

# Resilient East Haddam

Public Workshop #1

Thursday, October 24, 2024

6:30 p.m. – 8:30 p.m.





# Agenda

1. Introductions
2. CIRCA Overview
3. “Resilient East Haddam” Project
4. Existing and Future Conditions
5. Information Sharing/Open Discussion/Q&A







# 1. Introductions

## Here Tonight:

### **CIRCA**

John Truscinski, Director of Resilience Planning  
Nicole Govert, Project Lead Community Resilience Planner  
Mary Buchanan, Community Resilience Planner

### **Kleinfelder**

Neil Kulikauskas, Project Manager/Principal  
Kyle Johnson, Resiliency Specialist  
Dan Pasquale, Project Engineer, Modeling  
Lizzy Curley, Project Engineer, Design  
Kate Riley, Community Engagement Manager

## Advising on the Project:

### **Community and Technical Advisory Committee**

Margot Burns, Senior Environmental Planner - RiverCOG  
Donna Lynn Hilton, General Manager - Goodspeed Opera  
Matthew Sonnenfeld, Director – Goodspeed Opera  
Bob Casner, Chair - East Haddam  
Economic Development Commission  
Rachel Colonni, Chatham Health District  
Todd Gelston, Community Member  
Cameron Hendry, East Haddam Redevelopment Agency  
John Olin, East Haddam Conservation Commission  
Michele Velez, Director of Public Works  
James Ventres, East Haddam Land Use Office  
Jeff Wolter, Chairman - Goodspeed Opera





## 2. CIRCA Overview

- The CT Institute for Resilience & Climate Adaptation (CIRCA) initiated Resilient CT in Fairfield and New Haven Counties 2018 – 2023. Program expanded to New London, Middlesex, Hartford, and Tolland Counties in 2021-2024.
- Goals are to support development of a statewide resilience project pipeline, increase coordination across municipal, regional, and state planning.
- Data & mapping tools to support project development including: Climate Change Vulnerability Index (CCVI) for flooding and heat, zones of shared risk, resilience opportunity areas.
- EJ projects include creation of a statewide EJ Screen mapping tool in partnership with DEEP/DPH and EJ community organizations, and Climate & Equity Grants program w/ DEEP.





