



NORTH PROVIDENCE

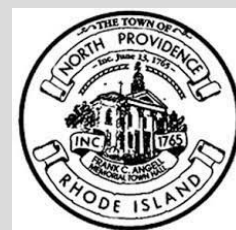


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Municipal Resilience Program Community Resilience Building Summary of Findings

July 2023



Town of North Providence, Rhode Island

Community Resilience Building

Summary of Findings

Overview

The need for municipalities, regional planning organizations, corporations, states, and federal agencies to increase resilience to extreme weather events and a changing climate is strikingly evident amongst the communities across the state of Rhode Island. Recent events such as Tropical Storm Irene, Super Storm Sandy, severe winter storms (2013 & 2015), and even the recent severe flooding during the summer of 2022 (i.e., I-95 closure) have reinforced this urgency and compelled leading communities like the Town of North Providence to proactively collaborate on planning and mitigating risks. Ultimately, this type of leadership is to be commended because it will reduce the vulnerability and reinforce the strengths of people, infrastructure, and ecosystems and serve as a model for other communities in Rhode Island, New England, and the nation.

In the summer of 2023, the Town of North Providence embarked on certification within the state of Rhode Island's Municipal Resilience Program (MRP). As a prerequisite to certification, the Rhode Island Infrastructure Bank (RIIB) and The Nature Conservancy (TNC) provided the Town with a community-driven process to assess current hazards and climate change impacts, and to surface projects, plans, and policies for improved resilience. In July 2023, North Providence's Core Team helped organize their Community Resilience Building process and workshop facilitated by TNC in partnership with RIIB. The core directive of this effort was the engagement with and between community members to define strengths and vulnerabilities and the development of priority resilience actions for the Town of North Providence.

The North Providence Community Resilience Building Workshop's central objectives were to:

- Define top local, natural, and climate-related hazards of concern.
- Identify existing and future strengths and vulnerabilities.
- Identify and prioritize actions for the Town.
- Identify opportunities to collaboratively advance actions to increase resilience alongside residents and organizations from across the Town and beyond.

The Town of North Providence used an “anywhere at any scale”, community-driven process called Community Resilience Building (CRB) (www.CommunityResilienceBuilding.org). The CRB’s tools, reports, other relevant planning documents, and local maps were integrated into the workshop process to provide both decision-support and visualization around shared issues and existing priorities across North Providence. The North Providence Comprehensive Plan (2013) and the North Providence Hazard Mitigation Plan (2018) were particularly instructive as references. Using the CRB process - rich with information, experience, and dialogue - the participants produced the findings presented in this summary report. This includes an overview of the top hazards, current concerns and challenges, existing strengths, and proposed actions to improve North Providence’s resilience to hazards and climate change today, and in the future.

The summary of findings transcribed in this report, like any that concern the evolving nature of risk assessment and associated action, is proffered for comments, corrections and updates from workshop attendees and other stakeholders alike. The leadership displayed by the Town of North Providence on community resilience building will benefit from the continuous participation of all those concerned.

Summary of Findings

Top Hazards and Vulnerable Areas for the Community

Prior to the CRB Workshop, the North Providence Core Team identified the top hazards for the Town. The hazards of greatest concern included flooding from rivers and streams, extreme wind events, and extended periods of drought. Additional hazards highlighted by participants during the CRB workshop include hurricanes and tropical storms, Nor’easters and blizzards, and extreme temperature events (both hot and cold). These hazards have direct and increasing impacts on the infrastructure, environment, and residents of and visitors to North Providence. These effects are seen on residential neighborhoods, natural areas (wetlands, rivers, forests, preserves, parks), roads, bridges, businesses, municipal facilities, historic buildings, churches, social support services, and other critical infrastructure and community assets within North Providence.

Current Concerns and Challenges Presented by Hazards

The Town of North Providence has several concerns and faces multiple challenges related to the impacts of natural hazards and climate change. In recent years, North Providence has experienced a series of highly disruptive and damaging weather events including severe flooding (March 2010, FEMA DR-1894), Tropical Storm Irene (August 2011, FEMA DR-4027), Superstorm Sandy (October 2012, FEMA DR-4089), Nor'easter Nemo (February 2013, FEMA DR-4107), and Blizzard Juno (January 2015, FEMA DR-4212). Impacts from Irene and Sandy included widespread inland flooding, along with tree damage and associated power outages. The winter storms Nemo and Juno dropped 2-3 feet of snow with 2-3 inches per hour of accumulation at their peak. The magnitude and intensity of these events, and others across Rhode Island, have increased awareness of natural hazards and climate change while motivating communities such as North Providence to proactively improve their resilience.

As is projected with climate change, the impacts of these severe weather events have been varied and diverse. In North Providence, this has included inland flooding of the riverfront; riverine flooding of critical infrastructure, roads, and low-lying areas; localized flooding from stormwater runoff during intense storms and heavy precipitation events; and property damage and utility outages (lasting several days or more) from wind, snow, and ice. Longer periods of elevated heat, particularly in July and August, have raised concerns about vulnerable segments of the population, including elderly and disabled residents who are homebound and lower-income residents who may have difficulty with utility bills for temperature control in their homes. The combination of these issues presents a challenge to preparedness and mitigation priorities and requires comprehensive, yet locally specific actions in North Providence.

The workshop participants were generally in agreement that North Providence is experiencing more intense and frequent storm events and heat waves. Additionally, there was a general concern about the increasing challenges of being prepared for the worst-case scenarios (e.g., major thunderstorms and hurricanes (Cat-3 or above)) particularly in the late summer and in the fall/winter months, when more intense storms coincide with colder weather (i.e., Nor'easters, blizzards). The impact of the COVID-19 pandemic was raised by workshop participants as well.

Specific Categories of Concerns and Challenges

As in any community, North Providence is not uniformly vulnerable to hazards and climate change. Certain locations, assets, and populations have been and will be affected to a greater degree than others. Workshop participants identified the following items as their community's key areas of concern and challenges across several broad categories.

Municipal Functions, Operations, & Growth:

- Limited policy mechanisms to ensure Best Management Practices for stormwater management are implemented.
- Concerns about potential release of contamination from super fund sites due to flooding of sites during major storms.

Emergency Management & Preparedness:

- Rapidly aging population of residents that have limited mobility and are increasingly isolated during and after disasters.
- Growing concerns about fire hazards associated with the installation of electric vehicle charges within residential garages.
- Concerns about the installation of roof top solar because they present an obstacle for fire fighters in the event of house fires requiring an access point through the roof.

Infrastructure: Roads & Road Networks, Bridges, Dams:

- Routine flooding from precipitation events of 1" or more along Wendell and Lake Street.
- Ongoing concerns regarding Wenscott Reservoir due to increase in pressure on the structure due to increased inflows to the water body from stormwater runoff associated with increasing number of storms of greater magnitude.
- Seven dams in North Providence present a concern due to the potential of breaching despite the ability to control water levels in most cases.
- Positioning of Longview Reservoir (24 million gallons) upstream from Mineral Spring Avenue, which would create a major disaster if the dam supporting the reservoir failed or was compromised.

Specific Categories of Concerns and Challenges (cont'd)

Stormwater, Waste Systems, Drinking Water Supply:

- No formal street curbing in many locations presents a challenge for debris removal because stormwater runoff picks up siltation from adjoining properties which is then carried into the storm drain system and eventually into the Woonasquatucket and West Rivers.
- Patchwork of public and private land ownership along roadway corridors creates a challenge for consistent and comprehensive stormwater runoff management interventions or applications of Best Management Practices (i.e., rain gardens, bioswales, etc.).
- Updated stormwater management structures installed during the 50s and 60s that were not designed for high-intensity storms of the 2020s with limited catchments to reduce runoff volumes and limited engineering to help spread or better distribute the volume of flow currently being experienced.
 - Town received a letter of non-compliance from DEM regarding sump pumps and roof drains draining into the sewer causing problems in Locust Drive area.

Watersheds, Wetlands, Rivers, Open Space, Forests, Trees:

- Limited amount of publicly accessible open space in North Providence.
- Groundwater issues currently along Mineral Spring Avenue.



Credit: Town of North Providence

Current Strengths and Assets

Just as certain locations, facilities, and populations in North Providence stand out as particularly vulnerable to the effects of hazards and climate change, other features are notable assets for North Providence's resilience building. Workshop participants identified the following items as their community's key strengths and expressed interest in centering them as the core of future resilience-building actions.

- Clearly, the responsive and committed engagement exhibited by leadership, staff, and residents is an appreciated strength within North Providence. Ongoing collaboration between municipal staff, committee/commission volunteers, business owners, land trusts, faith-based organizations, non-governmental organizations (NGO), adjoining municipalities, and various state-level organizations, among others, on priorities identified herein will help advance comprehensive community resilience building.
- High level of communication and coordination between departments and leadership in the Town where collaboration is emphasized and accessibility to residents is encouraged.
- Team of municipal staff that have a great deal of local experience and expertise as well as being committed to improving North Providence.
- Topography with natural highs (hills) and lows (valleys) that result in flooding of "micro-areas" in different districts versus extensive flooding across large portions of North Providence.
- Emergency management procedures and communication alert equipment in place for the entirety of North Providence.
- Parks and playgrounds are experiencing ongoing upgrades and renovations including two new multi-use fields.
- Public Safety Complex is fully operational and located in the geographic center of north Providence.
- Best Management Practices via Department of Public Works identified to help reduce silt-laden stormwater runoff from flowing into adjoining rivers, streams, and other wetlands.
- Routine monitoring of water quality in lakes ensures that public amenities such as beaches are safe for use by residents and visitors.

Current Strengths and Assets (cont'd)

- Limited amount of street curbing helps to reduce channelization of highly erosive stormwater runoff and allows for more natural, less concentrated, flows that increase infiltration and localized recharge of groundwater.
- Wenscott Dam identified as a drinking water reserve reservoir for North Providence.
- Recent retrofit of highwater spillway valve at Wenscott Dam including an automated spillway system. Spillway system also has an auxiliary 24" pipe that is exercised three times a year to ensure functionality during drawdown periods in advance of major precipitation events to make available storage capacity.
- Active projects by Department of Public Works to reduce flooding on Wendell Street and the west side of North Providence.
- Department of Public Works incorporating elevation and grade changes alongside flooding issues into new paving projects to help reduce localized flooding.
- Mineral Spring Avenue is a major transportation artery and economic driver for North Providence from which residents and visitors can access every portion of Town as well as directly connect with Johnston and Pawtucket. Commercial district along Mineral Spring Avenue helps to lower the tax burden on the tax base derived from residential.
- Two new schools just recently built with renewable energy generation capacity incorporated as well as updates to three other schools resulting in an exemplary school system that is greatly appreciated by families in North Providence.
- Ongoing projects that are taking down older buildings and replacing them with residential buildings that build in sustainable Best Management Practices such as tree installations and green stormwater infrastructure (i.e., rain gardens, bioswales, etc.) to better manage stormwater onsite.
- Senior Center built within last 10 years that can serve as a shelter with back-up generator system in place which makes the facility an even greater community asset to residents in North Providence.
- Municipality recently secured a grant to upgrade the senior center to function as a cooling and warming center for residents in need.
- Department of Public Works yard and facility located in the center of North Providence, which enhances the Department's ability to respond to needs across the Town.

