

# Community & Technical Advisory Committee

Meeting #3

Wednesday, December 18

3 p.m. - 4:30 p.m.



# Agenda

1. Welcome
2. Review of Scope and Schedule
3. What's Happened Since Last Meeting
4. Presentation of Adaptation Options
5. Discussion of Adaptation Options
6. Open Discussion (Q&A)



# 1. Welcome

## CTAC

**Donna Lynn Hilton** Goodspeed

**Ed Blaschik** Goodspeed

**Matthew Sonnenfeld** Goodspeed

**Jeff Wolter** Goodspeed, Board of Trustees, Chair

**Margot Burns** RiverCOG, Sr. Environmental Planner

**Bob Casner** EH Economic Development Commission, Chair

**Rachel Colonni** Chatham Health District

**Todd Gelston** Community Member

**Cameron Hendry** EH Redevelopment Agency

**John Olin** EH Conservation Commission

**Michele Velez** EH Director of Public Works

**James Ventres** EH Land Use Office

## CIRCA

**John Truscinski** Director of Resilience Planning

**Nicole Govert** Project Lead, Community Resilience Planner

**Mary Buchanan** Community Resilience Planner

## Kleinfelder

**Neil Kulikauskas** PM, Principal

**Kyle Johnson** APM, Resiliency Specialist

**Greg Avenia** Principal Engineer

**Dan Pasquale** Project Engineer, Modeling

**Lizzy Norris** Project Engineer, Design

**Kate Riley** Community Engagement Manager

**Aaron D'Amario** GIS



## 2. Scope and Schedule

# 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

- Buildings, Succor Brook, and WWTP

## Cost-Benefit Analysis and Final Recommendations





Study Limits

Footbridge

Pump Station

Main Street

Lumber Yard Road

Norwich Road

Airport

Actor Housing

WWTP

Creamery Road

Succor Brook

Rehearsal Studio

Study Limits

- Stream Crossings
- Wastewater Facilities
- Key Facilities

# Project Schedule

- **Current And Future Conditions Analysis** – September 2024
- **Adaptation Options and Concept Designs** – January 2025
- **Benefit/Cost Analysis** – February 2025
- **Final Report** – April 2025



# CTAC Meetings

- Meeting 1 (April) – Evaluate and discuss existing and future climate conditions analysis and impact of flooding.
- Meeting 2 (August) – Establish and review priorities and discuss trade-offs and compromises.
- **Meeting 3 (Today)** – Presentation and interactive discussion of adaptation option alternatives for priority areas.
- **Meeting 4 (Spring 2025)** – Presentation and review of the preliminary draft report and steps to complete the project.





# Public Workshops

- Two Public Workshops to share information, gather feedback, and develop consensus
  - **Workshop 1:** Present project, discuss existing and future conditions, get feedback about community needs and priorities. *October 24<sup>th</sup> 6:30-8:30, EH Municipal Office Complex*
  - **Workshop 2:** Interactive discussion about specific adaptation alternatives. **Early 2025 – Date TBD.**
- We will also provide educational content for town website, social media, and informational flyers.



## 3. What's Happened Since Last Meeting

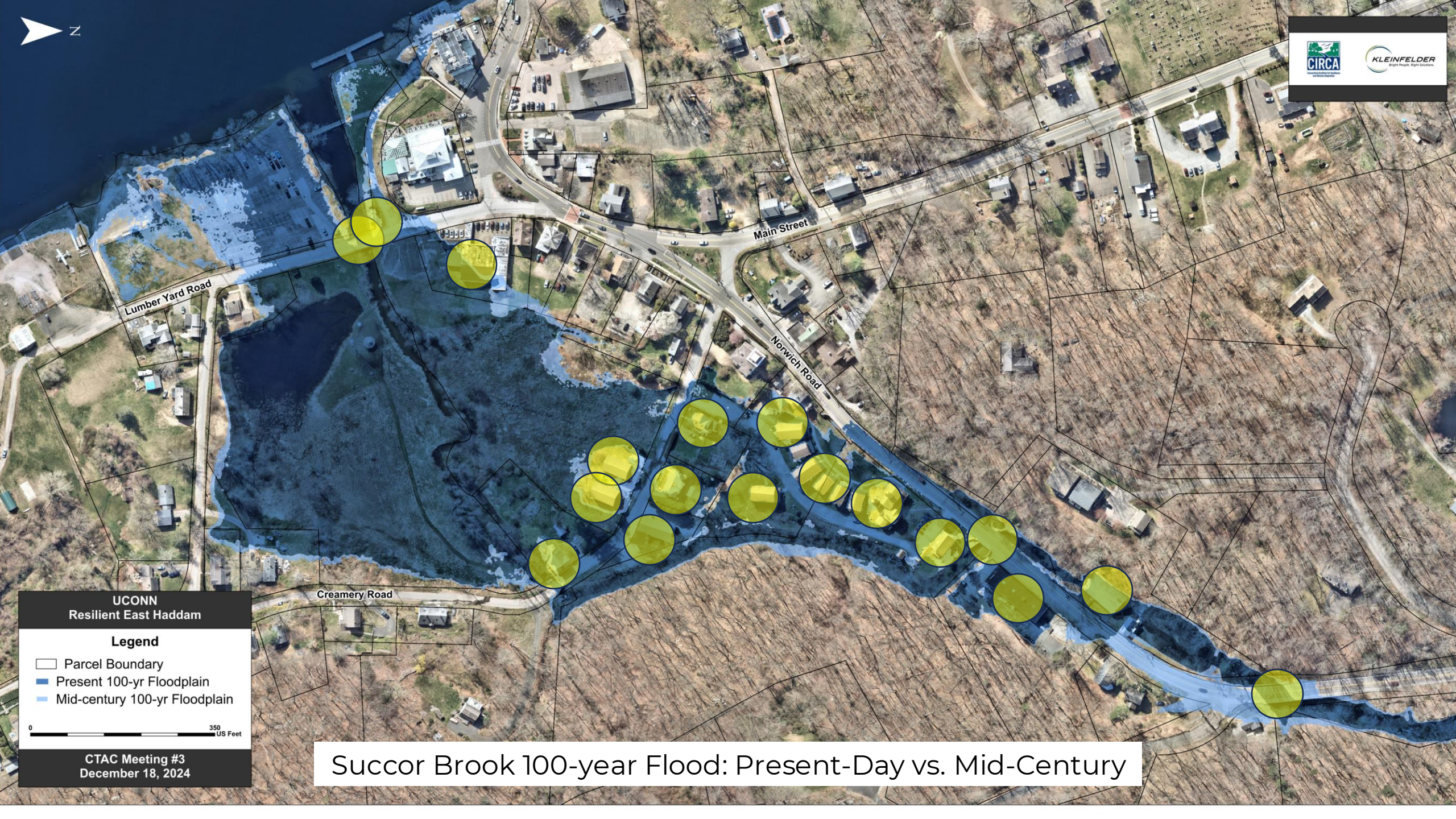
Completed Modeling of Current and Future Conditions