# 3. “Resilient East Haddam” Project

Project Goals

Project Overview

Scope of Study

Challenges and Limitations

Schedule



# Project Goals

**Develop adaptation strategies to mitigate the long-term impacts of climate change that are:**

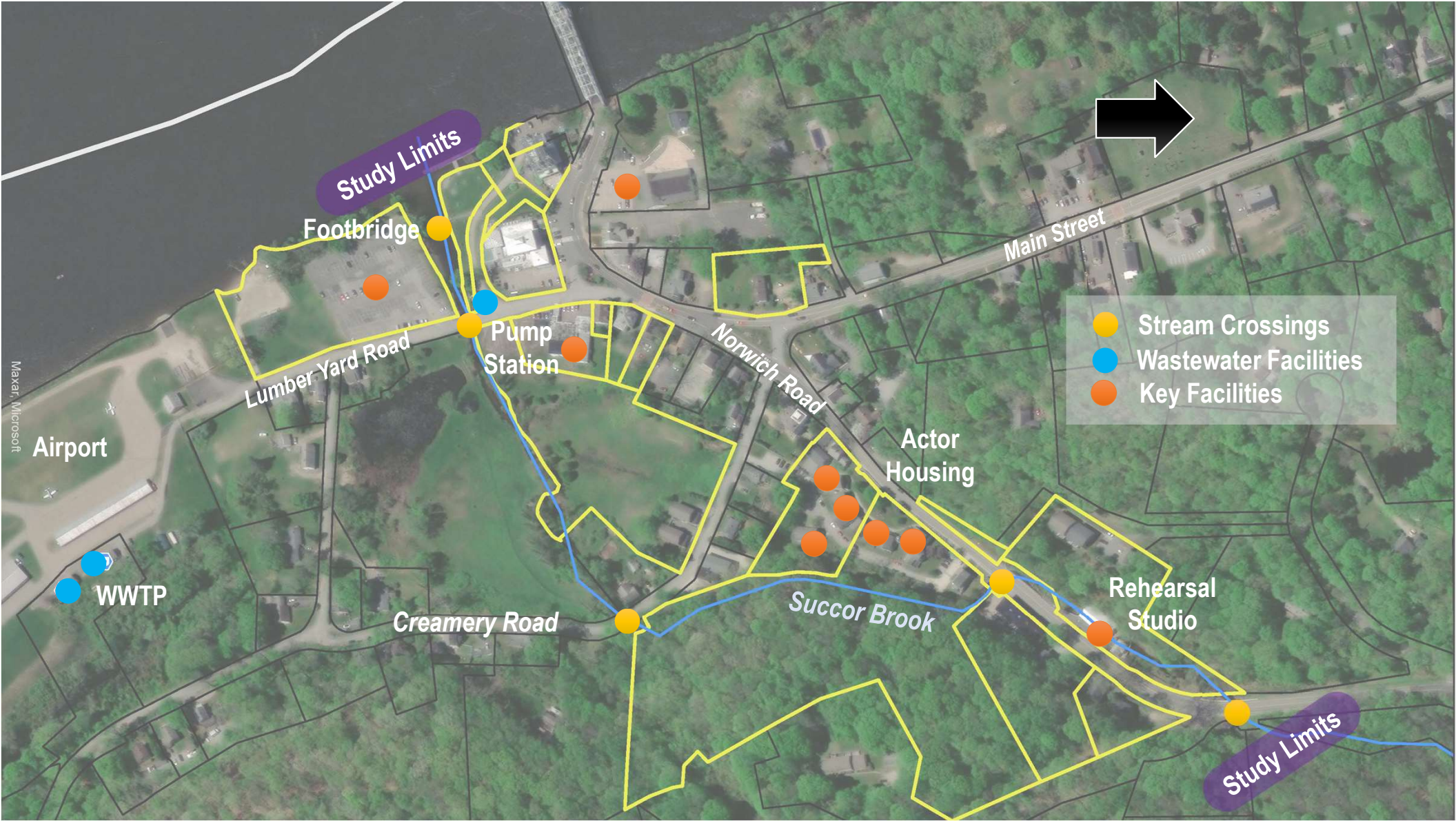
- Scientifically informed
- Able to be implemented
- Have identified funding sources wherever possible
- Align with State and Federal climate resilience programs

**The Primary Objectives are to:**

- Identify interventions (such as floodplain creation, flood protection measures, etc.) to reduce flood risks to key facilities
- Identify new locations for potentially affected locations









# Wastewater Treatment Plant



Photos courtesy Kleinfelder



# Pump Station



Photos courtesy Kleinfelder



# Lumber Yard Road Crossing



Photos courtesy Kleinfelder



# Creamery Road Crossing



Photos courtesy Kleinfelder



# Goodspeed Actor Housing



Photos courtesy Kleinfelder



# Goodspeed Rehearsal Studio



Photos courtesy Kleinfelder

# Scope of Study

## Stakeholder Engagement

- Community Technical Advisory Committee (CTAC)
- Public Workshops

## Current and Future Conditions Analysis

- Calibrate to current conditions, flooding impacts
- Predict the effects from increased rainfall

## Adaptation Options Evaluation

- Limited to lower Succor Brook, Key Buildings, and WWTP

## Cost-Benefit Analysis and Final Recommendations



# Project Schedule

- **Current And Future Conditions Analysis** – October 2024
- **Adaptation Options and Concept Designs** – December 2024
- **Benefit/Cost Analysis** – January 2025
- **Final Report** – March 2025