Current Strengths and Assets (cont'd)

- New stormwater zoning ordinance for landscaping that now requires 15% natural cover on a project development site (up from 5%) to help reduce stormwater runoff and increase onsite infiltration.
- Active and engaged network of faith-based organizations in North Providence.



Credit: Town of North Providence



Credit: Town of North Providence



Credit: Valley Breeze

Recommendations to Improve Resilience

A common theme among workshop participants was the need to continue community-based planning efforts focused on developing adaptive measures to reduce North Providence’s vulnerability to extreme weather, climate change and other common concerns raised. To that end, the workshop participants helped to identify several priority topics requiring more immediate and/or ongoing attention including:

- **Long-term vision and growth** (i.e., responsible/sustainable growth, conservation & recreation, affordable housing, transportation, economic stability, education);
- **Infrastructure improvements** (i.e., road network, dams, stormwater management systems, green stormwater infrastructure);
- **Quality of life improvements** (i.e., parks and recreation, open space & access, sustainability, health & safety, economic prosperity, housing, food security);
- **Emergency management** (i.e., communications, outreach, education, continuation of services, business recovery, evacuation, vulnerable populations).

In direct response, the Community Resilience Building workshop participants developed the following actions and identified, but did not rank, them as priority or as additional actions. Mitigation actions from the North Providence Hazard Mitigation Plan (2018) are provided in Appendix A for cross reference with actions presented here. Maps provided during the CRB Workshop gathered from the North Providence Hazard Mitigation Plan and Comprehensive Community Plan (2013) are provided in Appendix B.

Priority Actions

Capital Projects

- Advance repavement of roadways (currently 1 million in municipal budget annually) with lower replacement levels to allow for greater spread and spill off of stormwater in hopes of greater infiltration and groundwater recharge. Employ “Cape Cod Style” roadside berms to also increase localized infiltration of stormwater runoff.

Priority Actions (cont'd)

- Pilot alternative repaving approaches designed to increase localized infiltration of stormwater runoff in the Woodhaven and Indian Village areas of North Providence.
- Conduct dredging and clean-out operations behind the Twin River Dam as well as conducting maintenance improvements to the structure as needed.
- Continue to invest in important community assets such as the Senior Center including improvement in the facilities to accommodate the growing number of elderly residents living on fixed incomes in North Providence.
- Create tree planting program to advance projects in neighborhoods with limited number of trees and are experiencing heat island effects.
- Continue to work on creating a new nature preserve with boat launch at Wenscott Park, which is a waterfront property purchased by the Town and now owned and managed by North Providence Land Trust.
- Advance work to reduce the urban heat island effects due to the lack of trees in the Centerdale neighborhood by advancing a street-scaping project.
- Work to address issues raised in letter of non-compliance from DEM regarding sump pumps and roof drains draining into sewer causing problems in Locust Drive area.

Plans/Preparedness/Studies/Outreach

- Continue to monitor dams in North Providence to ensure functionality of release valves and integrity of dam structure. Couple monitoring with stakeholder meeting to help clarify ownership and responsibilities associated with various dams in Town.
- Review catastrophic failure plans for dams in North Providence (if any) and ensure contingency plans are in place to minimize potential impacts to downstream people and properties. Reaction time for emergency management is limited under scenarios of catastrophic dam failure so there is an imperative to having quick response plans in place.

Priority Actions (cont'd)

- In the event of a catastrophic dam failure ensure that roadway evacuation procedures are in place and communication systems are prepared to notify downstream residents immediately after failure events.
- Develop a comprehensive education and outreach plan to help teach community members and organizations about the need to plan for resilience via the actions and steps identified during the Community Resilience Building process. Create an open dialogue with residents regarding ongoing steps taken to improve resilience in North Providence.



Credit: Town of North Providence



Credit: Town of North Providence



Credit: FireNews.org

Additional Actions

Capacity Building

- Explore opportunities for additional training on green stormwater management approaches and techniques coupled with identifying potential funding sources (i.e., SNEP, others) to install Best Management Practices to improve stormwater management in North Providence.
- Look to commit staff to participate in the “Building Community Support for Sustainable Stormwater Management” training course.

Plans/Preparedness/Studies/Outreach

- Identify and establish Best Management Practices for walkways and sidewalks in public right of ways in residential areas to help ensure onsite capture and infiltration of stormwater runoff.
- Work to ensure the proposed zoning ordinance for increased landscape cover (15% from 5% when over 51% improvement to individual structures) is fully established and enforced in North Providence.
- Continue to advance efforts to reduce residential driveway footprints to help minimize impervious surfaces and improve aesthetics across Town.
- Seek and secure funding to advance priority stormwater infrastructure improvements and upgrade projects.
- Improve building codes by applying new ICC codes from state including the use of better design and materials to help retain heat in the winter and help homes cool in the summer months.
- Create parameters for fire and firefighter safety for solar installation including areas constrained to 2-3’ barriers in from the roof line.

CRB Workshop Participants: Department/Organization

Town of North Providence – Fire Department

Town of North Providence – Planning Department

Town of North Providence – Department of Public Works

Town of North Providence – Purchasing Department

Town of North Providence – Engineering Department

Town of North Providence – Building Department

Town of North Providence – Police Department

North Providence Core Project Team

Brent Wiegand – Town Planner – Town of North Providence

Chief Silva – Fire Department – Town of North Providence

Online CRB Workshop Facilitation Team

Rhode Island Infrastructure Bank - Kim Koriath (MRP Lead)

The Nature Conservancy - Adam Whelchel, Ph.D. (Lead Facilitator)

State of Rhode Island – DEM – Jennifer West (Small Group Facilitator)

The Nature Conservancy - Kai Lo Muscio (MRP Coordinator/IT Manager/Scribe)

The Nature Conservancy – Rafeed Hussain (Scribe)

The Nature Conservancy – Isaac Slevin (Scribe)

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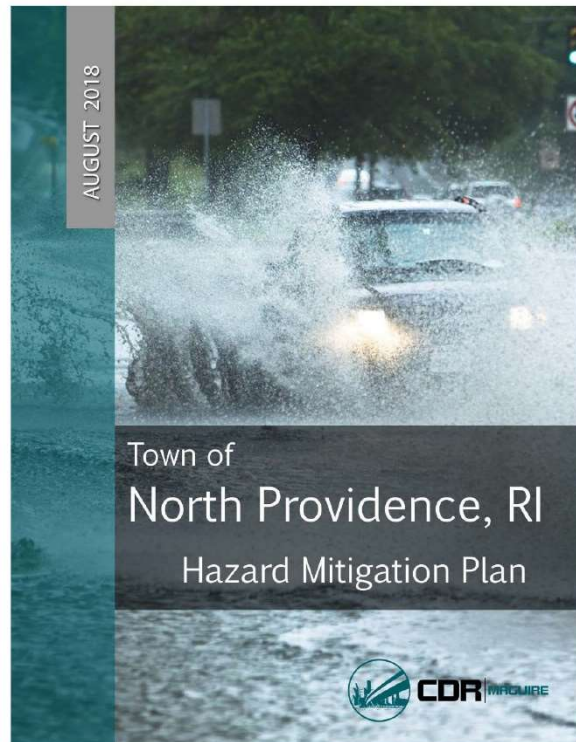
Acknowledgements

Special thanks to the Town leadership, staff, and community members for their willingness to embrace the process in hopes of a more resilient future for North Providence. This online Community Resilience Building Workshop was made possible in large part through the dedicated contribution of the facilitation team members who skillfully conducted the North Providence Community Resilience Building workshop in close partnership with the Town’s Core Project Team.

Appendix A

Town of North Providence Local Hazard Mitigation Plan (2018)

Mitigation Actions



The following chart summarizes the proposed mitigation actions detailed in this plan.

Actions In 2017 Plan		Action Type	Status
1	Ordinance to regulate dumping in streams and ditches	Prevention	New
2	Require and maintain FEMA elevation certificates	Prevention	New
3	Expand zoning regulations to promote low impact development	Prevention	New
4	Require soil percolation test for new development	Prevention	New
5	Widen culvert along Woonasquatucket Avenue	Structural Project	New
6	Construct a detention basin to manage stormwater flow from RICC	Structural Project	New
7	Create EOP for Wenscott Reservoir and Louisquisset Flood Control Dams	Planning	New
8	Repairs at Wenscott dam	Structural Project	New
9	Promote Special Needs Registry	Public Education & Awareness	New
10	Incorporate hazard mitigation principals into all aspects of publicly-funded building projects.	Prevention, Natural Resource Protection	New
11	Install secure broadband town-wide	Emergency Services Protection	New
12	Public education on protecting your property in the winter	Public Education & Awareness	New
13	Create an urban forest management plan	Planning	New
14	Re-establish the volunteer North Providence Historic District Commission	Prevention	New
14a	Involve the North Providence Historic District Commission in annual review of the hazard mitigation plan to identify additional potential mitigation actions	Planning	New
15	Hazard safety for school children	Public Education & Awareness	New
16	Conduct one active shooter exercise per school annually	Prevention	New
17	Improve building structure for Greystone, Centredale, and Whelan Schools	Structural Project	New
18	Demolish and replace Marieville, James L. McGuire, and Stephen Olney schools	Structural Project	New

Action 1: Create and pass an ordinance (as part of the Stormwater Pollution Prevention Plan) that regulates solid dumping in streams and ditches. This would include storm and yard debris, sand, dirt, and trash.

Mitigation Action Type: Prevention
Pre-or Post-Disaster: Pre-Disaster
Priority Level: High
Lead: Stormwater Coordinator (Public Works)
Supporting: Planning Director, Planning Board, Town Council, Mayor
Estimate Costs: Staff time (\$1,200)
Financing Options: Planning Department budget
Time Frame: Short-term
Benefit: Improve flood water conveyance.

Action 2: Require and maintain FEMA elevation certificates for both new construction and substantial improvement of a structure in the Special Flood Hazard Area.

Action Type: Preparedness (not mitigation)
Pre-or Post-Disaster: Pre-Disaster
Priority Level: Medium
Lead: Building Official
Supporting: Town Planner
Estimate Costs: None

Financing Options: NA
Time Frame: Medium-term
Benefit: Standardize elevation information necessary to ensure compliance with floodplain ordinances, support LOMAs, and earn credits for future enrollment in the Community Rating System.

Action 3: Expand the zoning regulations to promote low impact development techniques such as replacing curbs with grass channels along roadways to capture water, pollution, and sediments.

Mitigation Action Type: Prevention
Pre-or Post-Disaster: Pre-Disaster
Priority Level: Medium
Lead: Zoning Official
Supporting: Stormwater Coordinator (Public Works)
Estimate Costs: Staff time
Financing Options: Town Planning and Zoning Budget
Time Frame: Medium-term
Benefit: Improve natural water infiltration, reducing the volume of runoff, pollutants and sediments entering the waterways.

