

RESILIENT JEWETT CITY

STAKEHOLDER ENGAGEMENT

MARCH 6, 2025

FUSS &
O'NEILL

RESILIENT JEWETT CITY AGENDA

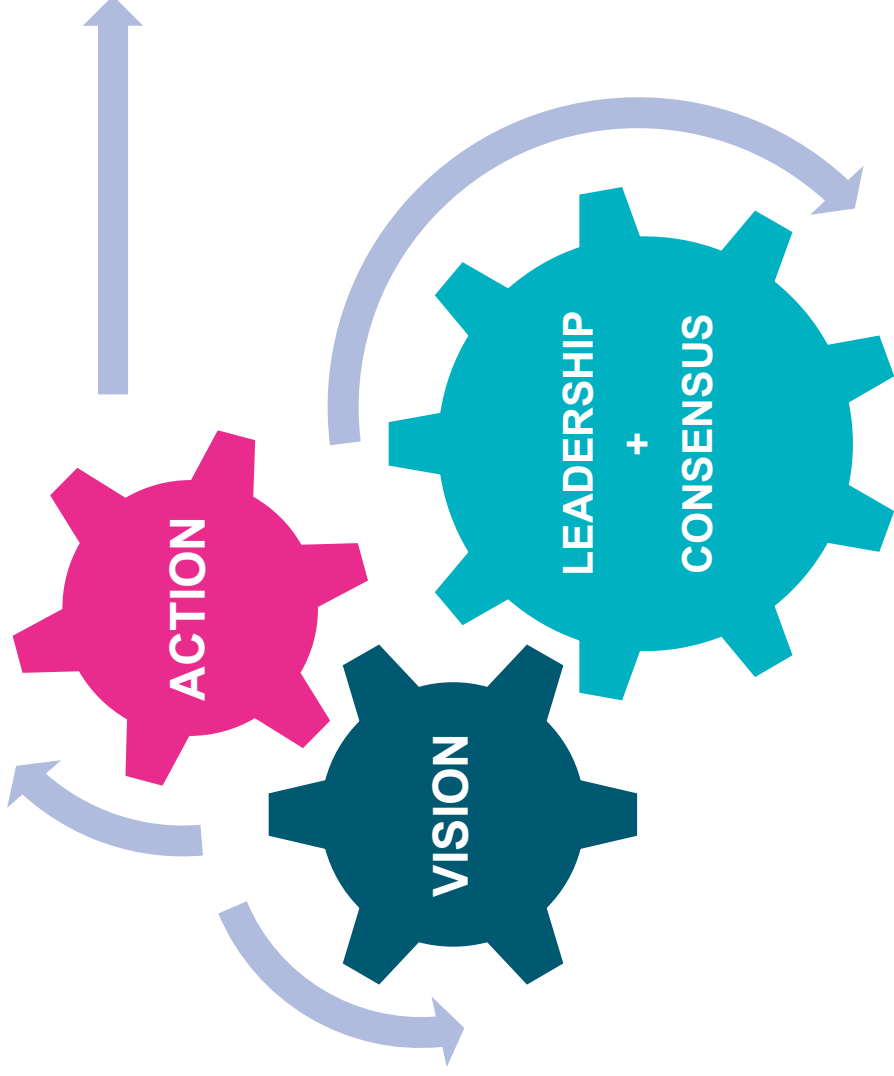
- Welcome
- Introductions
- Meeting Goal
- Project Review
- Flood Resilience Review
 - Original BCA
 - Future Conditions BCA
- Heat Resilience
- Sewer Resilience
- Recommendations + Discussion
- Next Steps

RESILIENT JEWETT CITY INTRODUCTIONS

- Fuss and O'Neill – Engineering
 - Celicia Boyden – Project Manager
 - Dean Audet – Project Director
 - Rebecca Madsen – Project Engineer
- CT Institute for Resilience & Climate Adaptation (CIRCA)
 - John Truscinski – Project Lead
 - Mary Buchanan – Project Team
 - Nicole Govert – Project Team

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JEWETT CITY WHAT IS THE PURPOSE OF THIS MEETING?



There are opportunities for funding the residential flood resilience recommendations from this project; however, Borough & Town collaboration and leadership consensus is needed to advance these recommendations.

