

RESILIENT RING'S ISLAND

CLIMATE CHANGE IMPACTS

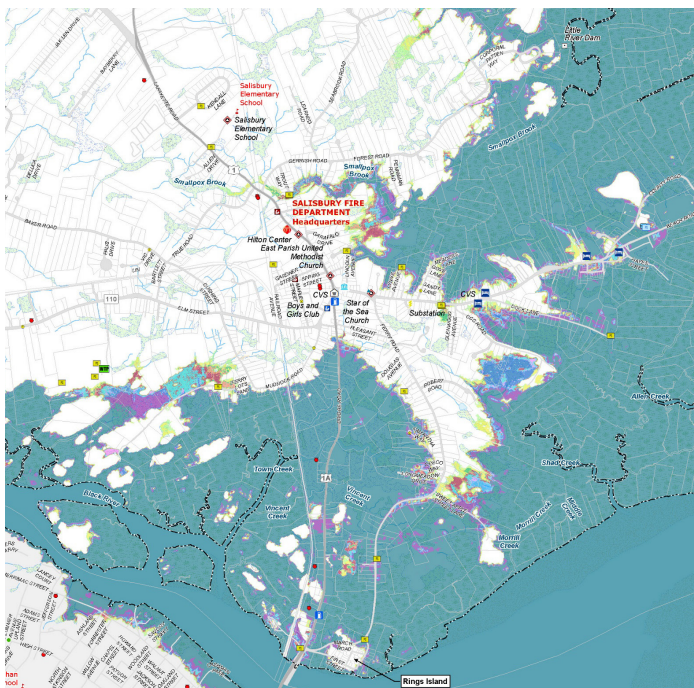


What Does Climate Change Look Like in Salisbury?

The Resilient Ring's Island Project aims to decrease the impact of floods in the area and improve the the coastal neighborhood's public safety by raising the access roads and increasing the tidal flushing through culvert replacements at 1st Street, March Road and Ferry Road.

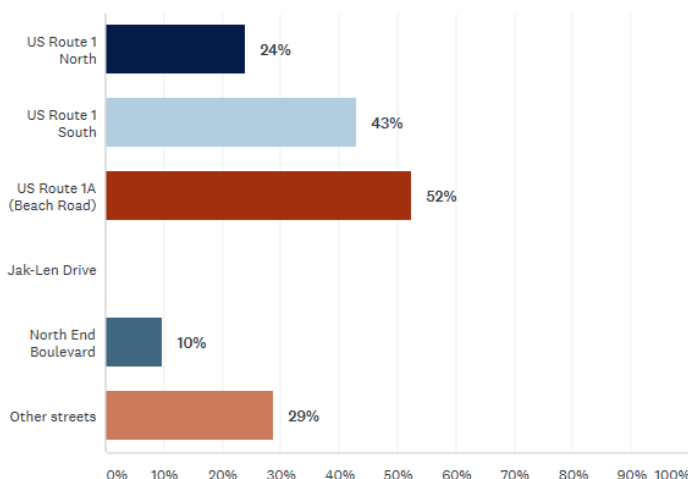


Aerial view and strategy for road raising near Ring's Island.



A map of inundation probability in Ring's Island by 2070

Have you been impacted by flooding on the following roads?



Survey Results

23 Total survey responses

Key Findings and Concerns

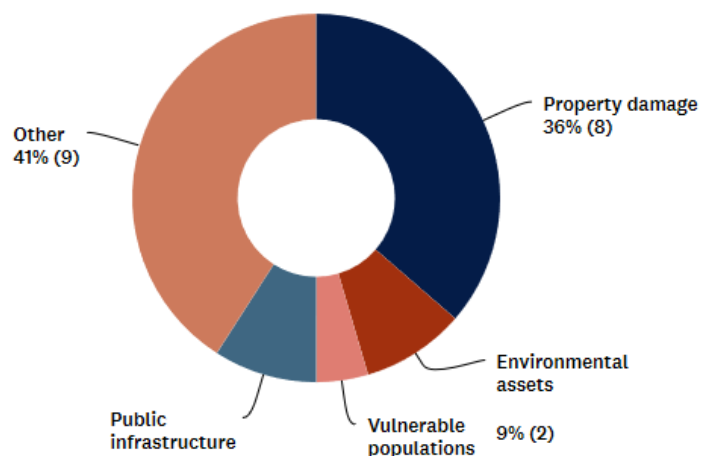
1/2 Approx. half of respondents have considered local climate change impacts

1/3 Approx. one-third are concerned about climate hazards causing property damage

The aesthetic impact of the proposed design

The validity of climate change and flood risks in this area

What is your biggest concern regarding climate change?

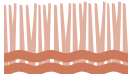


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PRELIMINARY DESIGN



Mapping indicates that there is 100-year flood zone, NHESP Priority Habitats of Rare Species and NHESP Estimated Habitats of Rare Wildlife.



A total of nine Bordering Vegetated Wetlands series were delineated at the site, and the banks of two perennial streams were flagged.



Environmental mapping was conducted using MassGIS data layers and FEMA FIRM mapping.



Road Design Options

Option 1 - Raised Berm Road



Option 2 - Sheet Pile Road



Option 3 - Elevated Road



Possible Required Permitting

- MA Wetlands Protection Act Notice of Intent (NOI)
- MassDEP 401 Water Quality Certification (WQC)
- MassDEP Chapter 91 Submission
- MEPA Environmental Notification Form (ENF)
- Environmental Impact Report (EIR)
- ACOE Individual Permit (IP)
- Massachusetts Coastal Zone Management (CZM)
- Massachusetts Division of Marine Fisheries (DMF) Review
- Massachusetts Endangered Species Act (MESA)

Permitting Evaluation

Evaluation Criteria	Option 1	Option 1 Without Sidewalks	Option 2	Option 2 Without Sidewalks	Option 3	Option 3 Without Sidewalks
Resource Area Impacts	1	2	4	6	3	5
Possible Permits	1	3	3	6	3	3
Possible Costs	1	3	3	6	3	3
Possible Permit Schedule	1	3	3	3	3	3
Total Rating Score	4	11	13	21	12	14

A lower score indicates a less preferred alternative.

The Resilient Ring's Island project proposes elevating Ferry Road, March Road, and 1st Street. The project also considers the addition of a sidewalk along the travel lane. The three options represent solutions for projected sea level rise and storm scenarios in Salisbury, and present unique benefits and challenges to implementation.