# 4. Existing and Future Conditions



# Rehearsal Studio



9/2/2021, Photo courtesy E. Blaschik



1/1/2024, Photo courtesy J. Olin



1/10/2024, Photo courtesy J. Olin



# Norwich Road & Artists Village – 9/2/2021



Photos courtesy E. Blaschik



# Creamery Road Crossing – 1/10/2024



Photo courtesy J. Olin

# Roadway and Private Property Inundation on Creamery Road, 9/2/2021



Photos from September 1-2, 2021 Storm, courtesy L. Pszczolkowski

# Hydrology – Present and Future Precipitation Estimates

Year	Precipitation Estimates, Inches			
	NOAA Atlas 14 (Present Day)	CT-PCSAR (1970-99 Baseline)	CT-PCSAR (2040-69 Prediction)	CT-PCSAR (2070-99 Prediction)
10 Year	5.2	4.1	6.1	5.4
20 Year	--	4.7	7.5	6.4
25 Year	6.3	--	--	--
50 Year	7.2	5.7	10.0	8.1
100 Year	8.0	6.6	12.5	9.7
500 Year	10.7	--	--	--



# Hydrology – Predicting Flows

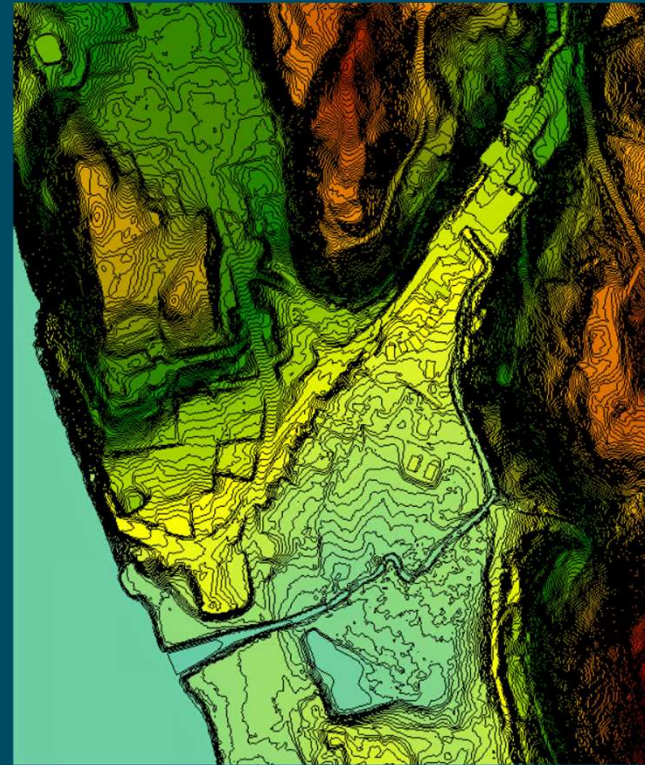
	Succor Brook Peak Flow Estimates (cfs)					
	2-year	5-year	10-year	25-year	50-year	100-year
USGS StreamStats: CT Multiparameter	142	230	301	410	503	609
USGS StreamStats CT Drainage Area	169	294	398	553	684	831
FEMA (Middlesex County FIS)			330		550	650
<b>HEC-HMS - Present Day (NOAA Atlas 14)</b>	<b>203</b>	<b>371</b>	<b>533</b>	<b>775</b>	<b>971</b>	<b>1188</b>
<b>HEC-HMS - 2040-69 (CT PCSAR)</b>			<b>725</b>		<b>1697</b>	<b>2374</b>