Public Meeting #1

Working on Development of Adaptation Strategies

# Current and Future Conditions along Succor Brook





**UCONN**  
Resilient East Haddam

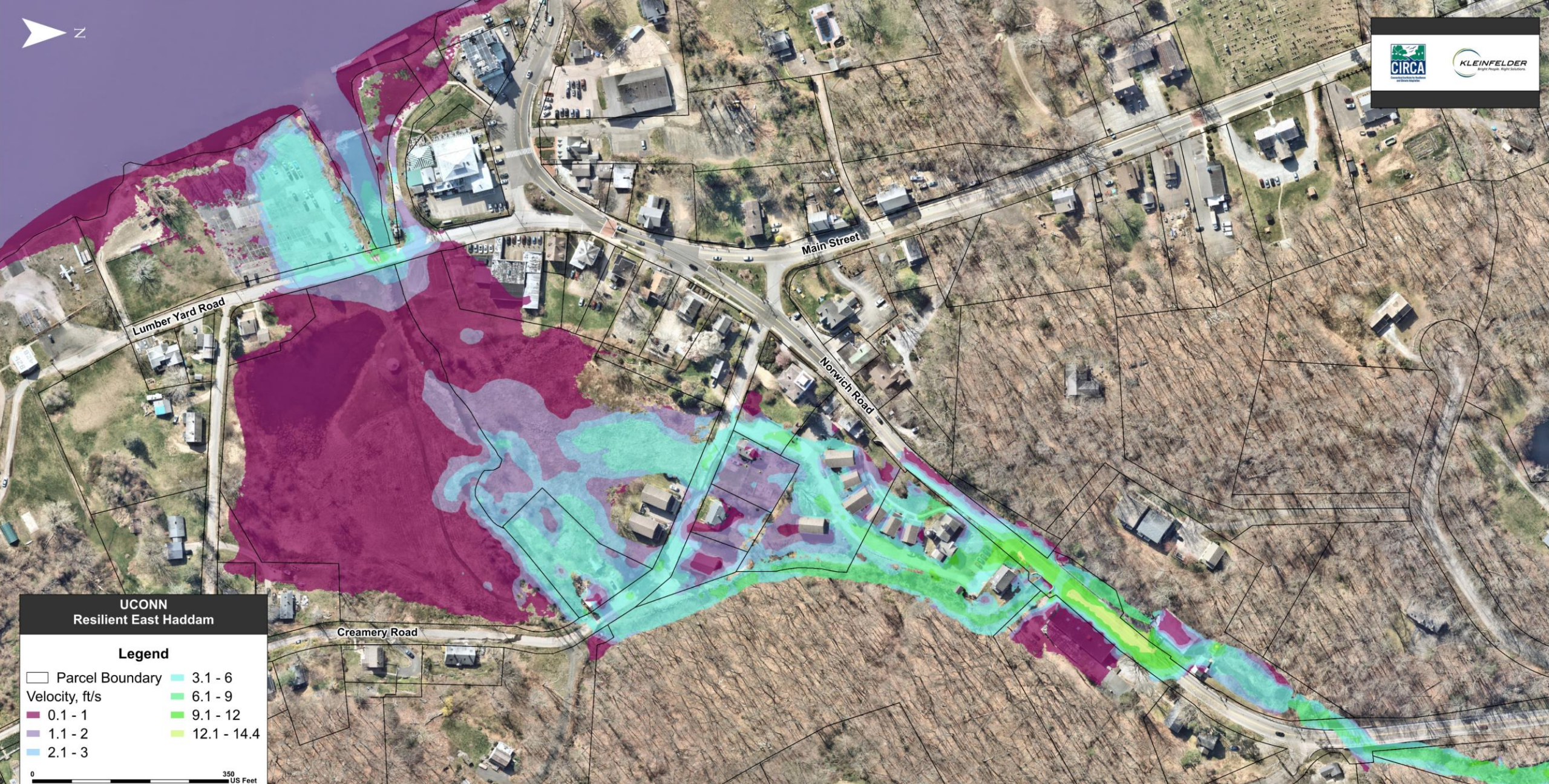
**Legend**

- Parcel Boundary
- Present 100-yr Floodplain
- Mid-century 100-yr Floodplain

0 350 US Feet

CTAC Meeting #3  
December 18, 2024

Succor Brook 100-year Flood: Present-Day vs. Mid-Century



**UCONN**  
Resilient East Haddam

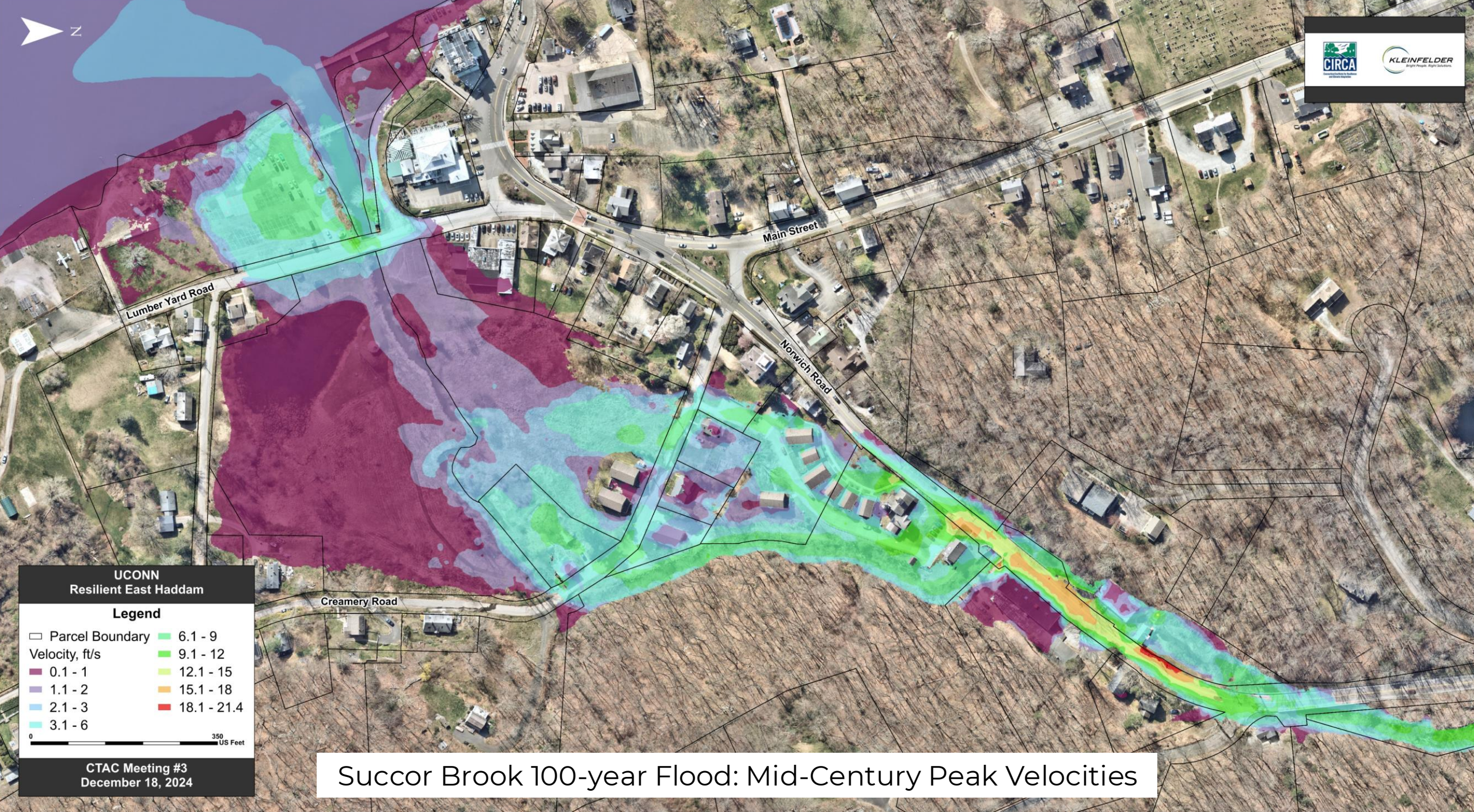
**Legend**

Parcel Boundary	3.1 - 6