Action 4: For all new development, require a percolation (perc) test to determine the absorption rate of soil at a planned site for a septic drain field or leach field.

Mitigation Action Type: Prevention

Pre-or Post-Disaster: Pre-Disaster

Priority Level: High

Lead: Building Official

Supporting: Town Planner

Estimate Costs: Staff time

Financing Options: Town Planning and Zoning Budget

Time Frame: Medium-term

Benefit: Implementing standards for length of line, depth of pit, etc. will improve quality of groundwater and reduce flooding in oversaturated areas.

Action 5: Install a second, parallel culvert along Woonasquatucket Avenue to accommodate overland flooding and riverine flooding. This project has already been planned but has not started yet.

Mitigation Action Type: Prevention, Structural Project

Pre-or Post-Disaster: Pre-Disaster

Priority Level: High

Lead: RI Department of Transportation (RIDOT)

Supporting: North Providence Public Works

Estimate Costs: \$500,000

Financing Options: (already appropriated) RIDOT budget, EPA grants, Rhode Island College

Time Frame: Medium-term

Benefit: Reduce flooding along Woonasquatucket Avenue during heavy rain events.

Action 6: Public Works to coordinate with RIDOT to construct a detention basin in the southwest corner of town to manage the overland flow of stormwater from a nearby Rhode Island College parking lot. This vital RI DOT project has been planned but not constructed yet.

Mitigation Action Type: Prevention, Structural Project

Pre-or Post-Disaster: Pre-Disaster

Priority Level: High

Lead: RI Department of Transportation

Supporting: North Providence Public Works

Estimate Costs: included in \$500,000 cost for Woonasquatucket Avenue Reconstruction

Financing Options: (already appropriated) RIDOT budget, EPA grants, Rhode Island College

Time Frame: Medium-term

Benefit: Reduction in frequency of flooding of Woonasquatucket Ave. in North Providence.

Action 7: Create Emergency Action Plans for the Wenscott Reservoir Dam, and Louisquisset Flood Control Dam. Both of these dams are classified by the State as high hazard.

Action Type: Preparedness (not mitigation)

Pre or Post Disaster: Pre-Disaster

Priority Level: High

Lead: Town Planner

Supporting: RI Department of Environmental Management

Estimate Costs: Staff time

Financing Options: Planning Department budget

Time Frame: Medium-term

Benefit: Improved response to dam failure, potentially reducing damages and lives lost.

Action 8: Install new in-line gate valve, new piping and sealing at the Wenscott Dam to improve the structural integrity of the dam.

Action Type: Maintenance (not mitigation)

Pre or Post Disaster: Pre-Disaster

Priority Level: High

Lead: Public Works

Supporting: Mayor's Office

Estimate Costs: \$187,000

Financing Options: Public Works budget, EPA Watershed Initiative Grants, FEMA Pre-Disaster Mitigation Grants

Time Frame: Medium-term

Benefit: Better protection of the downstream residents from flooding

5.3.3 Care Facilities/Special Needs Populations

North Providence has a large percentage of older and special needs residents that may require additional assistance during an emergency. The Special Needs Emergency Registry lets police, fire, and other first responders better prepare for and respond to a community's needs during a hurricane, flood, or other emergency.

Action 9: Promote the State's Special Needs Registry at the Senior Center. This is currently only done on the Town website. To increase participation, the Communications Division would like

Action Type: Preparedness (not mitigation)

Pre or Post Disaster: Pre-Disaster

Priority Level: High

Lead: Communications Division

Supporting: Fire Department, Police Department

Estimate Costs: \$1,500

Financing Options: Town Fire and Police public relations budget

Time Frame: Medium-term

Benefits: Improve the Town and State's response to vulnerable populations that may need special assistance during a disaster.

5.3.4 Critical Municipal Facilities

The North Providence Hazard Mitigation Committee agreed that the Town currently has storm resistant infrastructure, facilities, and storm preparedness capabilities. The team brainstormed two new activities that they would like the Town to engage in.

Action 10: Enact a new town policy which requires incorporating hazard mitigation principals into all aspects of publicly-funded building projects. Federal disaster assistance costs billions of dollars annually. To reduce the amount of disaster money spent, the Town will require consideration of hazard risks to reduce the vulnerability of publicly-funded buildings.

Mitigation Action Type: Prevention

Pre or Post Disaster: Pre-Disaster

Priority Level: High

Lead: Town Planner

Supporting: None

Estimate Costs: \$500, staff time

Financing Options: Planning and Zoning budget

Time Frame: Medium-term

Benefit: Resiliency will be built into new school/shelters, and town buildings.

Action 11: Install secure broadband Wi-Fi throughout the town at municipal properties, creating a net of connectivity blanketing the town.

Action Type: Preparedness and Response (not mitigation)

Pre or Post Disaster: Pre-Disaster

Priority Level: Low

Lead: Communications Division

Supporting: None

Estimate Costs: \$450,000

Financing Options: Google forfeiture funds

Time Frame: Medium-term

Benefit: Increase connectivity speed of first responder's access to critical information and maps.

Currently the in-car laptops run off mobile air cards which are expensive, slow and unreliable.

5.3.5 Water

The Town's drinking water is managed by three public water suppliers: The East Smithfield Water District (10%), the Providence Water Supply Board (75%), and the Smithfield Water Supply Board (15%). The districts implement their own hazard mitigation efforts for their customers but the Town can help further their efforts through print media.

Action 12: Place an ad or editorial piece in the local newspaper (Valley Breeze) annually at the beginning of the winter season reminding homeowners that letting a faucet drip during extreme cold weather can prevent the buildup of excessive pressure in the pipeline and avoid bursting.

Mitigation Action Type: Public Education and Awareness

Pre or Post Disaster: Pre-Disaster

Priority Level: Low

Lead: Communications Division

Supporting: Emergency Management

Estimate Costs: \$270

Financing Options: Communications Division budget

Time Frame: Short-term

Benefit: Better educated citizens will make smarter decisions and reduce property damages during periods of extreme cold weather.

5.3.6 Recreation

North Providence has both developed and undeveloped recreation and conservation space that attracts various users throughout the year.

Action 13: Create and implement an urban forest management plan based on recent tree inventory, equipment, and resources. The plan will describe activities and services such as pruning, required to maintain public trees.

Action Type: Planning (not mitigation)

Pre or Post Disaster: Pre-Disaster

Priority Level: High

Lead: Town Planner

Supporting: Rhode Island Tree Council

Estimate Costs: \$15,000

Financing Options: RI Tree, Rhode Island DEM, FEMA Pre-Disaster Management Grants, Wildland Urban Interface Community and Rural Fire Assistance grants

Time Frame: Medium-term

Benefit: Coordinated planning of shade trees to reduce a heat island effect, establish public tree program for pruning around power lines, roads, and public infrastructure.

Action 13a: Implement tree planting and maintenance program as identified in the urban forest management plan.

Mitigation Action Type: Prevention

Pre or Post Disaster: Pre-Disaster

Priority Level: High

Lead: Town Planner

Supporting: Rhode Island Tree Council

Estimate Costs: \$8,000

Financing Options: Town DPW operating budget, RI Tree, Rhode Island DEM, FEMA Pre-Disaster Management Grants, Wildland Urban Interface Community and Rural Fire Assistance grants

Time Frame: Long-term

Benefit: Reduce the number of power failures and road closures due to downed trees in a wind storm.

5.3.7 Historic Resources

North Providence has numerous historic buildings and districts but a waning effort to protect the unique physical character and cultural identity of the Town.

Action 14: Re-establish the volunteer North Providence Historic District Commission to safeguard the heritage of the town by preserving historic elements.

Action Type: Preparedness (not mitigation)

Pre or Post Disaster: Pre-Disaster

Priority Level: Low

Lead: Town Planner

Supporting: Town Council

Estimate Costs: None, Staff time

Financing Options: Planning Department budget

Time Frame: Medium-term

Benefit: Greater promotion, awareness, and protection of historic resources

Action 14a: After Action 14 is completed, involve the North Providence Historic District Commission in annual review of the hazard mitigation plan to identify additional potential mitigation actions.

Action Type: Preparedness (not mitigation)

Pre or Post Disaster: Pre-Disaster

Priority Level: Low

Lead: Town Planner

Supporting: Town Council

Estimate Costs: None, Staff time

Financing Options: Planning Department budget

Time Frame: Medium-term

Benefit: Improve awareness of how historic landmarks and districts fit into hazard mitigation planning.

5.3.8 Schools

As school enrollment increases and school buildings deteriorate. The Town wants to improve the physical structure of the schools to meet minimum health and safety requirements. Further hazard safety education is also needed for students.

Action 15: Educate school children about the dangers of all-natural hazards in this plan and how to take safety precautions. Expand the current fire safety program that is in the schools to include other natural hazards.

Mitigation Action Type: Public Education and Awareness
Pre or Post Disaster: Pre-Disaster
Priority Level: Low
Lead: Communications Division
Supporting: Fire Department
Estimate Costs: \$2,000
Financing Options: Fire Department public relations budget
Time Frame: Medium-term
Benefit: Increased community hazard awareness and safety measures at home.

Action 16: Conduct one active shooter exercise per school annually to improve active response and long-term community recovery. Although terrorism is not addressed as part of this plan, this is an action that the Town would like to undertake to improve the safety of students and schools- an identified critical infrastructure.

Action Type: Preparedness (not mitigation)
Pre or Post Disaster: Pre-Disaster
Priority Level: Low
Lead: North Providence Emergency Management
Supporting: RI Department of Education
Estimate Costs: \$30,000/school
Financing Options: Rhode Island Department of Education, Homeland Security Grant Program, and Town Emergency Management budget
Time Frame: Medium-term
Benefit: Increased resilience of the community members.

Action 17: Coordinate with RI Department of Education to meet the health and safety requirements by improving building structure for the following schools: Greystone, Centredale, and Whelan. These planned building improvements will make the schools (which also serve as shelters) include projects that provide back-up power, improve heating and cooling capacities, and making the roofs more resistant to high winds and snow loads. This relationship between the Town and the RI Department of Education has already been established.

Mitigation Action Type: Prevention
Pre or Post Disaster: Pre-Disaster
Priority Level: High
Lead: RI Department of Education
Supporting: North Providence Town Council, School Department Facilities Manager
Estimate Costs: \$15 Million
Financing Options: Rhode Island Department of Education and Town School Department budget
Time Frame: Long-term
Benefit: Improve the buildings' ability to withstand strong storms, power outages, and periods of extreme heat or cold.

Action 18: Coordinate with the RI Department of Education to Demolish and rebuild three 1930s schools- Marieville, James L. McGuire, and Stephen Olney. In their current deteriorated state, beyond renovations, they present a safety hazard for students and staff.

Mitigation Action Type: Prevention
Priority Level: High
Lead: RI Department of Education
Supporting: North Providence Town Council
Estimate Costs: \$60 Million
Financing Options: Rhode Island Department of Education and Town School Department budget
Time Frame: Long-term
Benefit: Re-build schools to withstand strong storms, power outages, and periods of extreme heat or cold.

