

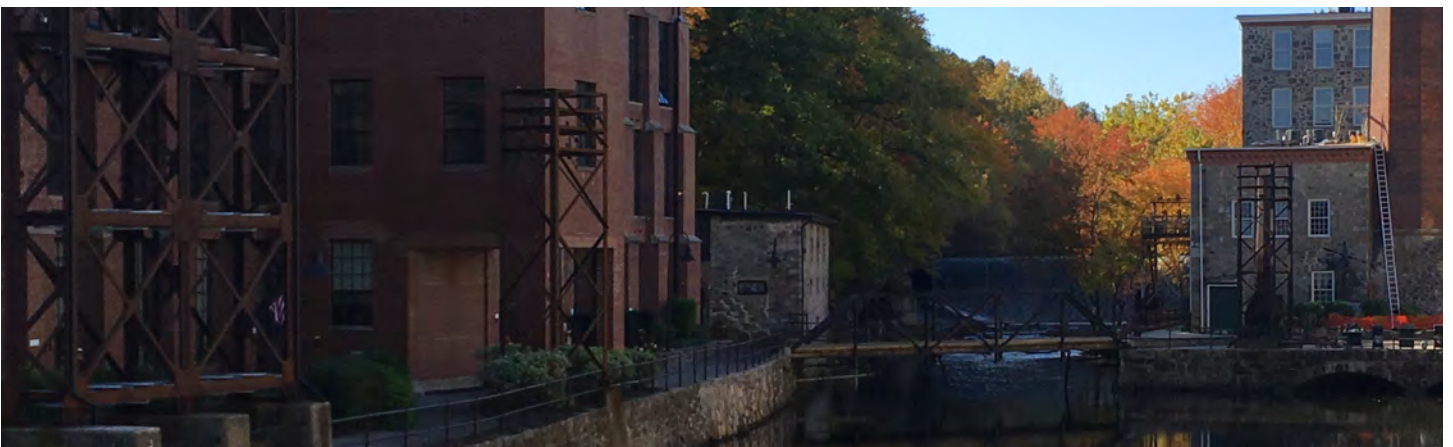


# WEST WARWICK

A New Vision for a New Century

## *Rhode Island*

## TOWN OF WEST WARWICK COMPREHENSIVE PLAN UPDATE 2020



*Prepared for the Town of West Warwick*

*Prepared by Harriman • FXM Associates • FHI • Mary Hutchinson / Mapping and Planning Services*

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# 1. Introduction and Town Demographics

## **WHY PLAN?**

*For a municipality to sustain itself – economically, socially, and physically – and to maintain a high quality of life, communities must be proactive about planning for their future. A comprehensive plan sets forth a vision for the community – a glimpse of what a community aspires to be in 20 or more years – and lays out the specific path that, if followed, will achieve the vision. Without a vision for the future, a community can develop without foresight, without purpose, without consideration of all of the aspects that are essential to maintaining a high quality of life for residents. And, without a detailed road map for achieving the vision, community decision makers may not know how to make progress towards the end state that is desired by the community*

*Statewide Planning Handbook 1: The Comprehensive Plan 101*

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## 1.1 Introduction

### THE TOWN OF WEST WARWICK AND ITS HISTORY

The Town of West Warwick, Rhode Island was founded and incorporated in 1913. It is located in the center-west side of the state, has rolling hills, and is bisected by the Pawtuxet River, a major natural feature in the town. At less than eight square miles, West Warwick is one of the smallest towns in Rhode Island. With over 29,000 residents and 12,500 households, West Warwick is one of the densest communities in the state.

The area was settled by colonists in the 1700s with scattered agricultural development. In the 1800s, the town saw an increase in industrial mill activity along with the associated population growth. The Pawtuxet River played a major role in how the town developed as industrial mills used the River to power textile machinery. Small villages developed around these mills, which supplied numerous jobs for communities of immigrants.

After World War II, residential development became more automobile-centric and suburban in nature. In the 1960s, the construction of Interstate 95 helped to connect the town to other parts of the state and country. The town's population continued to increase, until a slight population decrease in 2010.