RESILIENT JEWETT CITY PROJECT BACKGROUND

- Flooding of the Quinebaug River and Pachaug River caused inundation of the South Main Street Neighborhood during the severe flood event of March 2010
- Approximately 35 condominium units on South Main Street were flooded
- The new (2023) FEMA flood maps resulted in an increase in the “base flood elevation” (BFE), which expanded the width of the floodway and flood zones
- The neighborhood’s sewer pump station is vulnerable to flooding



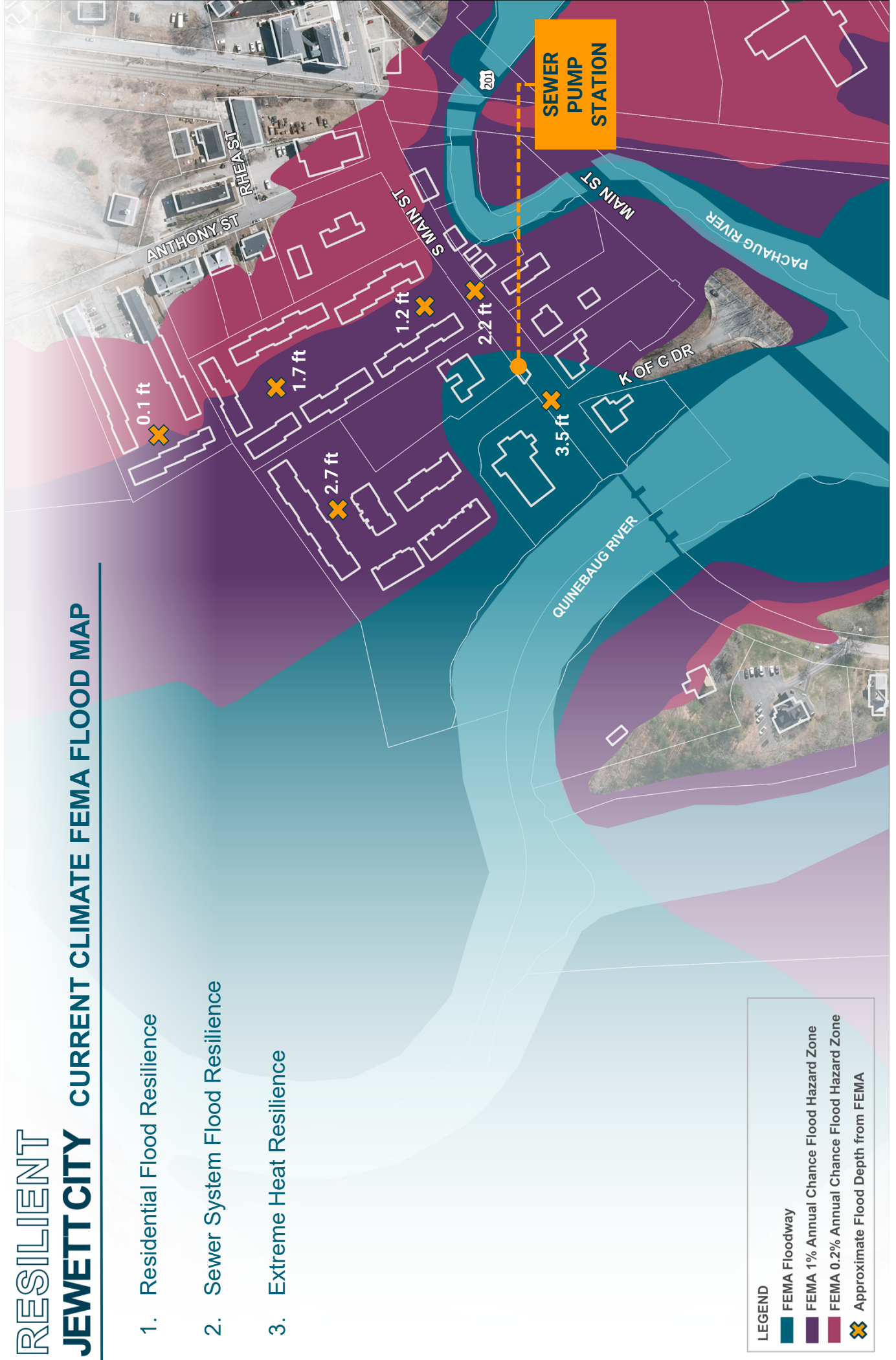
RESILIENT JEWETT CITY PROJECT GOALS

- Assess + develop recommended strategies and implementable project concepts to mitigate flood and heat risks
- Work collaboratively with the community + stakeholders to select strategies and projects
- Develop scientifically-informed conceptual designs + implementation plan
- Position projects for implementation using federal and state funding



RESILIENT JEWETT CITY CURRENT CLIMATE FEMA FLOOD MAP

1. Residential Flood Resilience
2. Sewer System Flood Resilience
3. Extreme Heat Resilience



LEGEND

- FEMA Floodway
- FEMA 1% Annual Chance Flood Hazard Zone
- FEMA 0.2% Annual Chance Flood Hazard Zone
- Approximate Flood Depth from FEMA

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JEWETT CITY RIVER RUN TOWNHOUSES - ILLUSTRATIVE FLOOD DEPTH (1% AEP)

RIVER RUN TOWNHOUSES

This illustration shows the approximate flood depth at the River Run Townhouses during a 1% Annual Chance Flood. There is potential for flood depths to reach first floor entry points (doors).