Table 16: Activity Prioritization

Priority Level

High: Reduces the greatest risks, is important to accomplish first

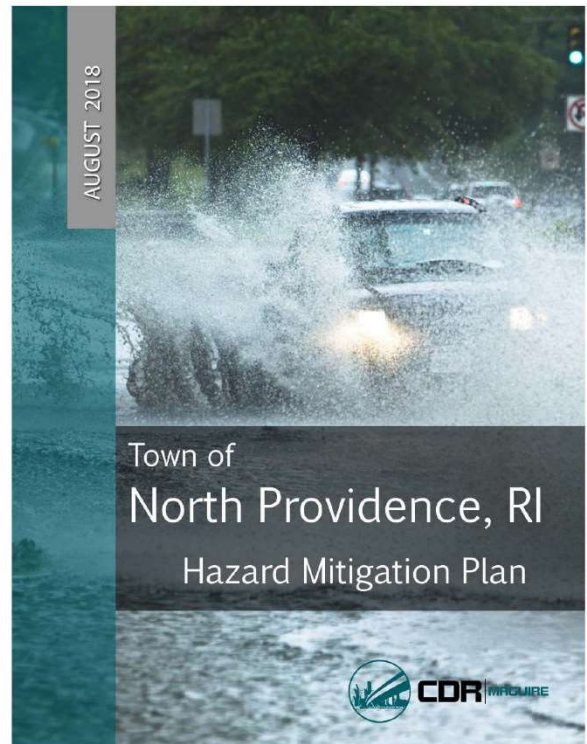
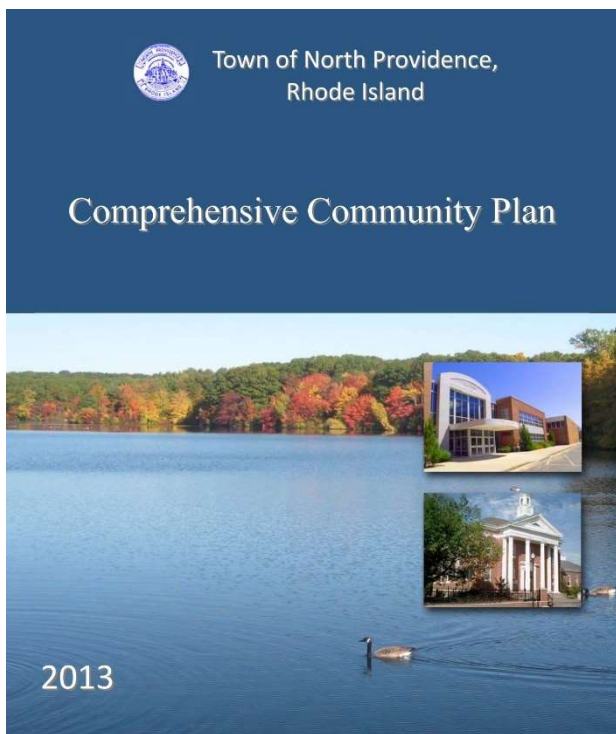
Medium: May need other actions to be completed first

Low: Less of an impact on safety and property

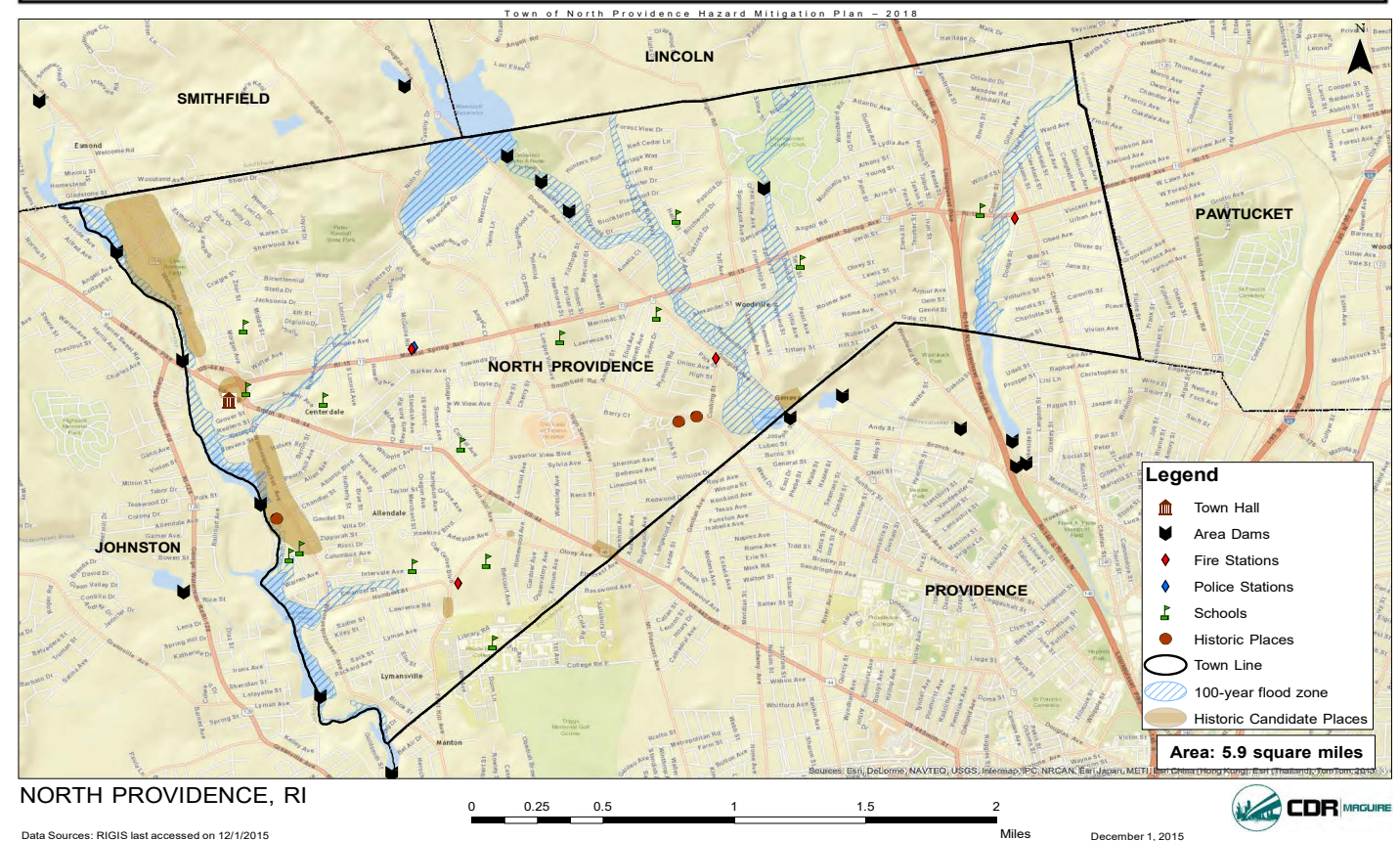
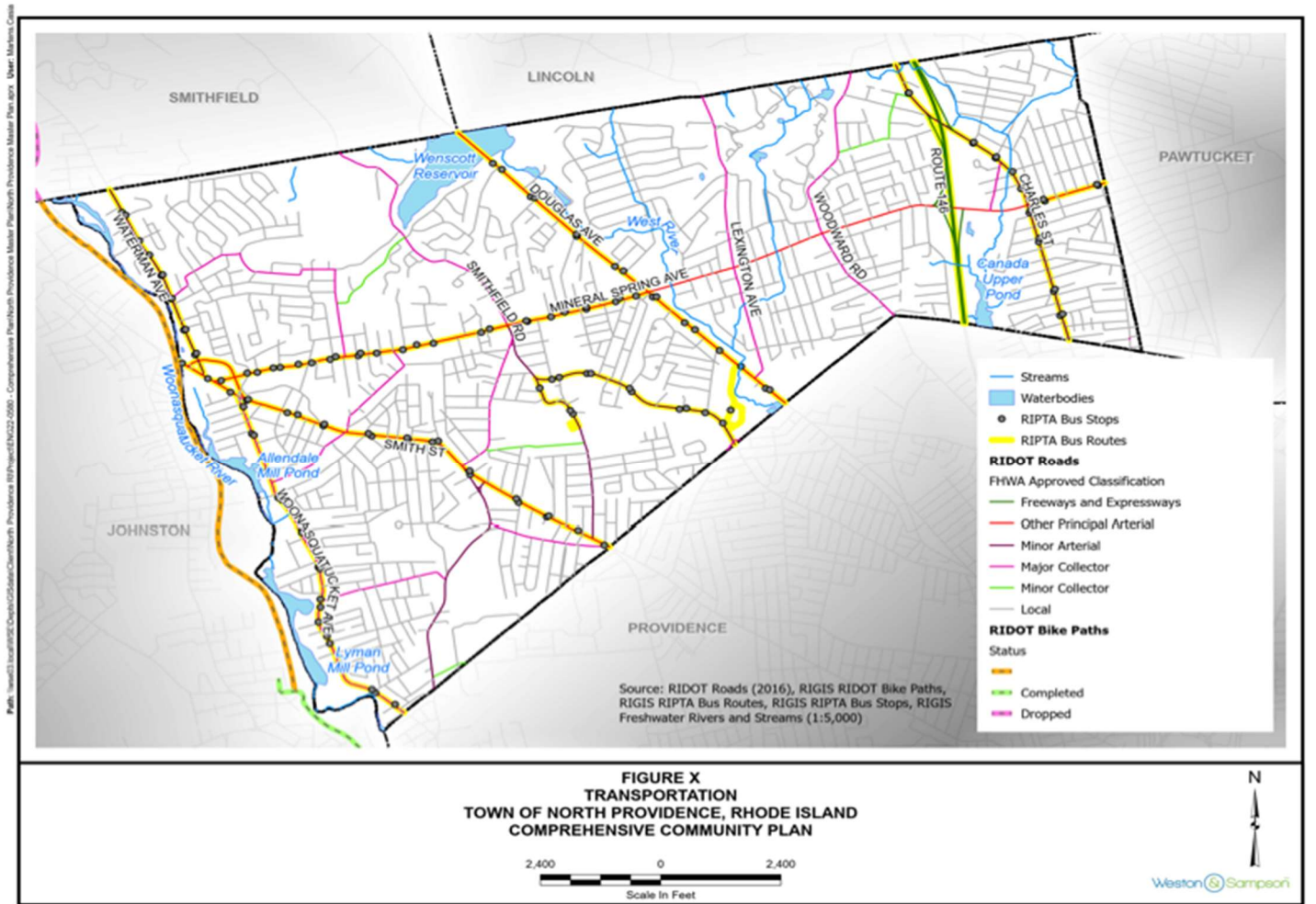
	Actions
High Priority	Ordinance to regulate dumping in streams and ditches
	Require soil percolation test for new development
	Widen culvert at Woonasquatucket Ave.
	Construct a detention basin to manage stormwater flow from RICC
	Create dam EOPs
	Repairs at Wenscott dam
	Promote Special Needs Registry
	Incorporate hazard mitigation into publicly funded building projects
	Create an urban forest management plan
	Improve building structure for Greystone, Centredale, and Whelan schools
	Demolish Marieville, James L. McGuire, and Stephen Olney schools
Medium Priority	Require and maintain FEMA elevation certificates
	Expand zoning regulations to promote low impact development
Low Priority	Install secure broadband Wi-Fi
	Public education piece on protecting your property in the winter
	Re-establish the North Providence Historic District Commission
	Involve Historic District Commission in annual plan updates
	Hazard safety for school children
	Conduct one active shooter exercise per school annually

