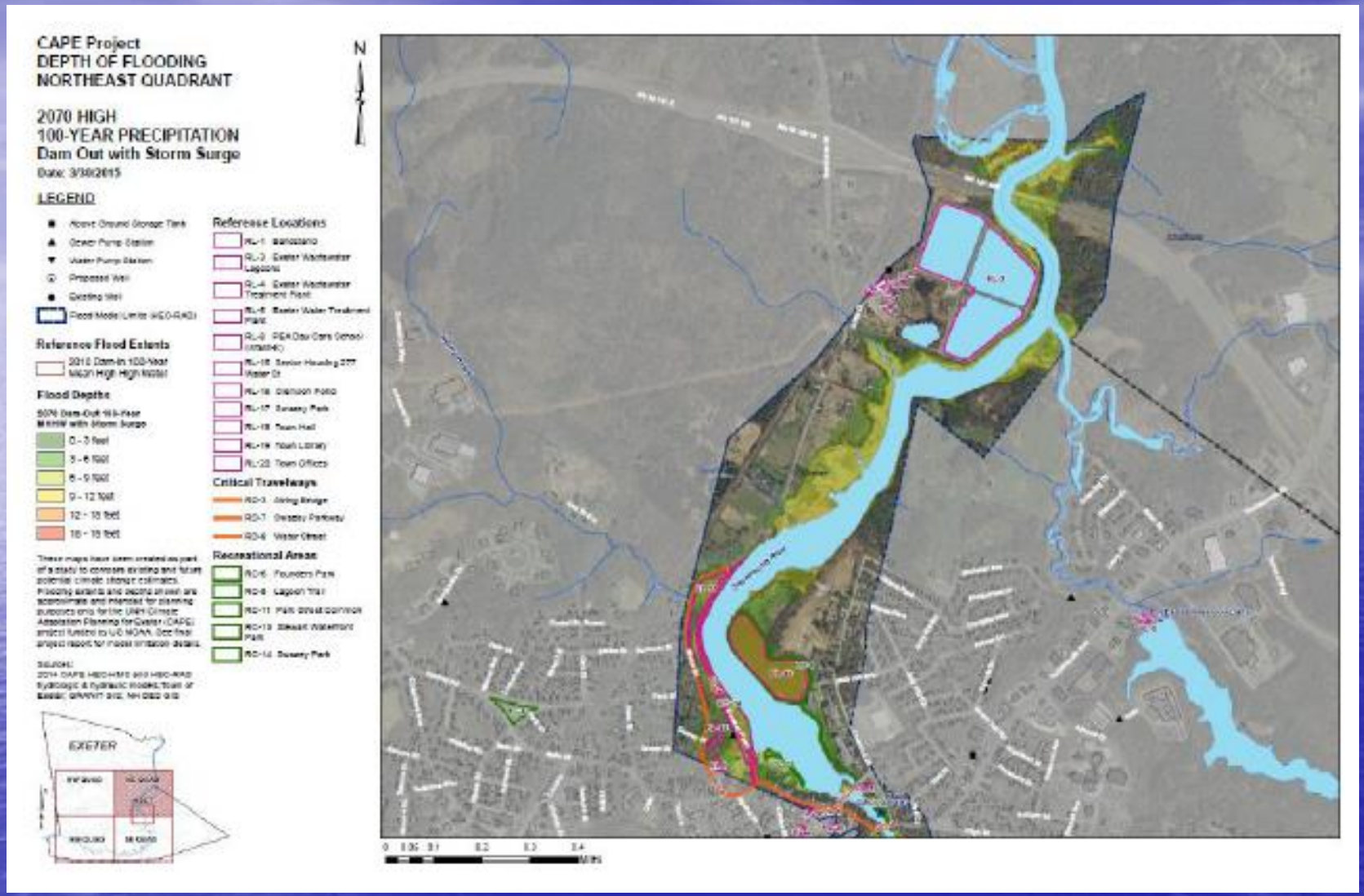
Name: Paul Kirshen, University of New Hampshire (after September 2015, UMass-Boston)
NERR: Great Bay
Email: paul.kirshen@gmail.com
Phone: 978-831-4391

This project was funded by a grant from NOAA/National Estuarine Research Reserve Science Collaborative, NOAA Grant Number NA09NOS4190153.