FOR ILLUSTRATIVE PURPOSES ONLY (NOT TO SCALE)

RESILIENT JEWETT CITY PACHAUG COMMONS - ILLUSTRATIVE FLOOD DEPTH (1% AEP)

PACHAUG RIVER COMMONS

This illustration shows the approximate flood depth at the Pachaug Commons during a 1% Annual Chance Flood. There is potential for flood depths to enter basement spaces.



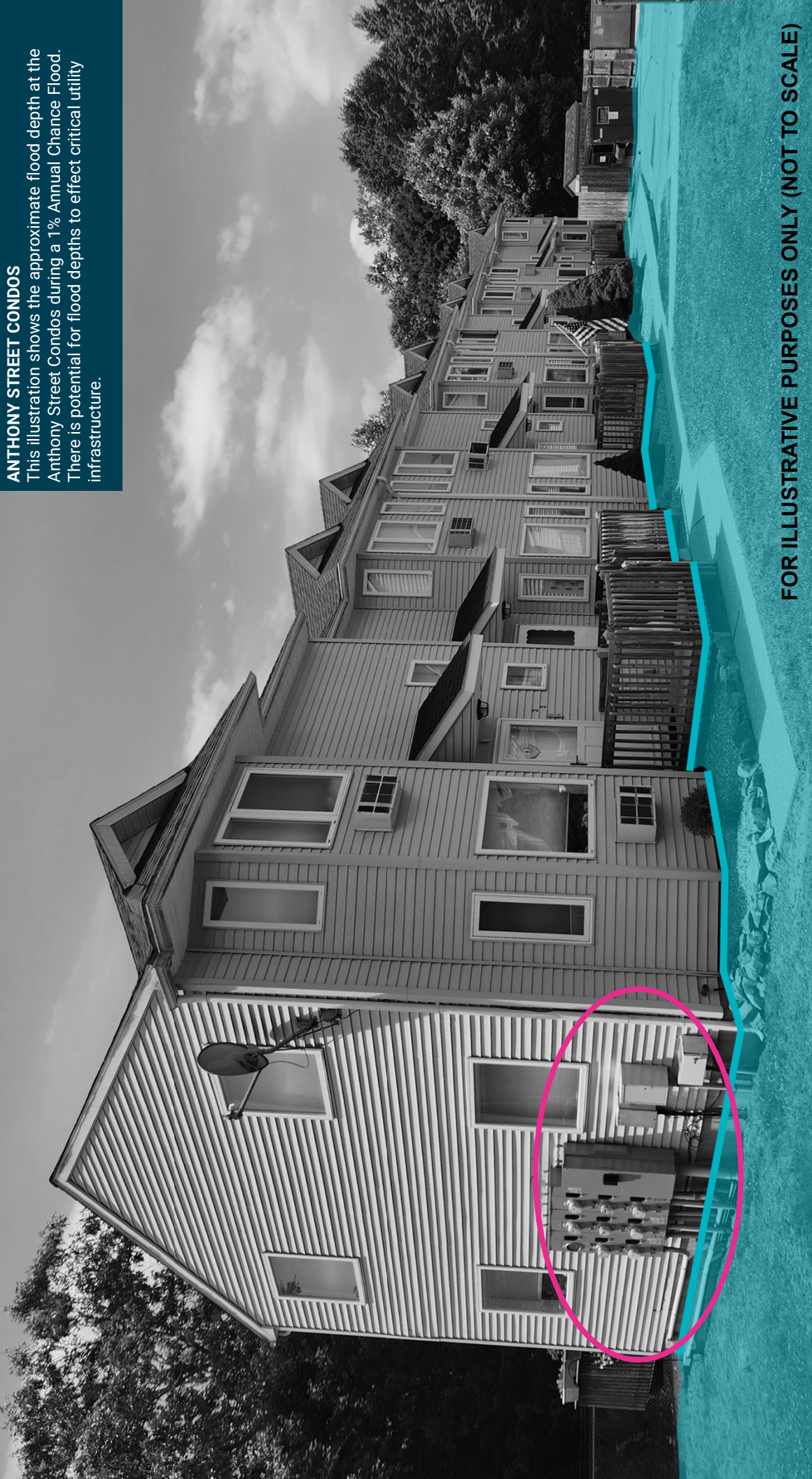
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JEWETT CITY ANTHONY STREET - ILLUSTRATIVE FLOOD DEPTH (1% AEP)

ANTHONY STREET CONDOS

This illustration shows the approximate flood depth at the Anthony Street Condos during a 1% Annual Chance Flood. There is potential for flood depths to effect critical utility infrastructure.