# Hydraulic Modeling – Surface Conditions

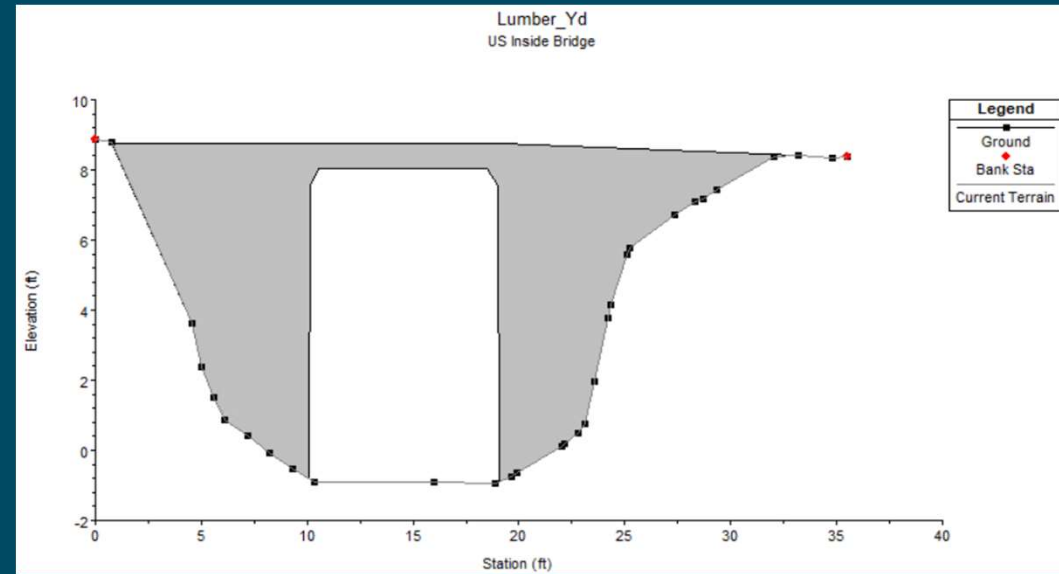


Land Cover (Surface Roughness)