### FUTURE OF WEST WARWICK, RI

As part of the Comprehensive Plan update process, West Warwick identified five main goals that support ongoing efforts and help define the town's sense of community:

- Improve recreational opportunities and solidify the town's reputation for excellent recreational opportunities, both active and passive.
- Continue to support efforts to create active, engaging mixed-use villages, starting with Arctic Village and continuing to the other historic village centers.
- Protect residential neighborhoods from multi-family developments at an inappropriate scale and redirect those developments to the village centers and other appropriate areas to support their mixed-use goals.
- Address issues of sustainability and resiliency, including expansion of alternative energy resources and management of stormwater to protect public and private property, buildings, infrastructure, the Pawtuxet River, and other sensitive environmental areas.
- Address the fiscal stability of the Town and provide appropriate support for Town services and departments within the fiscal limitations of the community.

Discussions with the Steering Committee and public meetings identified West Warwick as a place that values opportunities for recreation, in both formal and informal settings. Other parts of the town's identity revolve around the historic village centers and the production of alternative energy.

The Town faces challenges including outdated stormwater infrastructure and drainage, which needs updating and repairs in order to preserve the health of the Pawtuxet River and the investments made to homes and businesses affected by flooding. Fiscal sustainability remains a major challenge for the community. Managing the need to provide services with the available funding is a balancing act that all municipalities in Rhode Island face, but is more critical in the Town of West Warwick.