0.1 - 1	6.1 - 9
1.1 - 2	9.1 - 12
2.1 - 3	12.1 - 14.4

0 350 US Feet

CTAC Meeting #3  
December 18, 2024

Succor Brook 100-year Flood: Present-Day Peak Velocities



**UCONN**  
Resilient East Haddam

**Legend**

□ Parcel Boundary	6.1 - 9
Velocity, ft/s	9.1 - 12
0.1 - 1	12.1 - 15
1.1 - 2	15.1 - 18
2.1 - 3	18.1 - 21.4
3.1 - 6	

0 350 US Feet

CTAC Meeting #3  
December 18, 2024

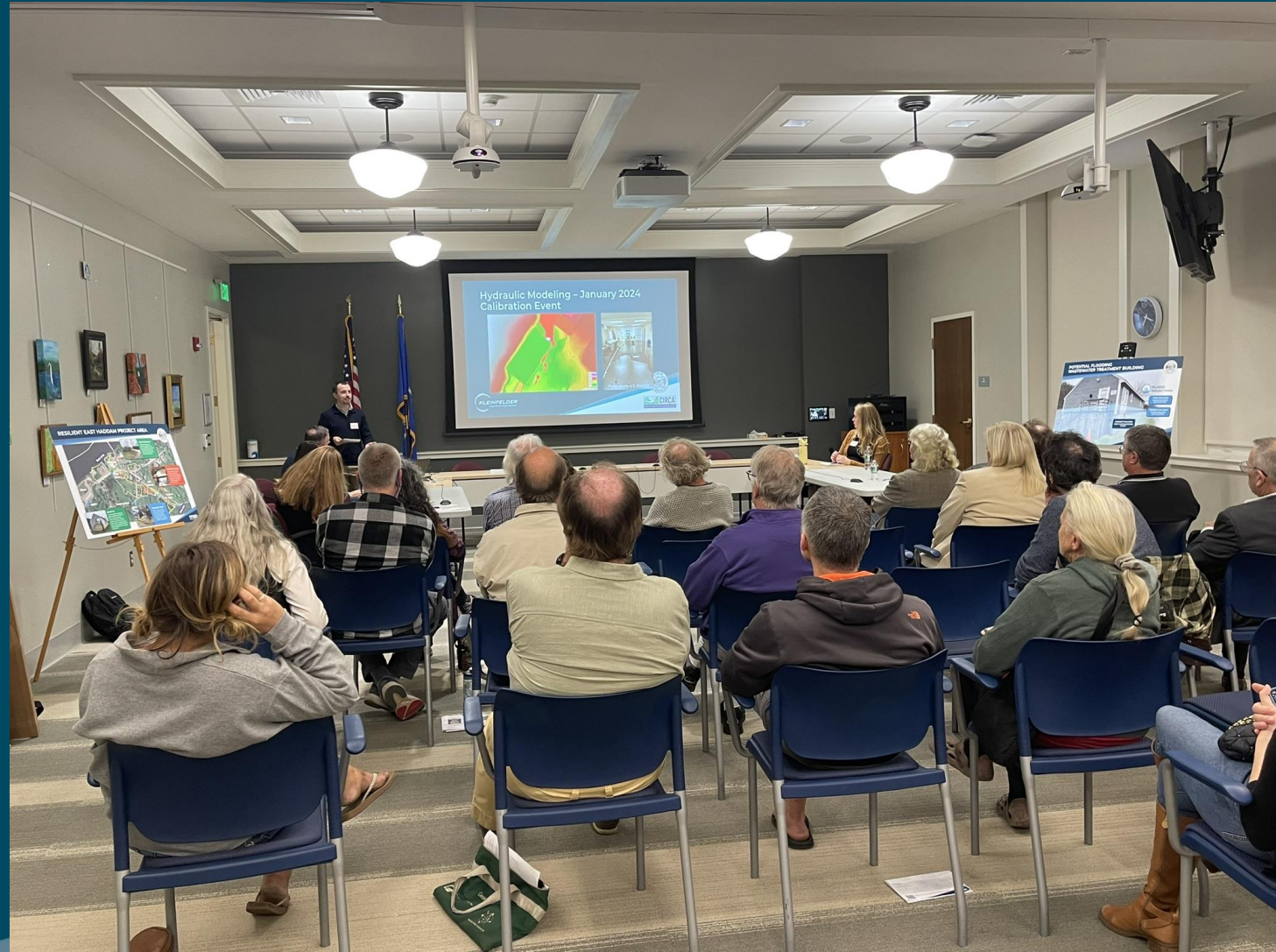
Succor Brook 100-year Flood: Mid-Century Peak Velocities