Topography

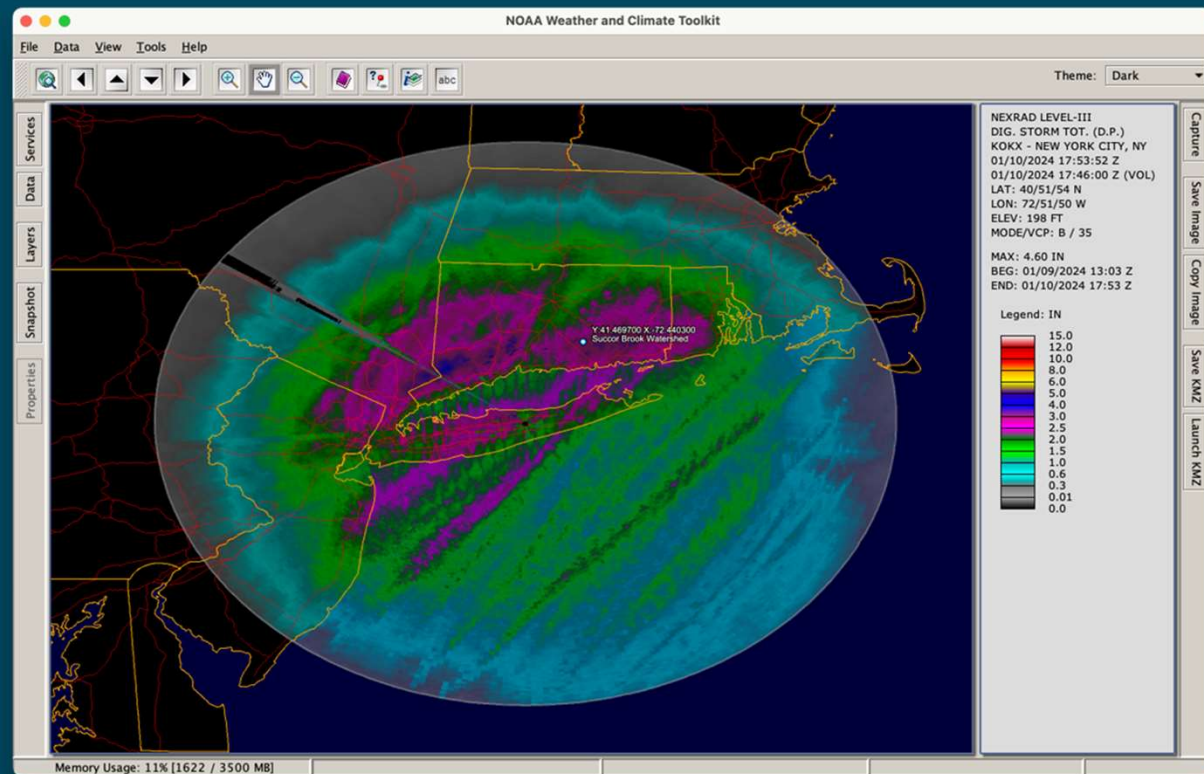
# Hydraulic Modeling – Structures



Hydraulic Structures (Example: Lumber Yard Road Bridge, photo on left courtesy Kleinfelder)

# Hydrology – Past Storm Events

Date	Total Depth (in)	Total Duration	Storm Event
9/26/2018	5.6	28 hr	10- to 25-year 24-hour storm
9/2/2021	6.5	21 hr	25-year 24-hour storm
1/10/2024	3.1	16 hr	2-year 12-hour storm





# Hydraulic Modeling – January 2024 Calibration Event

- January 9th-10th, 2024
- Flow overtopped the culvert under the studio and ran onto Norwich Road
- Floodwaters entered the studio, the library opposite from the studio
- Flow reached the Actor's Housing driveway
- Flooding at Creamery Road nearly overtopped bridge



Photos courtesy E. Blaschik





# Rehearsal Studio Debris Clogging



September 2018 Storm  
(photo courtesy E. Blaschik)

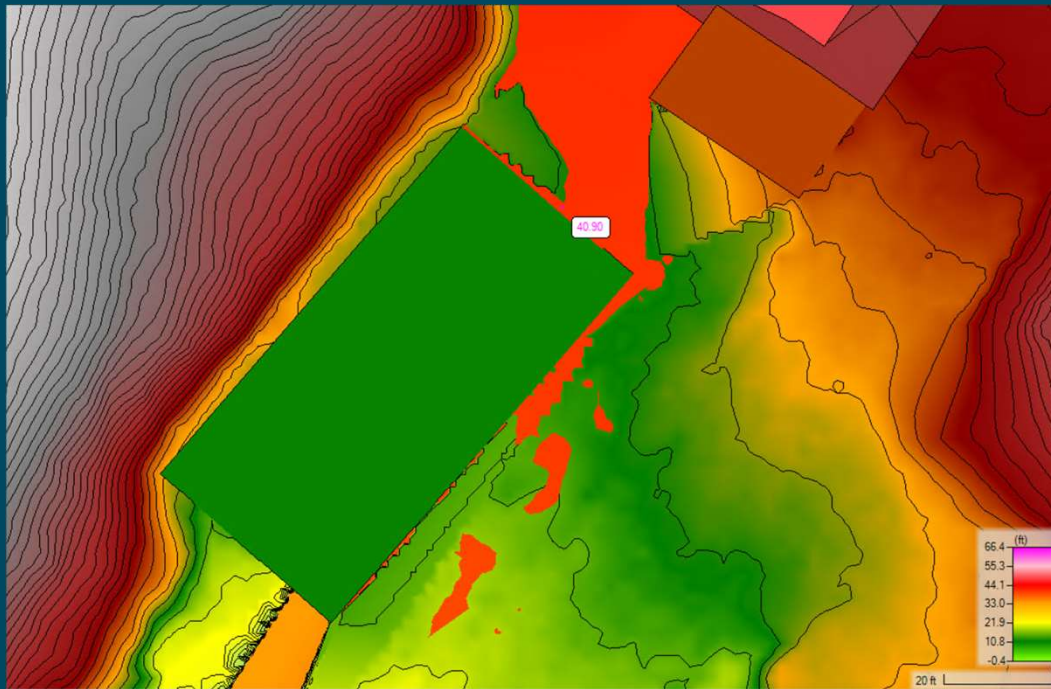


September 2021 Storm  
(photo courtesy E. Blaschik)



January 2024 Storm  
(photo courtesy J. Olin)