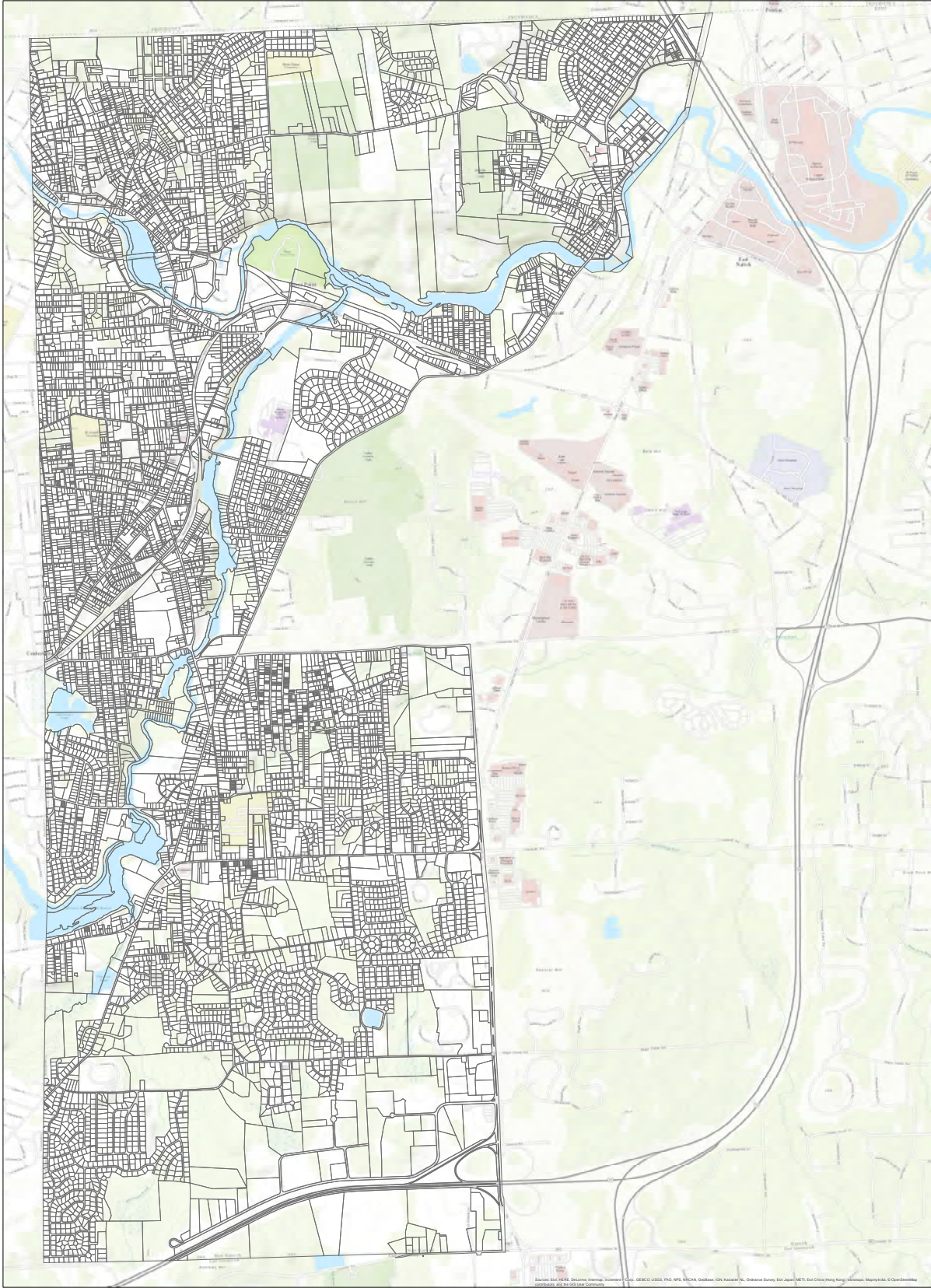


Figure 1-1: West Warwick, Rhode Island and Parcelization as of 2015

Source: ESRI



## COMMUNITY GOALS FOR THE TOWN

The goals for each of the following sections are shown below. These topic-specific goals support the five primary goals above. The Implementation Section identifies the actions that support each goal and who within the Town is responsible for implementation of the relevant action.

### 2. Natural Resources

1. Recreation, open space, and conservation opportunities will be incorporated into new development within the Town.
2. Open space will be retained as both a resource for active and passive recreational opportunities and as protection for the physical and natural environment.
3. Threatened plant and animal species and unique natural communities will be identified and protected, to preserve biological diversity.
4. The Pawtuxet River, water bodies, and adjacent shorelands, and wetlands will be preserved and, where necessary, restored for recreation, open space, and wildlife corridors.

### 3. Recreation

1. Parks and recreation facilities and programs meet the passive and active recreational needs of the community.
2. The Town will have a stable source of funding for capital and maintenance needs.
3. Partnerships between the Town and private or nonprofit entities will support recreation needs.
4. New development will address recreation needs within the neighborhood and the community.
5. Bicycle- and pedestrian-friendly infrastructure will connect existing and new recreation space with neighborhoods.

### 4. Historic and Cultural Resources

1. West Warwick's historic sites, structures, documents, and artifacts will be identified and preserved as representations of the Town's cultural heritage.

2. Residents will learn about, understand, and appreciate West Warwick's historic resources.
3. Historic assets will be promoted as part of a larger marketing and tourism effort linked to walking and bicycle trails.
4. Arts, music, and maker spaces will provide additional resources and activities to town residents.

### 5. Housing

1. New construction and renovation of existing structures will promote housing stock that is safe, sanitary, and well-constructed.
2. Encourage and support the rehabilitation of historic buildings for housing.
3. New housing developments that are compatible with the existing surrounding land uses and housing stock will create a safe and desirable neighborhood atmosphere.
4. The quality, accessibility, and variety of residential structures will be maximized.
5. Development of a variety of housing, in terms of cost, size, location and design, will meet the range of needs and desires of homeowners and renters of all income groups and family sizes.
6. The variety of housing options including a range of types, sizes and costs, will be increased through public and private actions and joint public/private efforts.

### 6. Economic Development

1. Revitalization and reuse/redevelopment of existing commercial and industrial facilities, particularly the numerous historic mill complexes, will bring additional economic development to the Town.