# Current and Future Conditions at WWTP



# Public Workshop #1 – Recap

- October 24th 6:30-8:30, EH Municipal Office Complex
- Goals: Present project, discuss existing and future conditions, get feedback about community needs and priorities.
- 23 Participants from public
- Public Feedback:
  - Historical Events
  - Personal Stories
  - Dam Storage in Watershed
  - Study Limits
  - Potential Solutions





# 4. Review of Adaptation Options

# Resilient CT **PERSISTS** Framework

**P**ermittable

**E**quitable

**R**ealistic

**S**afe

**I**nnovative

**S**cientific

**T**ransferrable

**S**ustainable



# Flood Mitigation Strategies – Succor Brook

- Structural Solutions
  - Remove Constrictions
  - Widen Channels
  - Floodplain Controls and Improvements
  - Consider Natural Features (boulders, logs, natural streambank)
- Increase and/or Manage Storage in the Watershed
- Nature-based solutions not sufficient



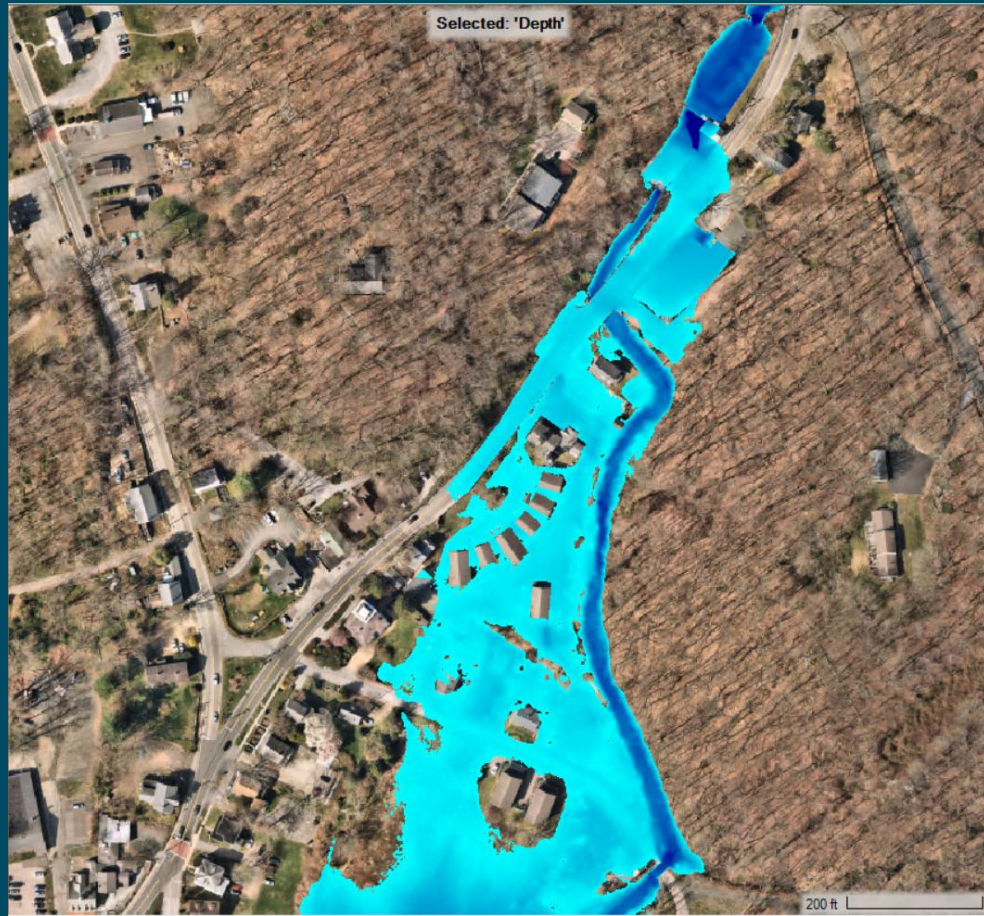
# Flood Mitigation Strategies – Succor Brook

- **Alternative 1**

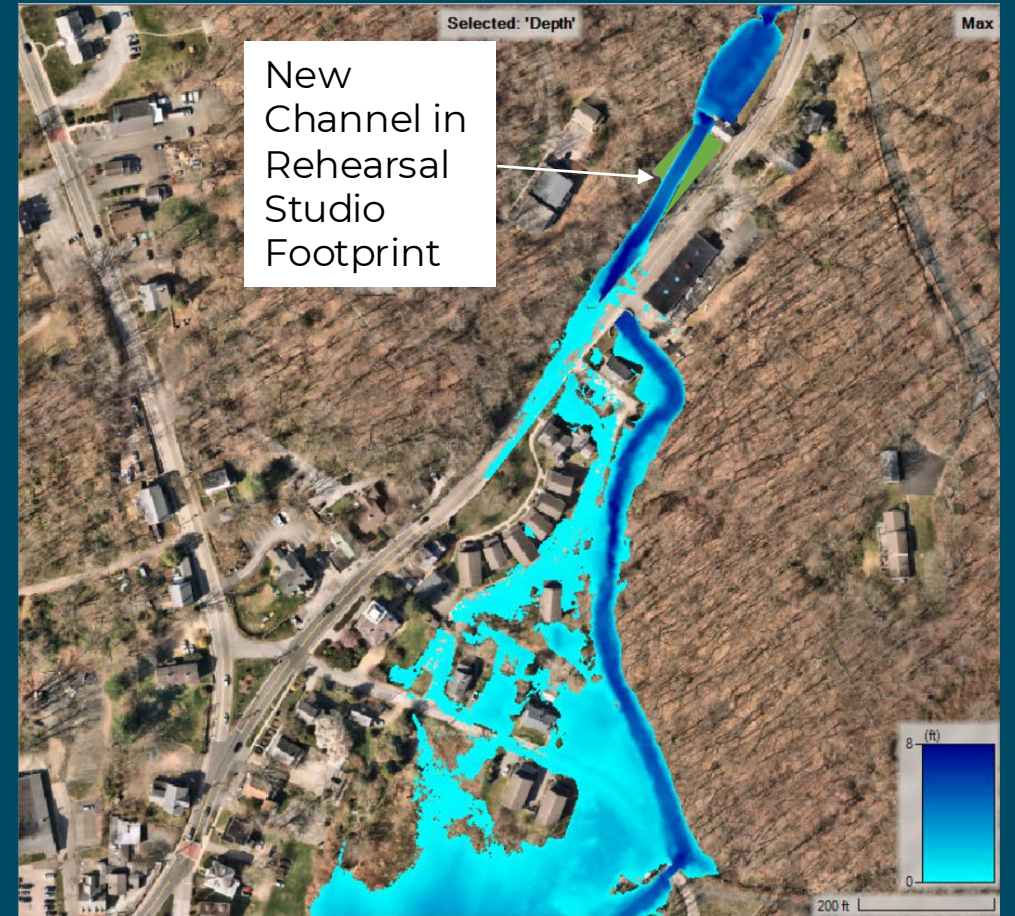
- **Remove Rehearsal Studio**

- *Reduces flooding onto Norwich Road and adjacent properties during large storms*
      - *Eliminates flooding on Norwich Road during smaller storms, e.g. the January 10, 2024 storm*
    - *Reduces flooding of Actor Housing and properties along Creamery Road*