Appendix B

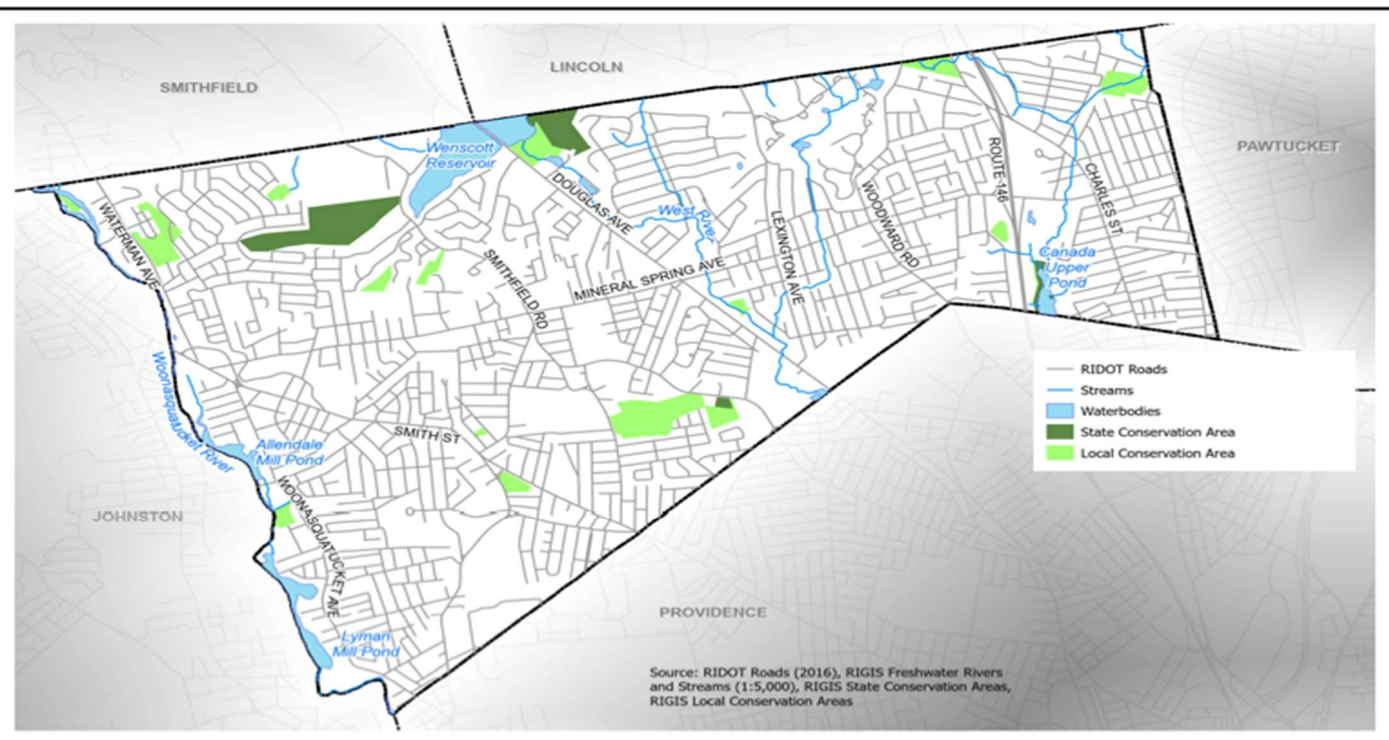
North Providence Map Resource Packet* Used During Workshop



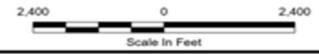
***Gathered from North Providence's Comprehensive Plan and Local Hazard Mitigation Plan (2018).**



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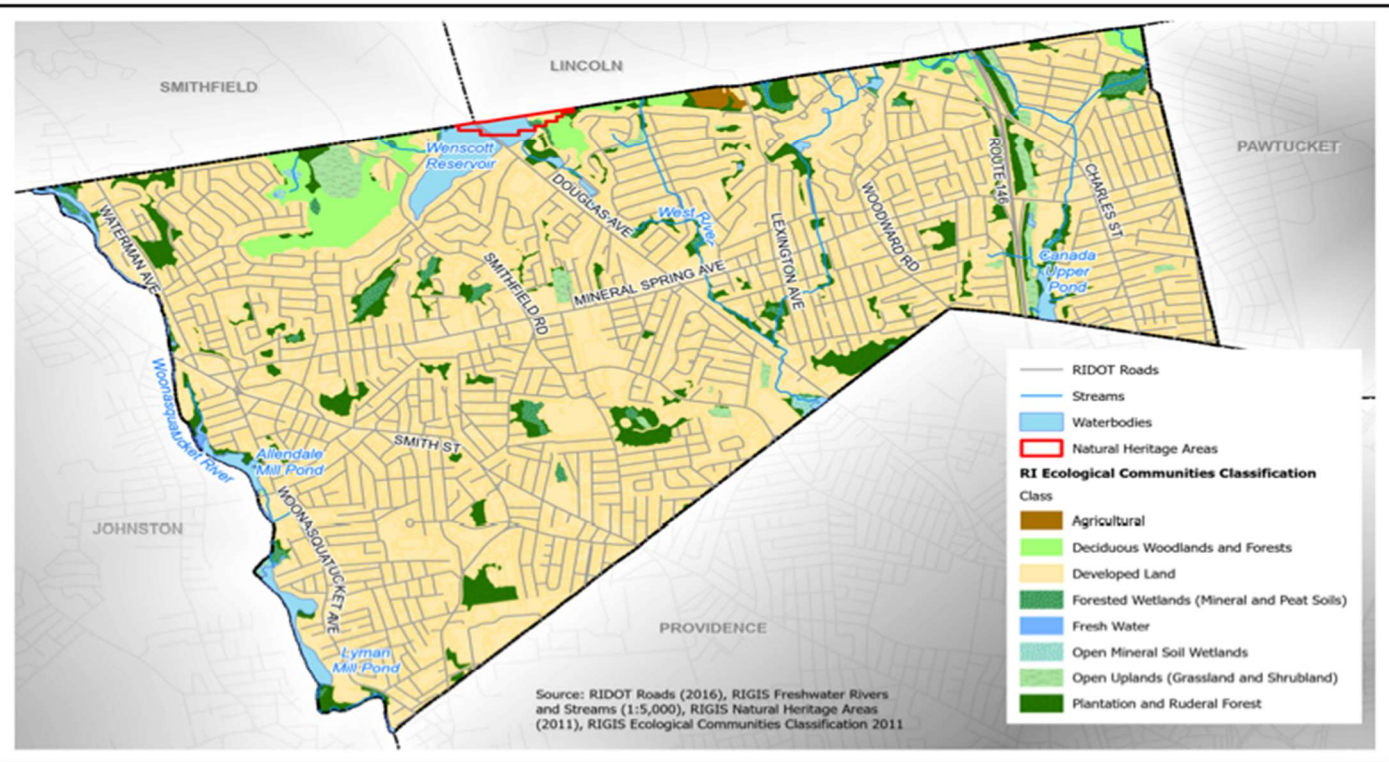