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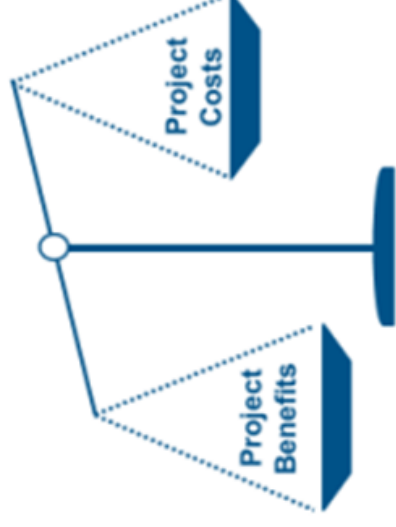
JEWETT CITY FLOODPROOFING ASSESSMENT

1. Most buildings are likely structurally sound enough for floodproofing
2. Most buildings have the potential for some mitigation measure to improve overall flood resilience of the living spaces
3. Many of the residents we talked to are new and/or renters and didn't experience the 2010 flood



- ❖ A project **evaluation tool** **created by FEMA** to compare the benefits and costs of any project intended to reduce the future risk or associated hazards of flooding
- ❖ A Cost-Effective project has a BCR **greater than 1.0**

$$\frac{\text{Benefits}}{\text{Costs}} = \text{BCR}$$



	OVERALL BCR
ALTERNATIVE 1 – FLOODPROOF IN ACCORDANCE WITH FEMA REQUIREMENTS	0.55
ALTERNATIVE 2 – FLOODPROOF & ACQUISITION	0.46
ALTERNATIVE 3 – FLOODWALL	0.21

- ❖ Most finished floor elevations are raised approximately 2-feet; therefore, the damage to buildings, as calculated by FEMA, is lower than the cost of a neighborhood scale project (e.g., floodwall or acquisitions).
- ❖ Our recommendations were to use State funding to improve flood resilience (e.g., floodproof garage/basement windows and doors, seal foundations, protect utilities) and to improve education and neighborhood preparedness.

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JEWETT CITY CHANGES TO FEMA BCA CALCULATOR (Version 6)

1. BCA now accounts for flood elevations due to future climate hazards (2030-2050).



Increased Precipitation → Increase Riverine Discharge (Flood Elevations) → Increase Damage

2. Increased benefits for acquiring properties in the floodplain.

RESILIENT JEWETT CITY ILLUSTRATIVE FLOOD DEPTH (FUTURE 1% ANNUAL CHANCE FLOOD)



RIVER RUN TOWNHOUSES

This illustration shows the approximate flood depth at the River Run Townhouses during a future 1% Annual Chance Flood according to the FEMA calculated future projected flood conditions.

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RESILIENT JEWETT CITY ILLUSTRATIVE FLOOD DEPTH (FUTURE 1% ANNUAL CHANCE FLOOD)

PACHAUG RIVER COMMONS

This illustration shows the approximate flood depth at the Pachaug Commons during a future 1% Annual Chance Flood according to the FEMA calculated future projected flood conditions.



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RESILIENT JEWETT CITY ILLUSTRATIVE FLOOD DEPTH (FUTURE 1% ANNUAL CHANCE FLOOD)

ANTHONY STREET CONDOS
This illustration shows the approximate flood depth at the Anthony Street Condos during a future 1% Annual Chance Flood according to the FEMA calculated future projected flood conditions.



UTILITY METERS

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JEWETT CITY ALTERNATIVE 2: FLOODPROOFING & ACQUISITIONS

- FEMA Floodproof the condo buildings (entire building, not by unit)
- Acquire properties in the FEMA Floodway
- Acquire properties adjacent to the Pachaug River