# Alternative 1: Remove Rehearsal Studio, Widen Channel



Present-day 100-year flood, no-build condition



Present-day 100-year flood, with mitigation

# Flood Mitigation Strategies – Succor Brook

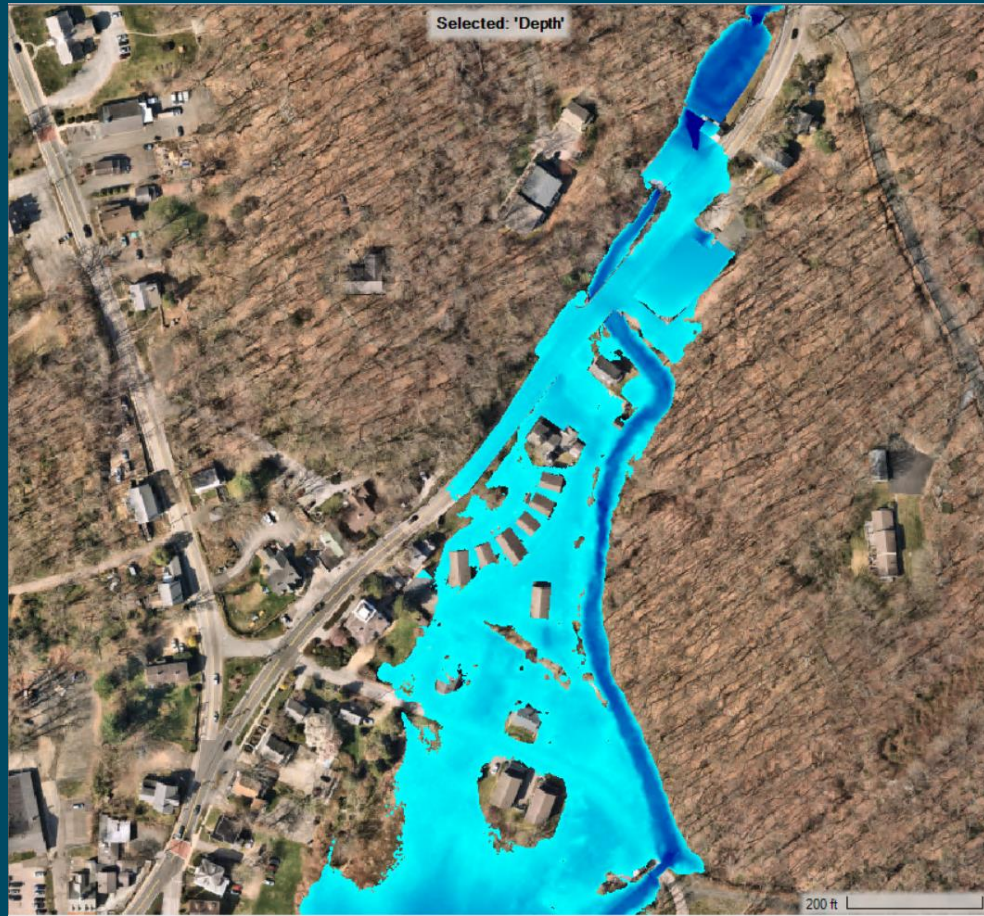
- **Alternative 2**

- **Remove Rehearsal Studio**
- **Raise Driveway and Construct Berm or Floodwall**
- **Widen Creamery Road Crossing**

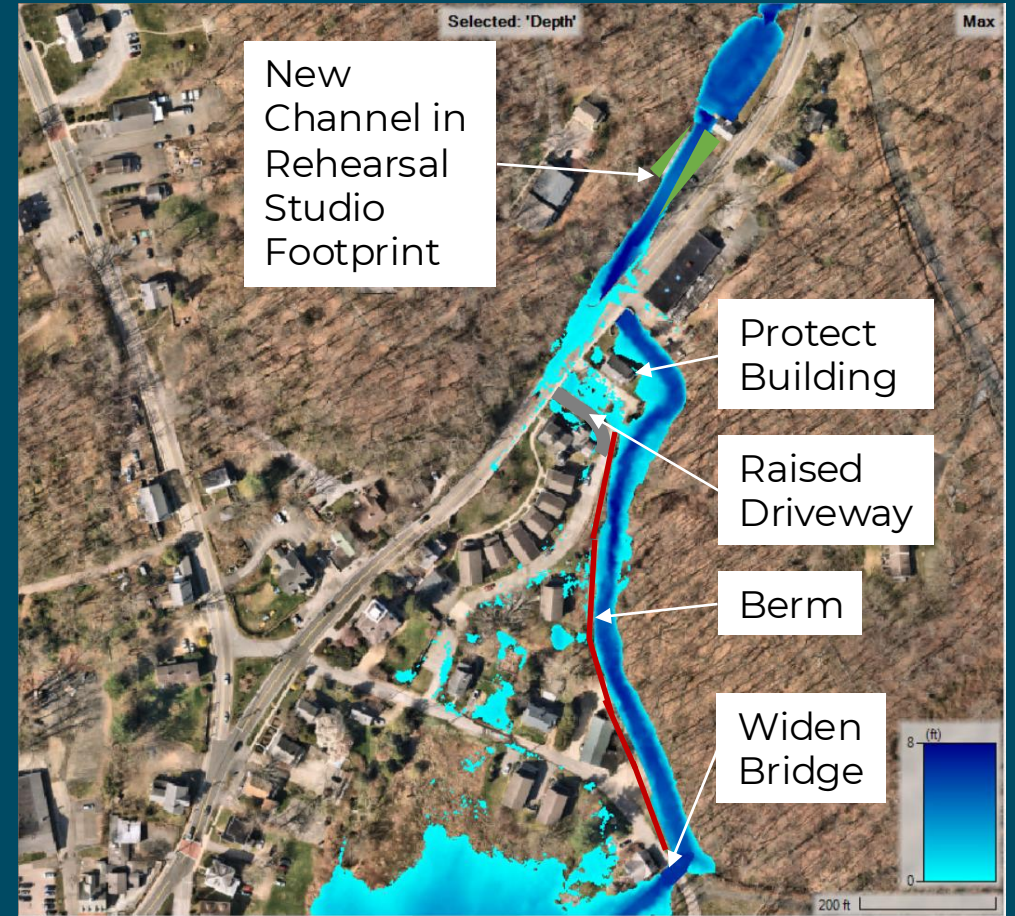
- *Significantly reduces flooding onto Norwich Road and adjacent properties*
- *Reduces bank overtopping and flooding of Actor Housing and properties along Creamery Road*
- *Raised driveway reduces high-velocity overbank flows*