# Hydraulic Modeling – January 2024 Calibration Event

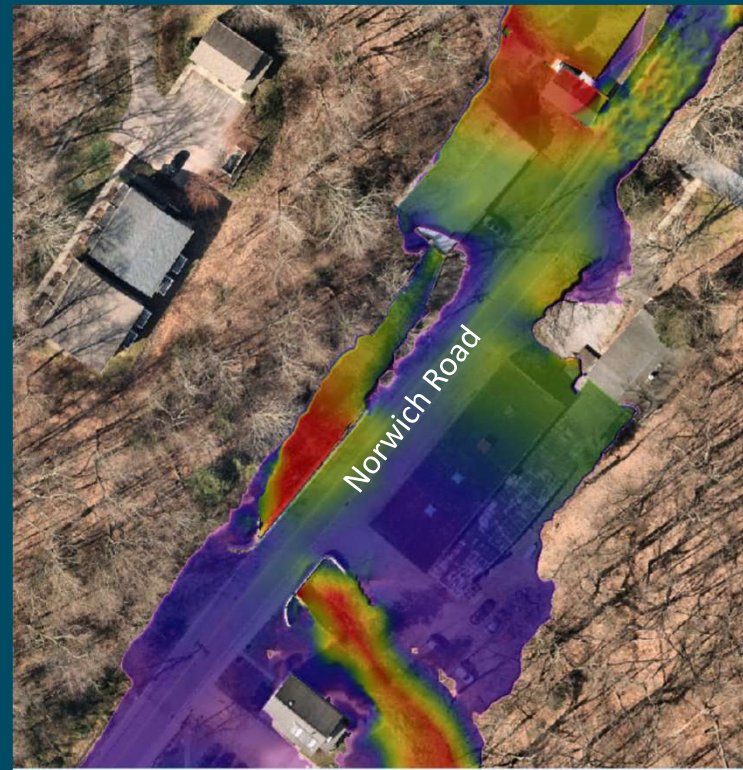




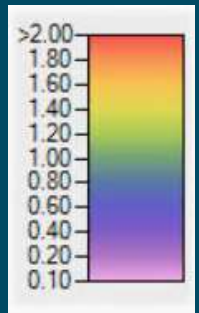
# Increases in 10- and 100-year Flood Elevation (ft), Present Day to Mid-Century



10-year Event



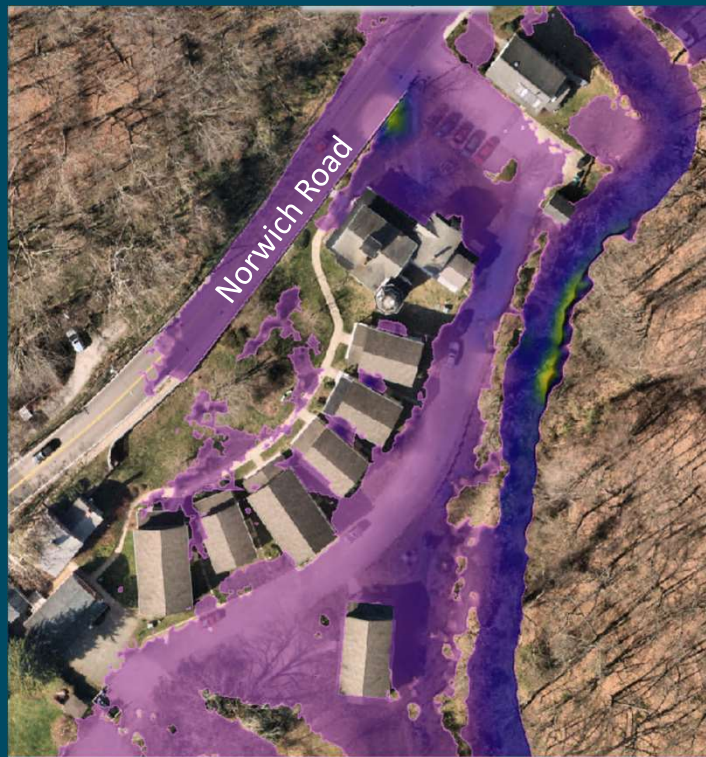
100-year Event



Increase in Peak Flood Elevation (ft)