University of New Hampshire



CAPE Depth of Flooding: 2010, 100-Yr w/Surge



CAPE Depth of Flooding: 2070, High

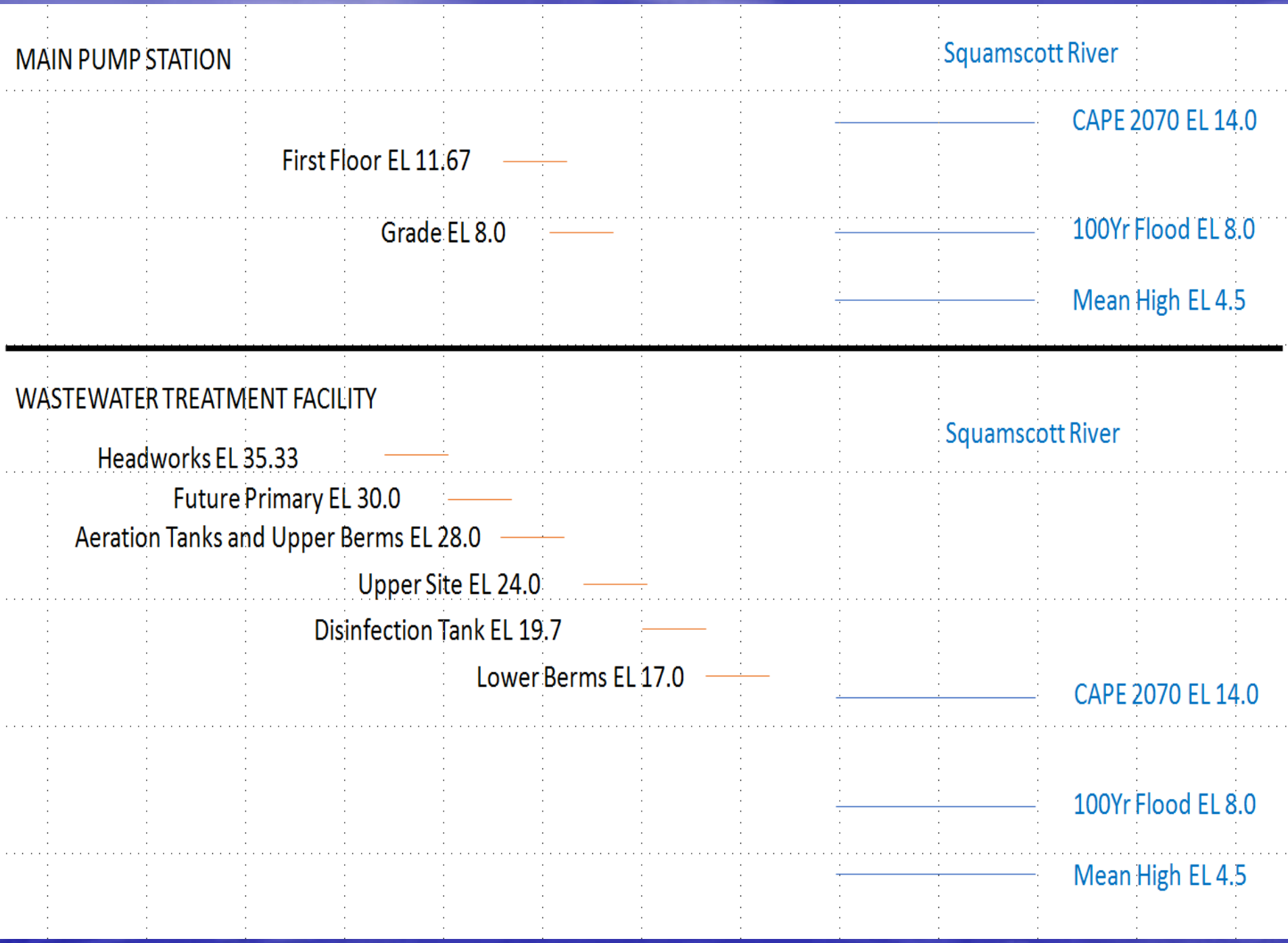
WWTF Design

FEMA Flood Insurance Rate Map

100 year flood: Elevation 8 MSL

CAPE

Projected 100-yr: El 14 (2070)


MAIN PUMP STATION
Squamscott River
CAPE 2070 EL 14.0
First Floor EL 11.67
Grade EL 8.0
100Yr Flood EL 8.0
Mean High EL 4.5
WASTEWATER TREATMENT FACILITY
Squamscott River
Headworks EL 35.33
Future Primary EL 30.0
Aeration Tanks and Upper Berms EL 28.0
Upper Site EL 24.0
Disinfection Tank EL 19.7
Lower Berms EL 17.0
CAPE 2070 EL 14.0
100Yr Flood EL 8.0
Mean High EL 4.5

For more information

Jennifer Perry, Director
Exeter Public Works
jperry@exeternh.gov
(603) 773-6157

www.exeternh.gov


TOWN OF EXETER
FOUNDED
1638
NEW HAMPSHIRE

CAPE PROJECTED FLOODS

2010 El 8

2040

2070 Low (with 2040 build-out) El 11

2070 High (with 2070 build-out) El 13

HISTORICAL FLOODS

October 1996 ~ 500 Year ???

Mother's Day Flood ~ 100 Year Flood

May 13 - 20, 2006

Peak streamflow 3,520 cfs @ Haigh Rd

Patriots Day Flood ~ 50 Year Flood

April 16 - 21, 2007

Peak streamflow 2,850 cfs @ Haigh Rd

Saint Patrick's Day Flood ~ 20 Year Flood

March 14 - 17, 2010

Peak streamflow 3,010 cfs @ Haigh Rd

April Fool's Flood – 5 Year Flood

April 1 - 4, 2004

Peak streamflow 1,960 cfs @ Haigh Rd


WWTP Enhanced
Nutrient Removal $54 M
Inflow/Infiltration $20 M
Sewer Mains $10 M
Total $84M