Alternative 2  
Remove Rehearsal Studio  
Raise Driveway and Construct Berm or Floodwall  
Widen Creamery Road Crossing



Present-day 100-year flood, no-build condition



Present-day 100-year flood, with mitigation

# Flood Mitigation Strategies – Succor Brook

- **Alternative 3**

- **Remove Rehearsal Studio**
- **Raise Driveway and Construct Berm or Floodwall**
- **Widen Creamery Road Culvert**
- **Norwich Road Bridge (South) Inlet Improvements and Bypass Culvert**

- *Eliminates flooding onto Norwich Road and adjacent properties*
- *Reduces bank overtopping and flooding of Actor Housing and properties along Creamery Road*
- *Significantly reduces (eliminates?) flooding of properties along Creamery Road*





## Alternative 3

Remove Rehearsal Studio

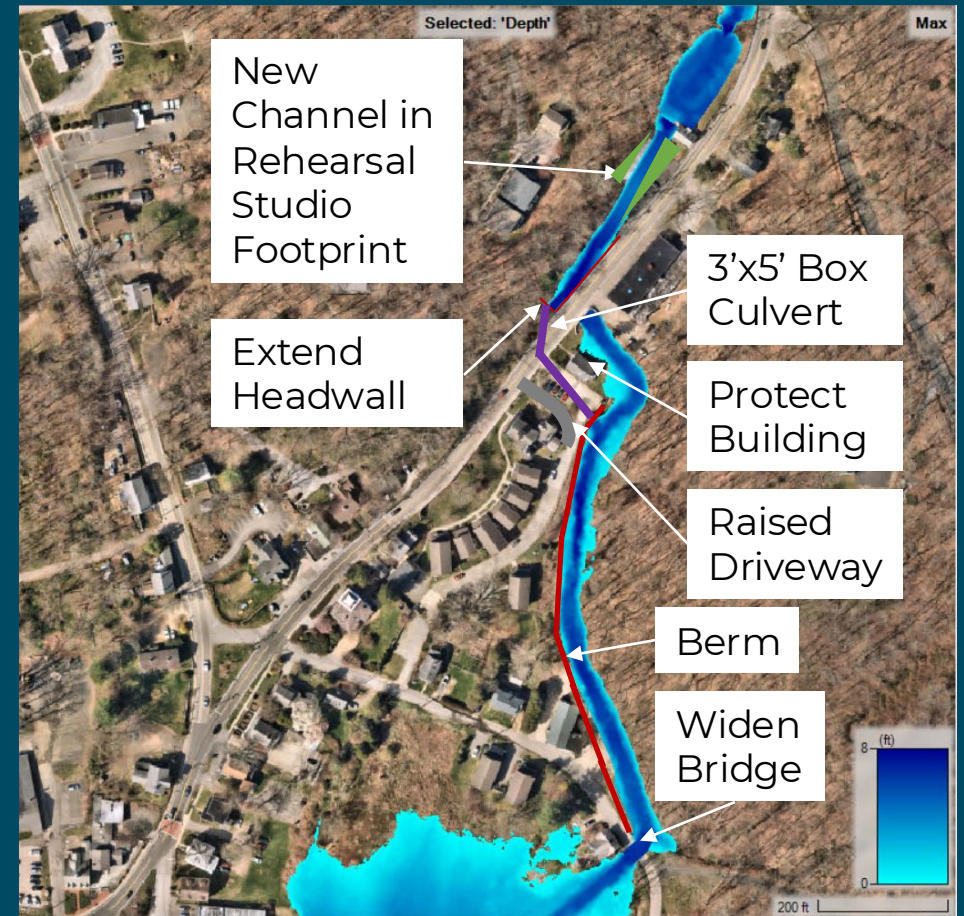
Raise Driveway and Construct Berm or Floodwall

Widen Creamery Road Crossing

**Build Norwich Road Bridge (South) Inlet Improvements and Bypass Culvert**



Present-day 100-year flood, no-build condition



Present-day 100-year flood, with mitigation

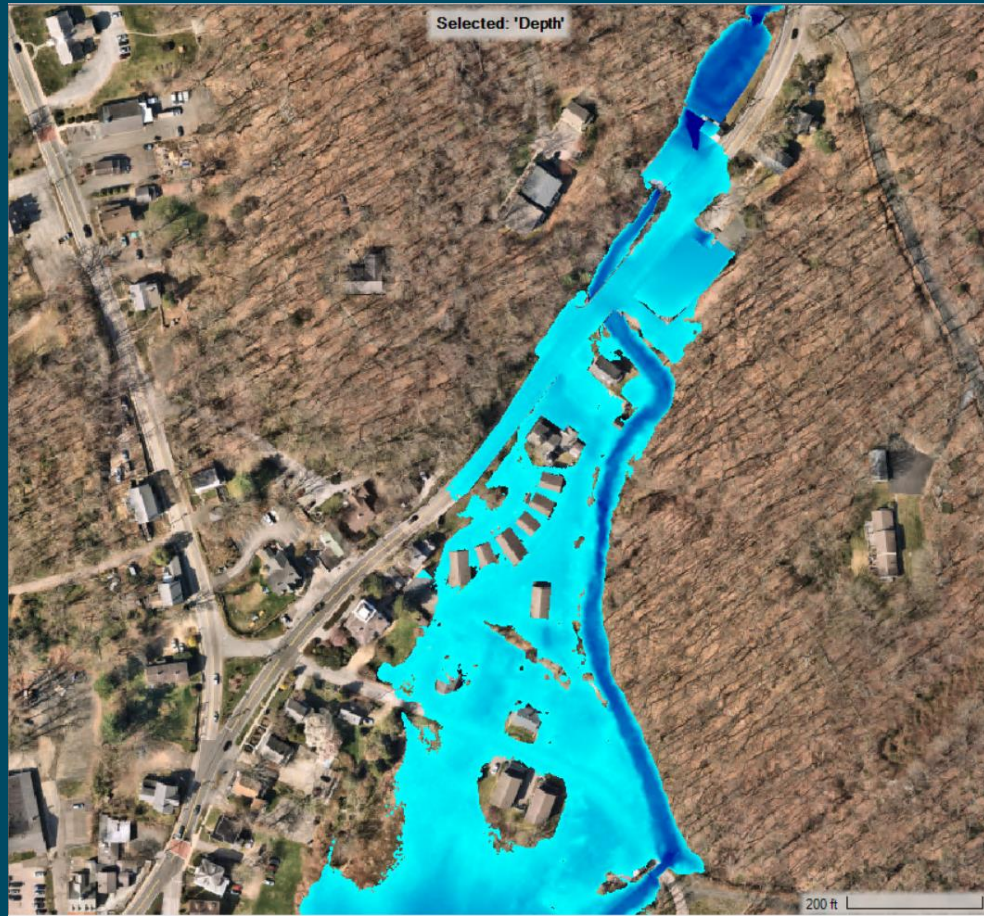
# Flood Mitigation Strategies – Succor Brook