**FIGURE X
CONSERVATION LANDS
TOWN OF NORTH PROVIDENCE, RHODE ISLAND
COMPREHENSIVE COMMUNITY PLAN**



Weston Sampson

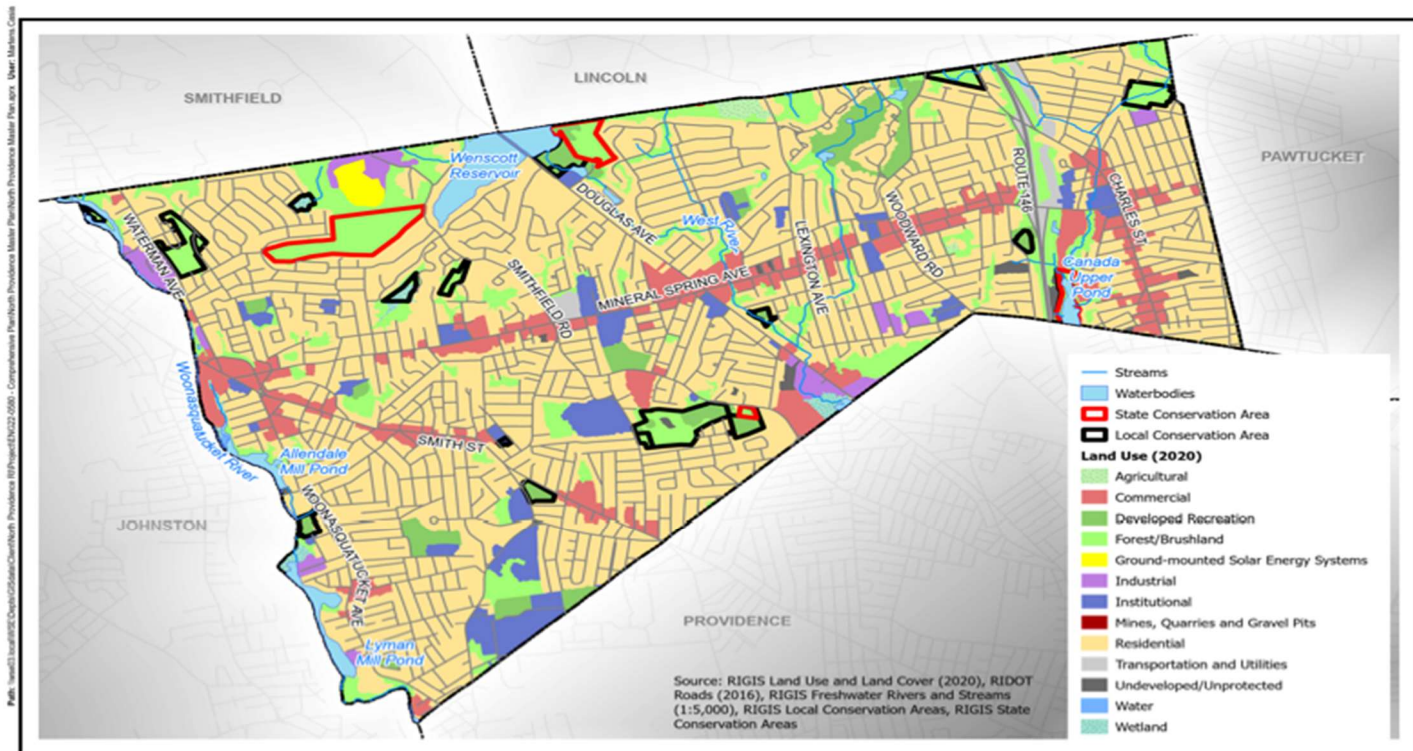
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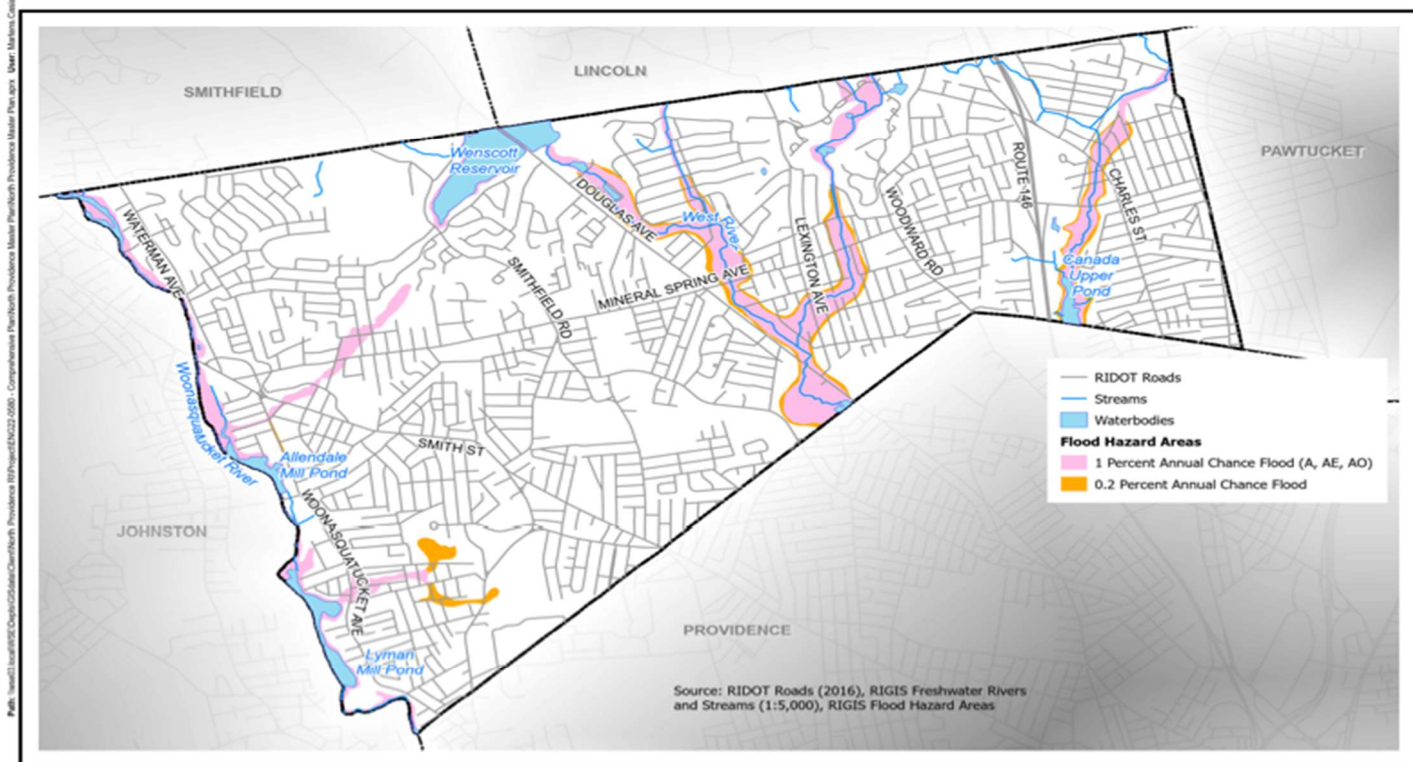
**FIGURE X
ECOLOGICAL COMMUNITIES AND HABITAT AREAS
TOWN OF NORTH PROVIDENCE, RHODE ISLAND
COMPREHENSIVE COMMUNITY PLAN**