LEGEND

 Building to be Floodproofed

 Building to be Acquired



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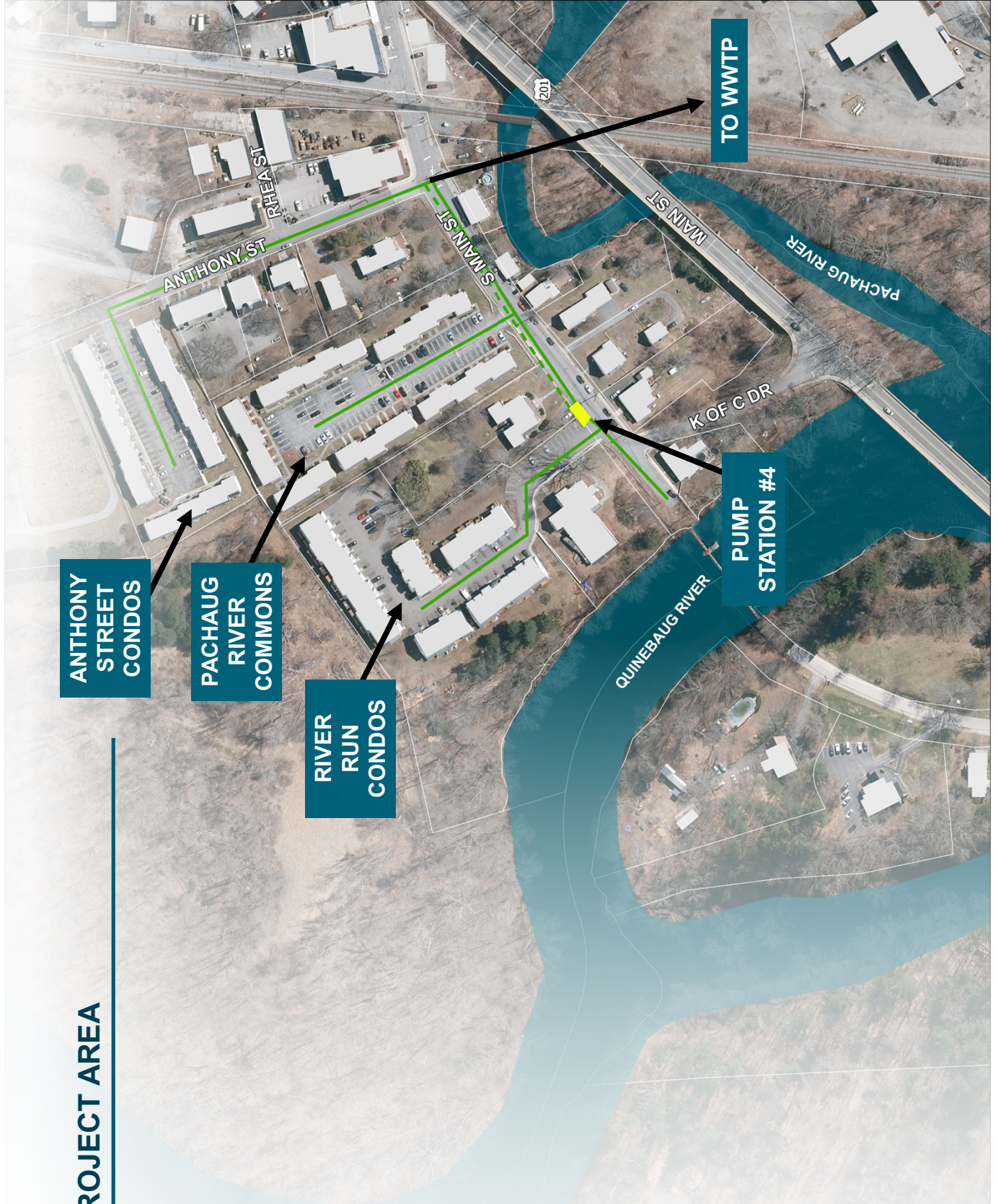
JEWETT CITY OCTOBER BCA RESULTS & BCA SUMMARY

	OCT BCA	REV BCA
ALTERNATIVE 1 – FLOODPROOF IN ACCORDANCE WITH FEMA REQUIREMENTS	0.55	1.38
ALTERNATIVE 2 – FLOODPROOF & ACQUISITION	0.46	1.35
ALTERNATIVE 3 – FLOODWALL	0.21	0.65

- ❖ Can clearly demonstrate the economic impacts of future climate hazards on the neighborhood.
- ❖ Our recommendations can be expanded because the project is now suitable for Federal funding (BRIC, NRCS).
- ❖ Our recommendations need to be reoriented.