- **Alternative 4**

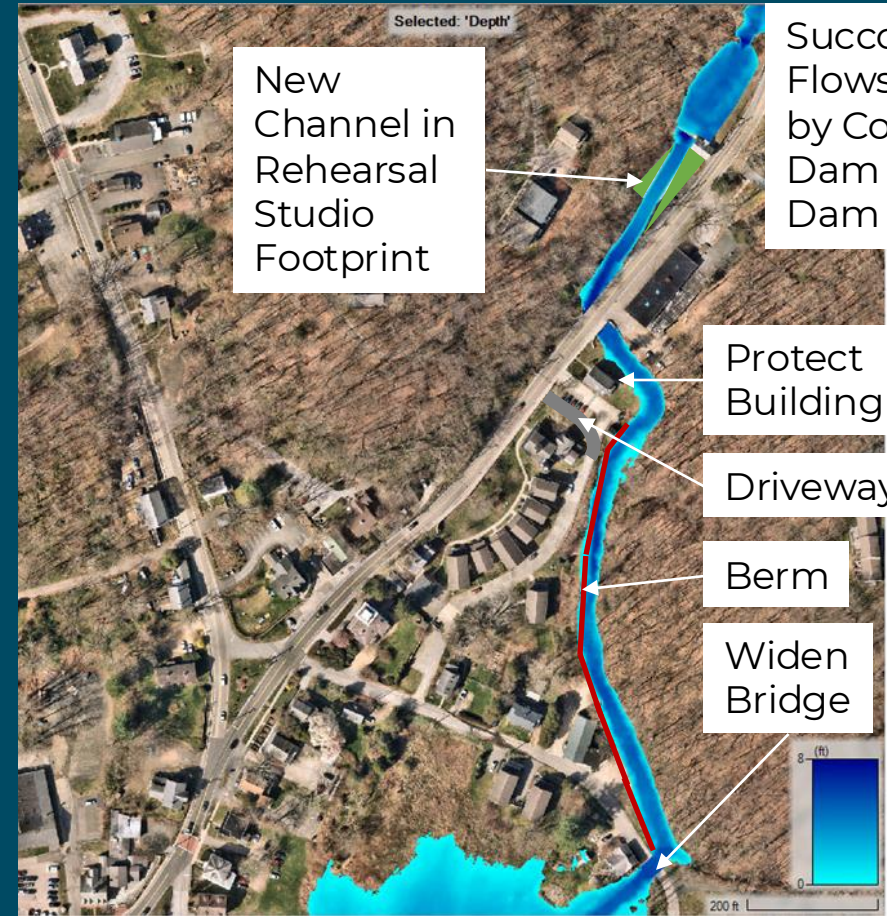
- **Remove Rehearsal Studio**
- **Raise Driveway and Construct Berm or Floodwall**
- **Widen Creamery Road Culvert**
- **Managed Storage at Daniels Road Pond**

- *Significantly reduces flooding onto Norwich Road and adjacent properties*
- *Reduces bank overtopping and flooding of Actor Housing and properties along Creamery Road*
- *Significantly reduces (eliminates?) flooding of properties along Creamery Road*

Alternative 4  
Remove Rehearsal Studio  
Raise Driveway and Construct Berm or Floodwall  
Widen Creamery Road Crossing  
**Managed Storage at Daniels Road Pond**



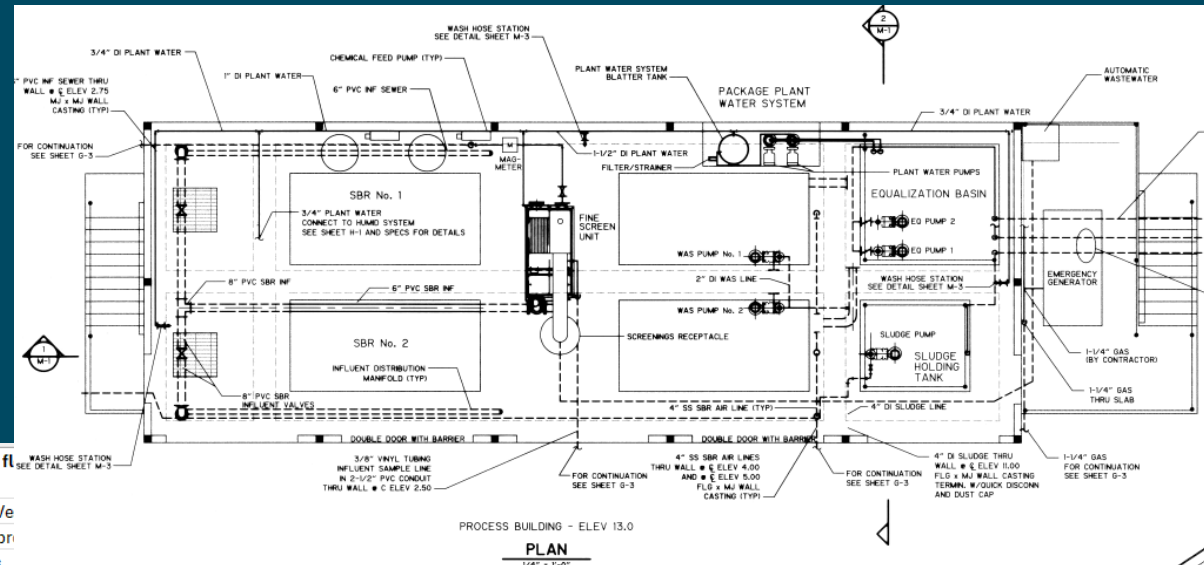
Present-day 100-year flood, no-build condition