Weston Sampson



**FIGURE X
EXISTING LAND USE
TOWN OF NORTH PROVIDENCE, RHODE ISLAND
COMPREHENSIVE COMMUNITY PLAN**



**FIGURE X
FLOODPLAINS
TOWN OF NORTH PROVIDENCE, RHODE ISLAND
COMPREHENSIVE COMMUNITY PLAN**



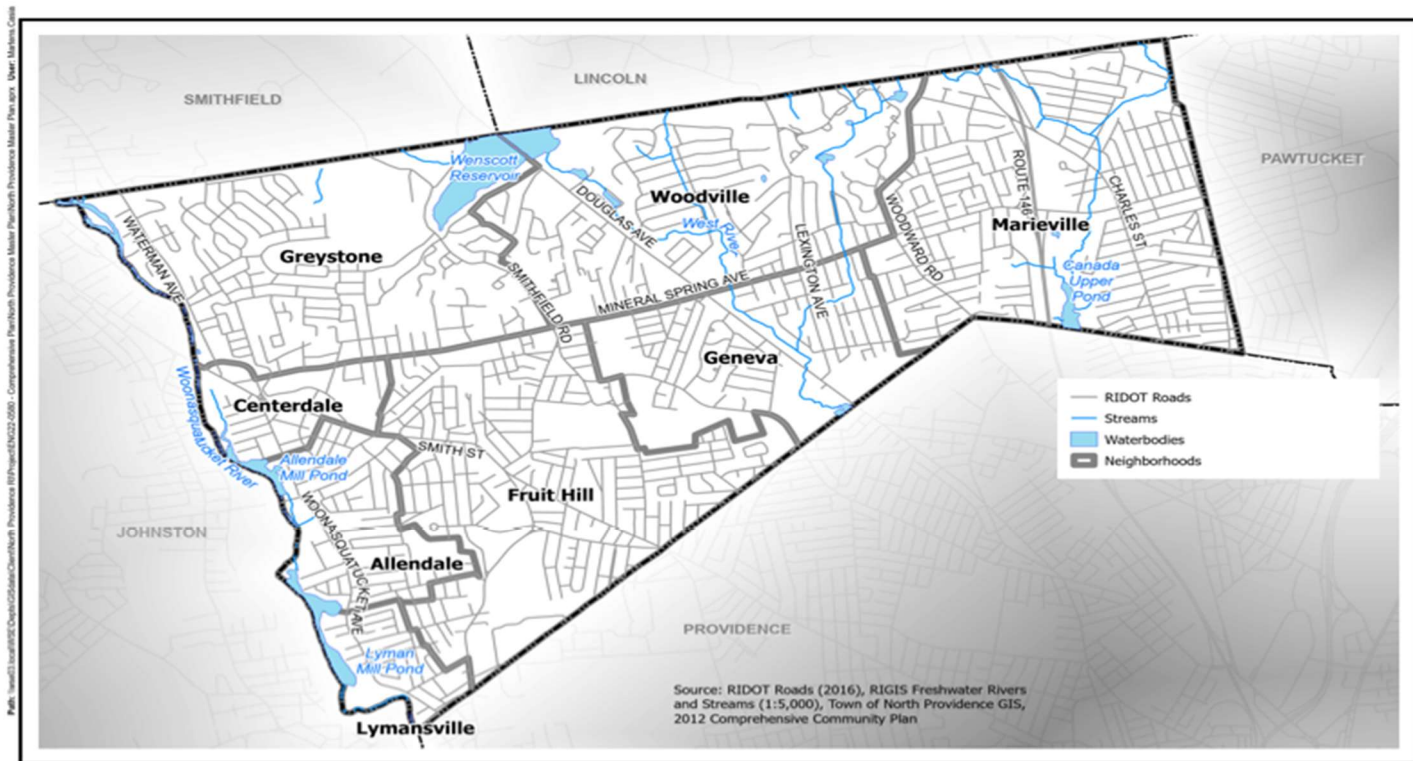


FIGURE X
NEIGHBORHOODS
TOWN OF NORTH PROVIDENCE, RHODE ISLAND
COMPREHENSIVE COMMUNITY PLAN

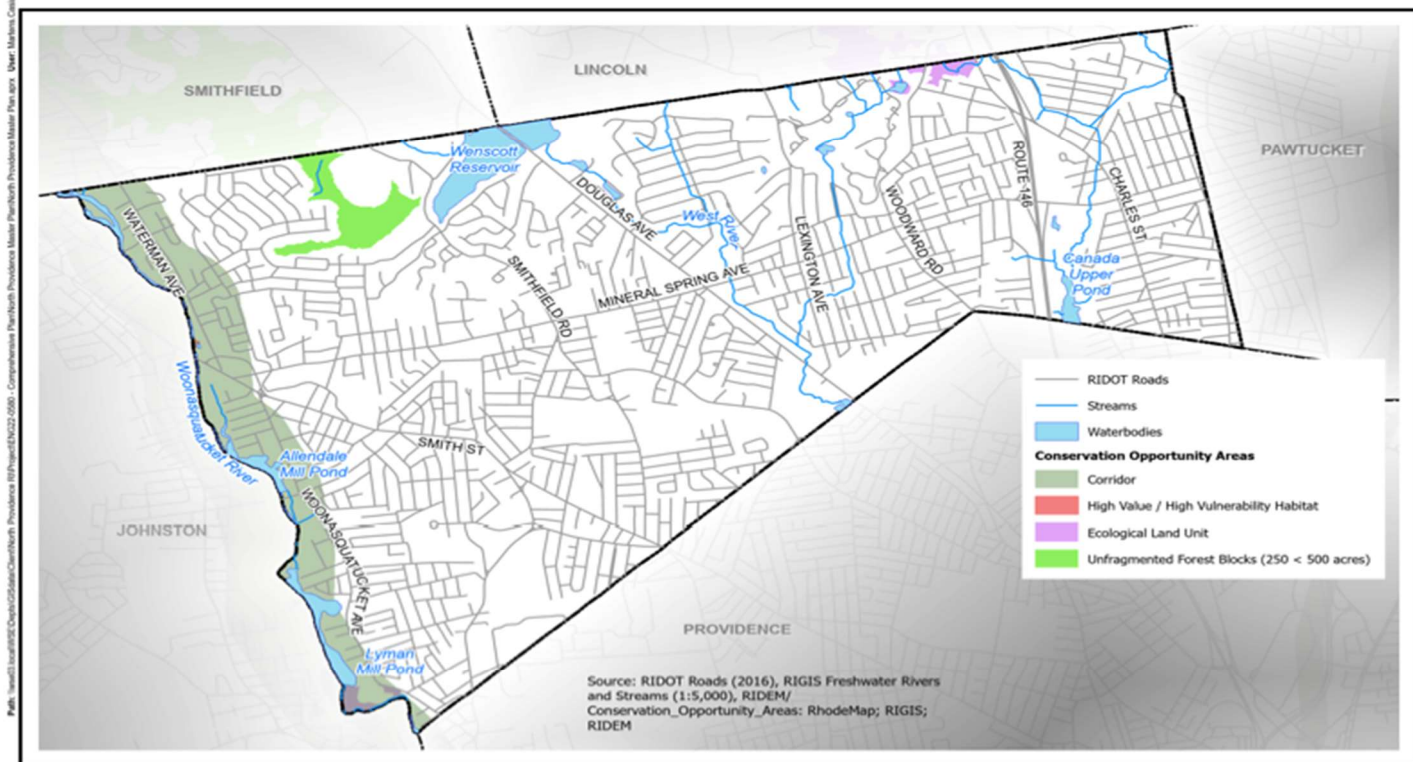


FIGURE X
CONSERVATION OPPORTUNITY AREAS
TOWN OF NORTH PROVIDENCE, RHODE ISLAND
COMPREHENSIVE COMMUNITY PLAN



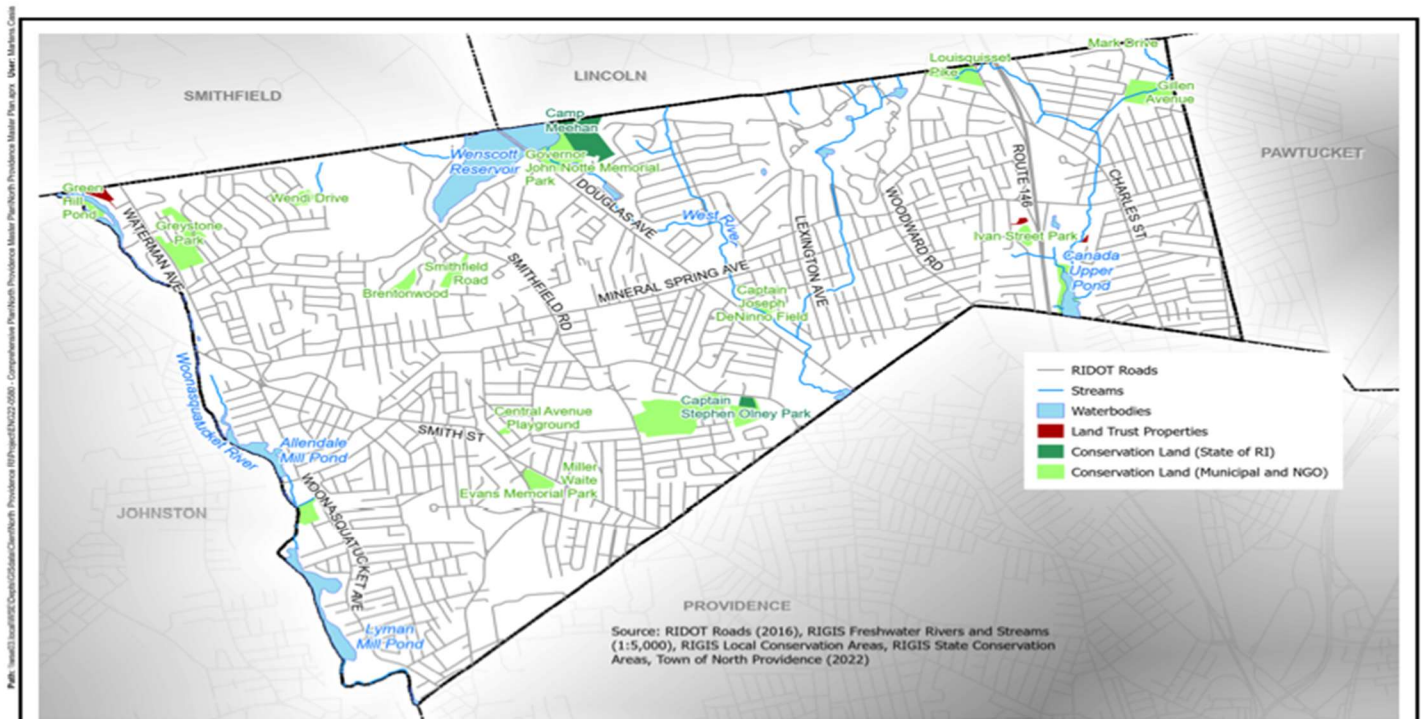


FIGURE X
OPEN SPACE AND CONSERVATION AREAS BY OWNERSHIP
TOWN OF NORTH PROVIDENCE, RHODE ISLAND
COMPREHENSIVE COMMUNITY PLAN

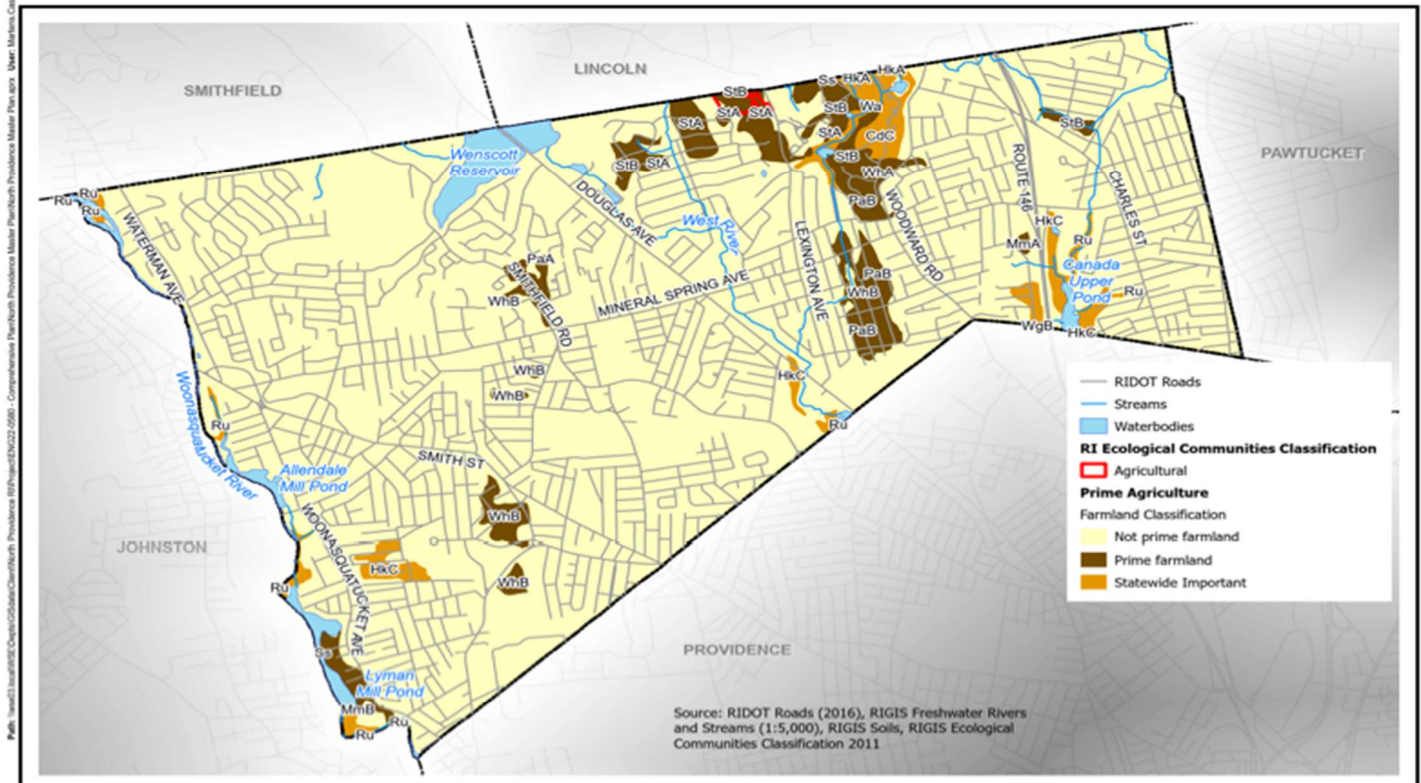
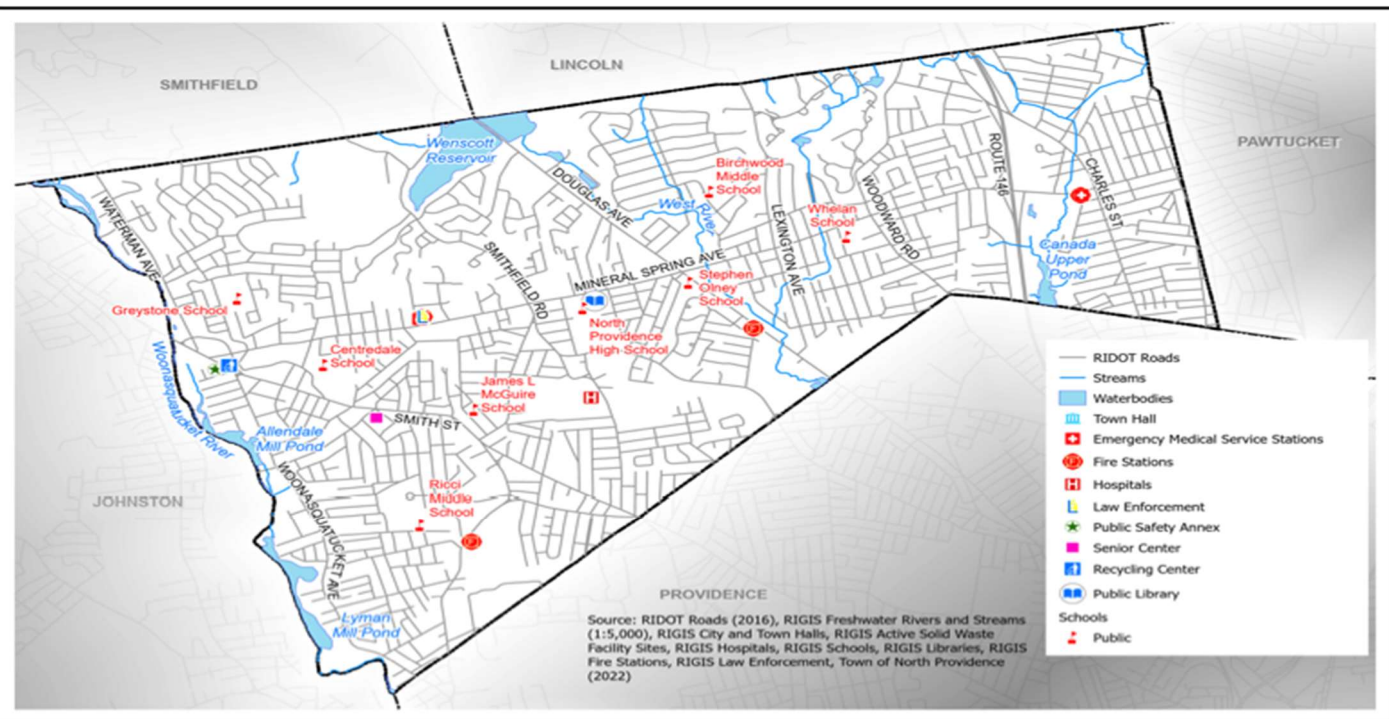