RESILIENT JEWETT CITY PROJECT AREA

- South Main Street Pump Station (PS #4)
- Provides services to approx. 100 housing units/individual homes
- Anthony Street is serviced by a separate gravity main
- Pump station information was limited (F&O staff took photos of existing mapping)
- Type of Pump Station: Smith & Loveless Suction Lift Pump Station



RESILIENT JEWETT CITY PUMP STATION - ILLUSTRATIVE FLOOD DEPTHS



ELEVATIONS (NAVD88)

Flood Protection Design Elevation
EL. 98.0

EL. 97.0 (0.2% AEP BFE)

EL. 90.5 (1% AEP BFE)

EL. 87.71 (Pump Station Platform)

EL. 86.72 (Ground)

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RESILIENT JEWETT CITY PUMP STATION FLOOD RESILIENCE ALTERNATIVES

Resilience Improvement Goals











- ✓ Prevent backflow of sewage laden floodwaters into basements
- ✓ Reduce and/or eliminate down-time after a storm event
- ✓ Reduce and/or eliminate damage (i.e., cost) due to flooding

Summary of Alternatives

- ❖ Alternate No. 1 – Improve Existing Collection System
- ❖ Alternate No. 2A – Improve Existing Collection System with Deployable Flood Protection
- ❖ Alternate No. 2B – Improve Existing Collection System with Floodwall
- ❖ Alternate No. 3 – Replace Pump Station
- ❖ Alternate No. 4 – Abandon Pump Station and Replace with Low-Pressure System

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JEWETT CITY SEWER ALTERNATIVES SUMMARY

ALTERNATIVE	PUBLIC APPROVAL	DPU RESPONSIBILITY & MAINTENANCE	LEVEL OF PROTECTION	APPROXIMATE COSTS
ALTERNATIVE 1 – IMPROVE EXISTING COLLECTION SYSTEM			✓	\$
ALTERNATIVE 2A – ALT. 1 + DEPLOYABLE FLOOD PROTECTION			✓✓	\$\$
ALTERNATIVE 2B – ALT. 1 + FLOODWALL			✓✓✓	\$\$\$
ALTERNATIVE 3 – REPLACE PUMP STATION			✓✓✓	\$\$\$
ALTERNATIVE 4 – REPLACE PUMP STATION WITH LOW- PRESSURE SEWER			✓✓	\$\$\$\$

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JEWETT CITY EXTREME HEAT VULNERABILITIES

EXPOSURE

How much or how little individuals, communities, and populations experience extreme heat.

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SENSITIVITY

The degree to which an individual, community, or population is affected by exposure to extreme heat.

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ADAPTIVE CAPACITY

The ability for the individual, community, or population to adapt and become resilient to extreme heat.

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HEAT VULNERABILITY



LEGEND

- Impervious Building Surface
- Impervious Ground Surface
- Open Space and Grass Cover
- Tree Cover

RESILIENT JEWETT CITY CRITICAL COMMUNITY ASSETS

EXISTING COOLING CENTERS AND LOCAL RESOURCES

- Gazebo at Veterans Memorial Park
- The Southeast Area Transit (SEAT) District serves Jewett City.
- According to SEAT, the Lisbon Landing to Jewett City route serves approximately 12% of people living in poverty.

LEGEND

- Southeast Area Transit (SEAT) Bus Route
- Southeast Area Transit (SEAT) Bus Stop
- Existing Cooling Center
- Veteran's Memorial Park Gazebo
- Reliance House
- Griswold School District
- Place of Worship