Present-day 100-year flood, with mitigation

# Flood Mitigation Strategies - WWTP

- Raise elevations
- Floodproofing
- Relocation
- Flood protection systems



Asset	Elevation (NGVD29)	new elevation (NGVD29)	Notes / other ft
Control Building	13' Finished Floor		Install Flood Ve
Doors - 2 single doors; 1 double doors	13'		Install water-pr
Misc ducts, vents, pipe penetrations below 15'			Seal openings
Sequencing Batch Reactor Blowers (3)	unknown	14.9'	currently raised on stands; likely need to increase stand height and modify piping to fit new connections
Equalization/Sludge Handling Tank Blowe	unknown	14.9'	currently raised on stands; likely need to increase stand height and modify piping to fit new connections
UV Unit	13'	14.9'	Install water-proof barrier around UV unit or Raise to 14.9' (review plant
Effluent WW Sampler	13'	14.9'	
Water Heater	13'	14.9'	
Well System Bladder Tank	13'	14.9'	
Gas Fired Unit Heater	13'	14.9'	
Control Panels below 14.9' - Fire alarm, Lighting Panel (LP), fine screen control, & SBR panels (auto dialer, telephone, & I/O cabinet are above elev)	varies	14.9'	Raise to 14.9'; clearance issue with roof and will require modifications to the drop ceiling; wall mounted panels can easily be raised and mounted higher (costs for increased wiring/conduit)



# 5. Discussion of Adaptation Options

# Trade-offs and Compromises

## Buildings

- Investment vs. Relocation

## Succor Brook

- Public Levels of Funding vs. Desired Levels of Service
- Active vs. Passive Solutions
- Environmental Impacts
- Maintenance Requirements

## Wastewater Treatment Plant

- Cost vs. Level of Service
- Relocation?



# Challenges & Limitations

## Challenges:

- Funding
- Limited Available Space
- Union Restrictions (re: Relocations)
- Permitting (Floodplain Adaptation)
- Building Resiliency (Funding)

## Limitations:

- Succor Brook and WWTP
- Concepts only



# Project Goals

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

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





# 6. Open Discussion (Q&A)

# End of Presentation

# Beaver Dam Talking Points

- Included in the Hydrologic Model of the Watershed
- Dam Breach similar to 100-year current conditions
- Potential mitigation of a dam breach
  - Remove dam
  - Drain pond - Pipe low flows to prevent storage
- Potential Flood Mitigation in Succor Brook
  - Construct and manage a flood storage dam
    - Property acquisition
    - Permitting
    - Construction Costs
    - Long-term Operations and Maintenance costs



# Boardman Dam Talking Points

- Not enough storage (when empty) to sufficiently mitigate targeted peak flows in Succor Brook



Activity Name	Start Date	Duration (Work Days)	Finish Date	Jul 2024												Oct 2024																																													
				28	4	11	18	25	3	10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	2	9	16	23	30
1 Contract Award	2/9/24	0.00	2/9/24	◆																																																									
2 Task 1 - Project Management	2/12/24	260.00	2/7/25	▬																																																									
3 1.1 Coordination	2/12/24	259.00	2/7/25	▬																																																									
4 1.2 Develop Project Schedule	2/12/24	5.00	2/16/24	▬																																																									
5 1.3 Monthly PM Meetings...	3/1/24	241.00	2/3/25	▬																																																									
18 Task 2 – Stakeholder Engagement	3/4/24	247.00	2/12/25	▬																																																									
19 2.1 Advisory Committee	3/4/24	247.00	2/12/25	▬																																																									
20 Identification of Technical Advisory Committee	3/4/24	20.00	3/29/24	▬																																																									
21 TAC Meeting 1 - Climate Impact and Flooding	4/25/24	0.00	4/25/24	●																																																									
22 TAC Meeting 2 - Priorities and Compromises	8/21/24	0.00	8/21/24	●																																																									
23 TAC Meeting 3 - Adaptation Alternatives	11/20/24	0.00	11/20/24	●																																																									
24 TAC Meeting 4 - Preliminary Draft Report	2/12/25	0.00	2/12/25	●																																																									
25 2.2 Public Workshops	10/2/24	70.00	1/7/25	▬																																																									
26 Workshop 1 - Scope, Existing and Future Conditions	10/2/24	0.00	10/2/24	●																																																									
27 Workshop 2 - Adaptation Alternatives	12/18/24	0.00	12/18/24	●																																																									
28 Public Engagement Memorandum	12/18/24	15.00	1/7/25	▬																																																									
29 2.3 Outreach Materials	5/15/24	150.00	12/10/24	▬																																																									
30 Task 3 – Current and Future Conditions Analysis	3/11/24	145.00	9/27/24	▬																																																									
31 3.1 Review Previous Tools and Plans	3/11/24	10.00	3/22/24	▬																																																									
32 3.2 Review FEMA Resources	3/18/24	10.00	3/29/24	▬																																																									
33 3.3 Existing Conditions along Succor Brook	4/22/24	100.00	9/6/24	▬																																																									
34 Survey	7/8/24	30.00	8/16/24	▬																																																									
35 3.4 Future Conditions along Succor Borrk	8/19/24	20.00	9/13/24	▬																																																									
36 3.5 Existing and Future Conditions near WWTP	9/16/24	10.00	9/27/24	▬																																																									
37 Task 4 - Adaptation Options and Conceptual	9/30/24	80.00	1/17/25	▬																																																									
38 4.1 Adaptation Options for Flood Mitigation at Buildings	9/30/24	15.00	10/18/24	▬																																																									
39 4.2 Adaptation Options for Flood Mitigation along Succor Brook	10/21/24	15.00	11/8/24	▬																																																									
40 4.3 Adaptation Options for WWTP Mitigation	11/11/24	10.00	11/22/24	▬																																																									
41 4.4 Preferred Alternatives and Conceptual Design	11/25/24	40.00	1/17/25	▬																																																									
42 Task 5 - Benefit/Cost Analysis	1/20/25	25.00	2/21/25	▬																																																									
43 5.1 Develop Cost Opinions:	1/20/25	15.00	2/7/25	▬																																																									
44 5.2 Develop Benefit/Cost Analysis	2/10/25	10.00	2/21/25	▬																																																									
45 Task 6 - Final Report	2/24/25	30.00	4/4/25	▬																																																									
46 6.1. Final Report	2/24/25	30.00	4/4/25	▬																																																									