FIGURE X
PRIME AGRICULTURE
TOWN OF NORTH PROVIDENCE, RHODE ISLAND
COMPREHENSIVE COMMUNITY PLAN



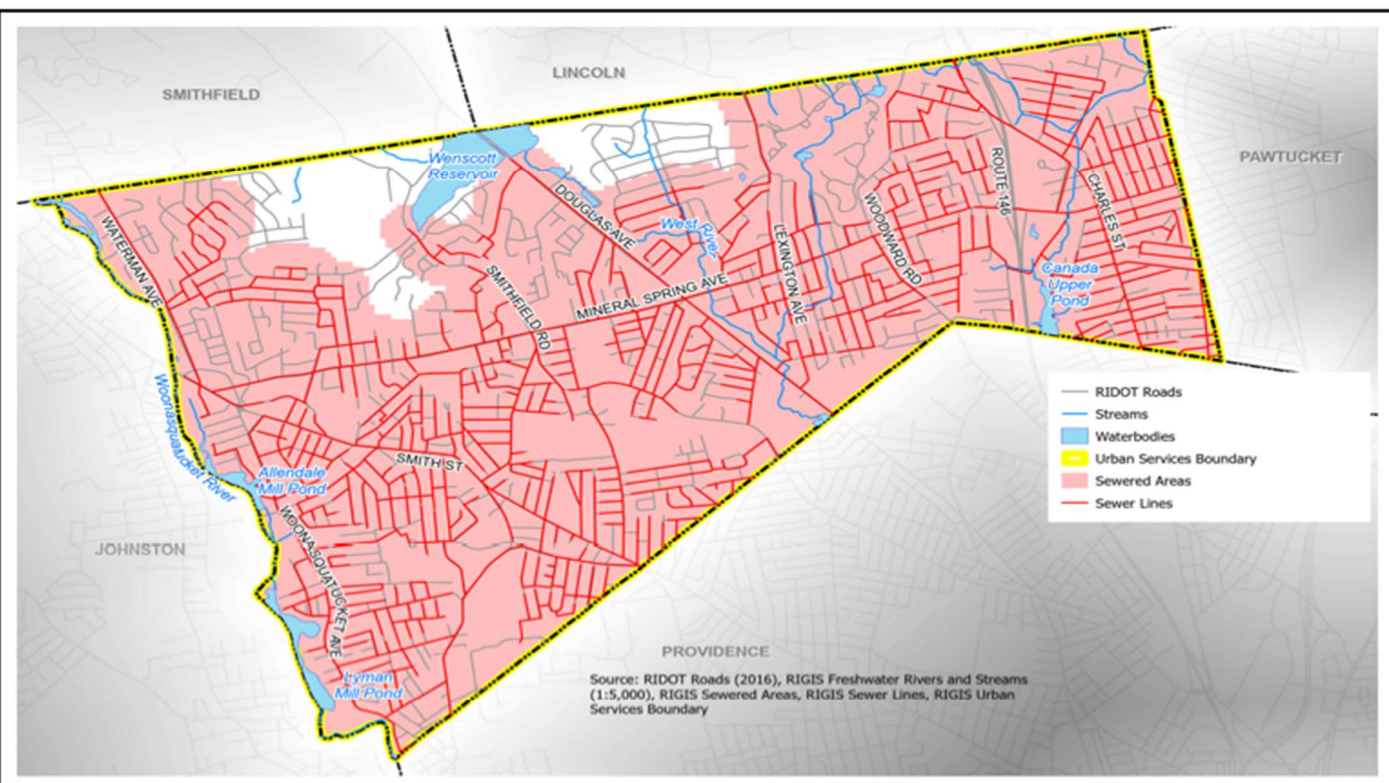
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**FIGURE X
PUBLIC INFRASTRUCTURE AND FACILITIES
TOWN OF NORTH PROVIDENCE, RHODE ISLAND
COMPREHENSIVE COMMUNITY PLAN**



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**FIGURE X
URBAN SEWER SERVICE AREAS
TOWN OF NORTH PROVIDENCE, RHODE ISLAND
COMPREHENSIVE COMMUNITY PLAN**



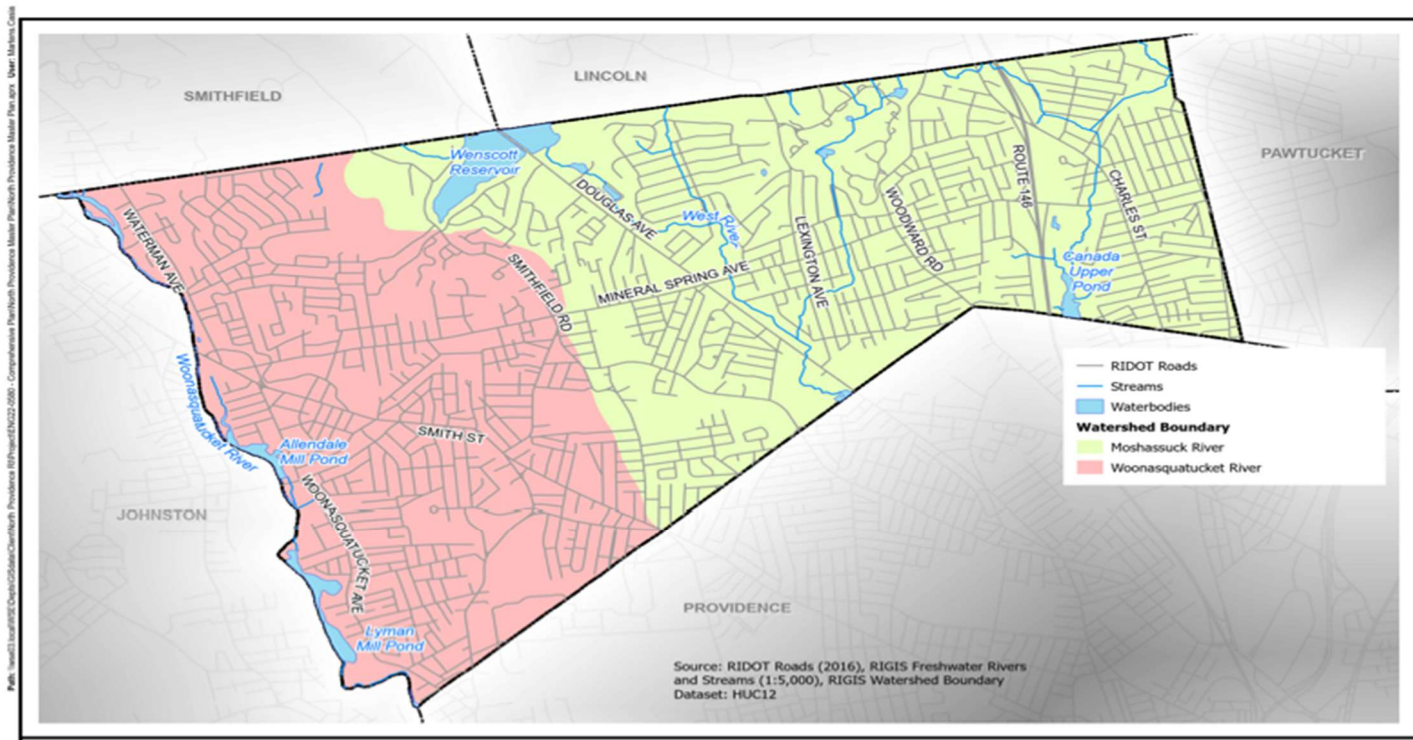


FIGURE X
SURFACE WATER AND WATERSHEDS
TOWN OF NORTH PROVIDENCE, RHODE ISLAND
COMPREHENSIVE COMMUNITY PLAN

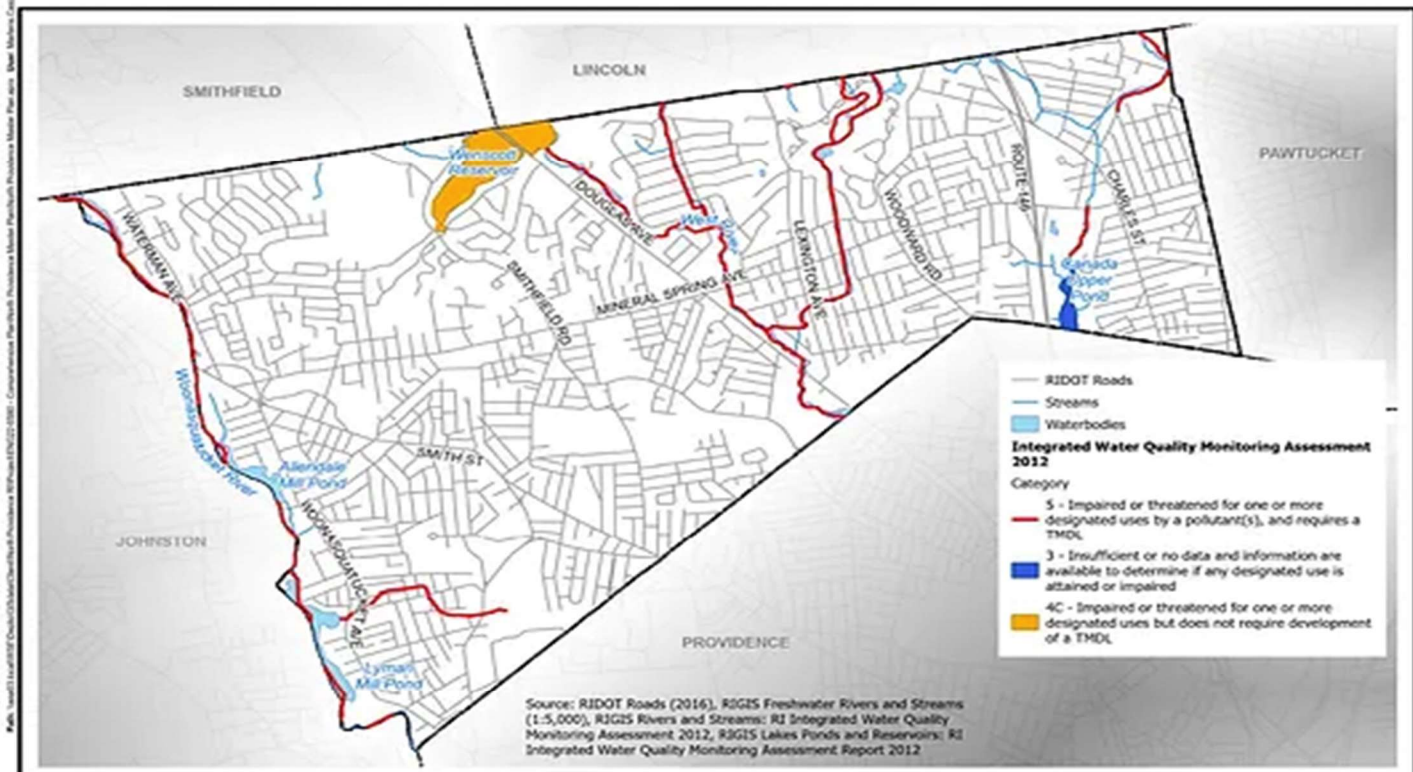


FIGURE X
WATER QUALITY
TOWN OF NORTH PROVIDENCE, RHODE ISLAND
COMPREHENSIVE COMMUNITY PLAN



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