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JEWETT CITY HEAT MITIGATION RECOMMENDATIONS

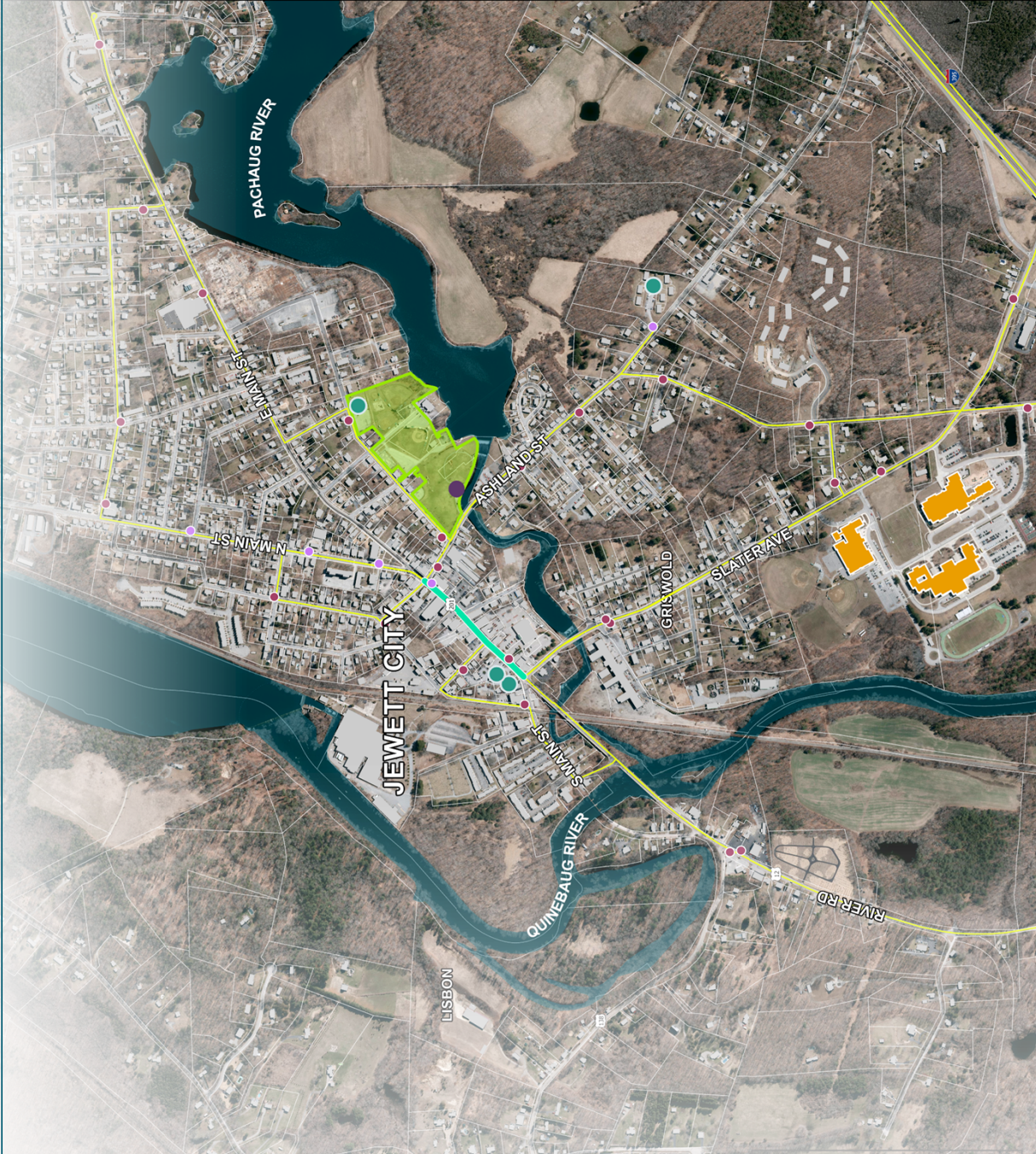
COOL ZONE – Reimagine the Veterans Memorial Park to improve pedestrian connectivity and include shade vegetation and water feature

COOL CORRIDOR – A cool corridor through Main Street (between Slater Avenue and Ashland Street) including street trees, shade structures, increase pervious cover

COOLING CENTER – Designate the Griswold School District + Borough Municipal Center as a community cooling center.

COOL SHELTERS – Provide cool shelters at key SEAT bus stops in Jewett City and improve transit services offered by the Griswold Senior Center (expand service during heat waves)




EDUCATION – Improve access to information about staying cool and safe during extreme heat and where to go for cooling centers



LEGEND

- Recommended Cool Corridor
- Southeast Area Transit (SEAT) Bus Route
- Southeast Area Transit (SEAT) Bus Stop
- Southeast Area Transit (SEAT) Bus Stop - Recommended Shelter
- Existing Cooling Center
- Veteran's Memorial Park Gazebo
- Town and Borough Owned Park Space - Recommended Cool Zone
- Griswold School District - Recommended Cooling Center

RESILIENT JEWETT CITY RECOMMENDATIONS

ALTERNATIVE	SHORT TERM (1-3 Years)	LONG TERM (4-6 Years)
<p>FLOOD RESILIENCE</p>	<p>Apply for State or Federal Funding (DCRF & BRIC Scoping)</p> <ol style="list-style-type: none"> Neighborhood Coordination <ul style="list-style-type: none"> Voluntary Acquisition Reliance House Condo Association Floodproofing 70% Design & Permitting Revise BCA 	<p>Apply for Federal Funding (FEMA or NRCS)</p> <ol style="list-style-type: none"> Final Design Construction   
<p>SEWER SYSTEM RESILIENCE</p>	<p>Apply for State Funding (DCRF)</p> <ol style="list-style-type: none"> Improve Resilience Rapidly Deployable Flood Barrier 	<p>Apply for Capital Improvement Funding (State or Federal)</p> <ol style="list-style-type: none"> Update Facilities Plan to include Pump Station Implement Floodwall or Pump Station Design in accordance with remaining properties
<p>HEAT RESILIENCE</p>	<p>Neighborhood v. Borough</p> <ul style="list-style-type: none"> Neighborhood heat risk will change depending on acquisitions. Possibility of using acquired properties for shaded park and pavement removal. There are a range of ways the Borough can reduce heat risk. 	