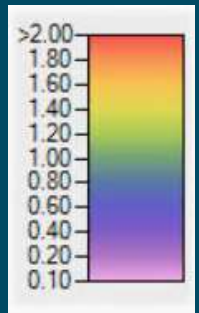
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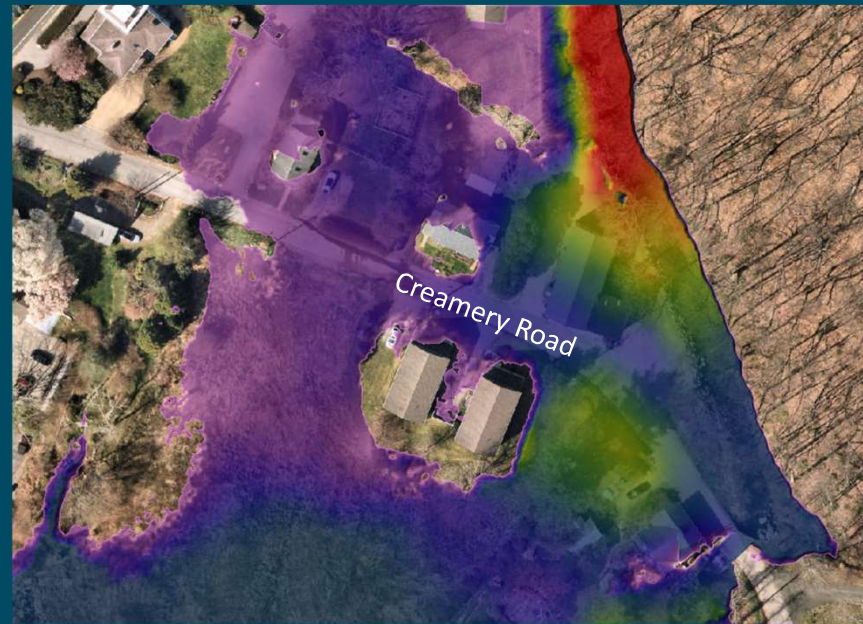
Increase in Peak  
Flood Elevation  
(ft)



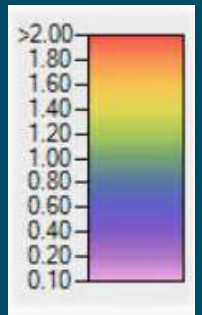
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10-year Event



100-year Event



Increase in Peak Flood Elevation (ft)

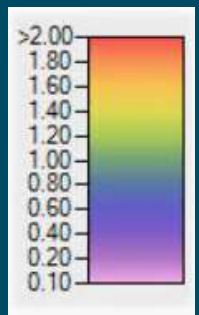
# Increases in 10- and 100-year Flood Elevation (ft), Present Day to Mid-Century



10-year Event



100-year Event



Increase in Peak Flood Elevation (ft)





# 5. Information Sharing, Discussion, and Questions

Board presentations around the room:

1. Resilient East Haddam Project Area
2. Flood Projections for the Wastewater Treatment Facility





# Potential Adaptation Options

Buildings – Protect or Relocate

Roads – Protect or Raise

Culverts/Bridges – Raise and/or Widen

Stream – Widen, Contain, or Maintain

Floodplain – Increase, Restore







# Challenges & Limitations

## Challenges:

Funding  
Limited Available Space  
Relocations  
Permitting (Floodplain Adaptation)  
Building Resiliency (Funding)

## Limitations:

Lower Succor Brook and WWTP  
Concepts only





# Questions to reflect on

1. How has recent flooding affected you personally?
2. What are your areas of concern?
3. What are your priorities?
4. What would you do to solve the issue?





## 6. Next Steps

Community Workshop #2 – "Adaptation Alternatives"  
.....coming early 2025







# End of Presentation