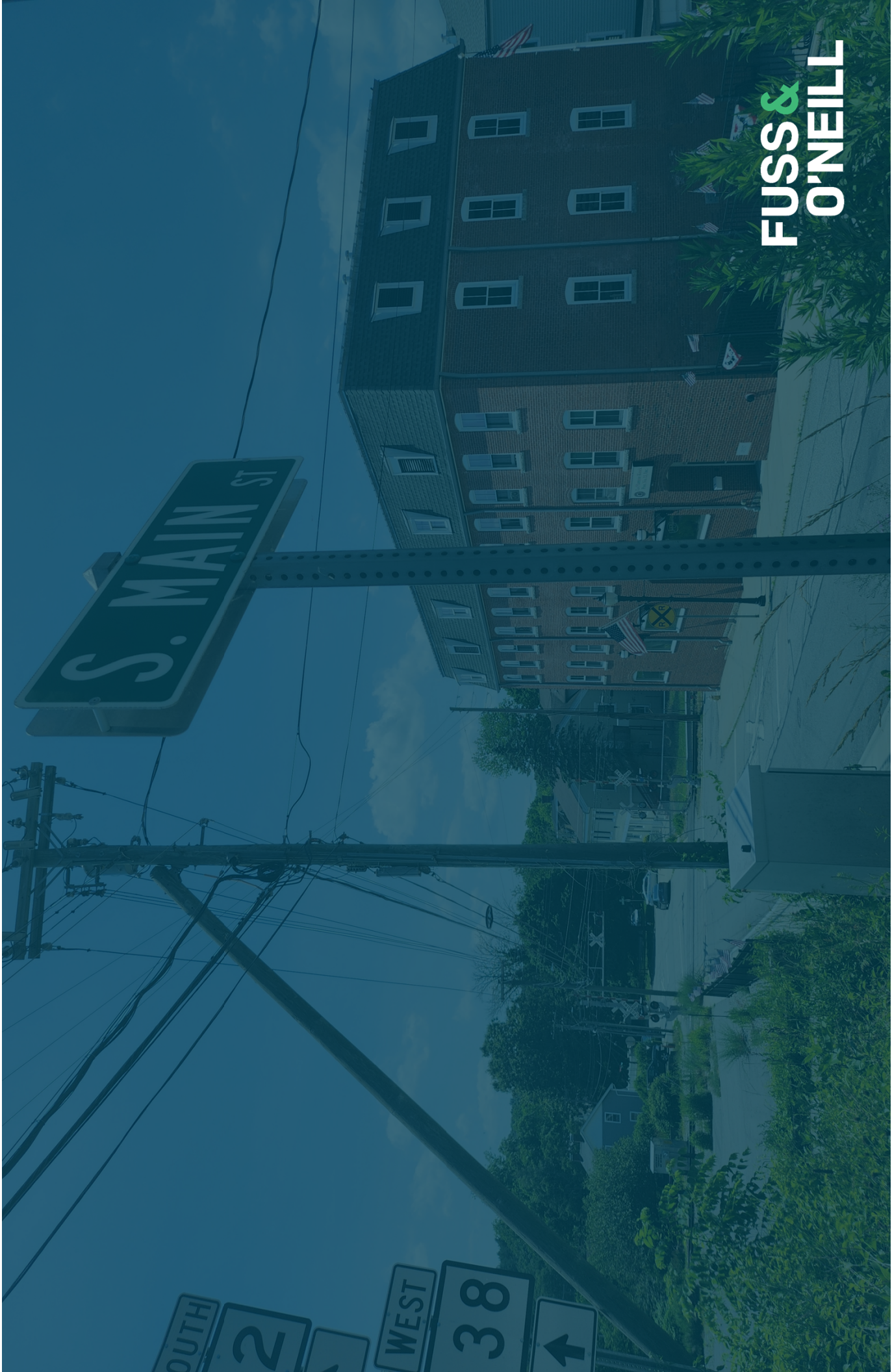
RESILIENT JEWETT CITY DISCUSSION & QUESTIONS?

- Flood Resilience
 - Who (at the Town) would lead the grant funding effort?
 - State DCRF Program could be available in the next 3-6 months
 - BRIC Scoping Study (Determine Match, Typically due in March)
 - F&O, CIRCA & SECCOG can provide grant application support resources.

- Sewer System Resilience
 - Next phases are dependent on property acquisitions
 - Keep this funding stream separate from the Flood Resilience

- Neighborhood Engagement – Leadership from the Borough & Town
 - Condo Associations – Generally Receptive to Floodproofing
 - How is information about acquisitions communicated?

- Heat Resilience – Fitting this into the big picture



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