2. Selected economic growth and diversification of those economic activities will provide employment and business growth opportunities.
3. Diversifying the sources of Town revenue will promote fiscal stability.
4. Supporting organizations of businesspeople in town toward will improve the overall business climate.
5. The expansion of economic development activities will include cultural, recreational, and educational activities in the Arctic, Phenix, and Natick Villages.
6. Investment by the public and private sectors will stabilize and improve economic opportunities in the Town of West Warwick.
5. Police services will maintain and improve existing quality while meeting the current and future needs of the Town's residents and businesses.
6. Fire and rescue services will maintain and improve existing quality while meeting the current and future needs of the Town's residents and businesses.
7. The School Department will provide the best education for all school age residents of the Town.
8. The citizens of West Warwick will receive social services to meet their diverse needs.
9. The Town's library system will serve the largest number of residents possible.
10. Town buildings and facilities will be handicapped accessible, up-to-date, and well-maintained.

## **7. Agriculture**

1. Urban agricultural initiatives will include both outdoor and indoor farming.
2. The Town will partner with existing community organizations to increase access to local agricultural products.

## **8. Services and Facilities**

1. West Warwick residents will have efficient curb-side collection and other methods of solid waste disposal and to reduce the volume of waste thereby minimizing the overall costs of disposal
2. A Town-wide wastewater collection system and a regional wastewater treatment facility will meet the long-range goals of community development while fulfilling the State Department of Environmental Management water quality goals and objectives.
3. Adequate water supply and pressure will be sufficient to meet demand for all residents, businesses and industry in the Town.
4. The Town will have a system of drainage structures which adequately carry stormwater flow to protect lives and property while meeting the State's stormwater management water quality goals and objectives.

## **9. Energy**

1. Town buildings, vehicles, and equipment will conserve and efficiently use energy.
2. The Town will allow the establishment of various renewable energy production facilities (wind, solar, hydropower) in appropriate areas.

## **10. Water Supply**

1. The use of natural water resources will be efficient and effective.
2. Water quality in Town will be improved and protected.
3. Water supply and pressure will be adequate for all residents of West Warwick and to all businesses and industry sufficient to meet demand, for the protection and promotion of the public health, safety, and welfare.

## **11. Transportation**

1. Access to municipal offices and commercial businesses in the Arctic Business District will include a system of strategically located and well-maintained parking lots.
2. Safe and efficient pedestrian access and safe road design will be implemented in neighborhoods, suburban developments and in village centers.

3. The bicycle transportation network, with regional connections where practical, will help reduce traffic congestion, improve air quality and public health, reduce transportation energy consumption, and provide a viable alternative for local trips
4. A safe, convenient, fully integrated transportation system will meet the daily travel needs of the Town's residents. Public transportation will be a viable alternative for residents without automobiles, and will reduce traffic congestion, transportation energy consumption, and air pollution impacts.
5. The network of state and local streets and roadways will be well-maintained, safe, convenient, and uncongested.
6. Transportation services will assist the elderly and the handicapped for whom the use of the automobiles and fixed route public transportation is not feasible for trips relating to meals, health care, and other necessary services.
7. Rail rights-of-way will be reused as walking and/or biking trails for the public good.

## 12. Natural Hazards

1. The Town will implement strategies to increase resiliency to natural hazards and climate change.
2. The Town will minimize impacts from natural hazards in vulnerable areas.
3. The Town will provide adequate services and facilities when responding to natural hazards.

## 13. Land Use

1. Small-scale residential neighborhoods will be protected from inappropriate development, including the intrusion of large-scale multifamily and commercial/industrial uses. Mixed-use development, including multifamily, will be encouraged in the village centers, particularly the Arctic Village Redevelopment District.
2. The zoning ordinance will prioritize preferred development strategies, including protecting natural, historic and cultural resources, target-

ing density in and around the village centers and existing town services.

3. The Town will enforce existing regulations and improve the development review processes.

## LINK TO STATE GOALS

Rhode Island's system of reciprocal planning sets broad goals and policies within the State Guide Plan which are reflected by municipalities in a way that is individually relevant within their respective comprehensive plans. Municipalities prepare and adopt comprehensive plans that implement local goals and help implement the goals of the State Guide Plan. This Comprehensive Plan has been carefully developed with community input to ensure its goals and policies are consistent with the goals of the State.

## COMPREHENSIVE PLANS AND WHY THEY ARE IMPORTANT

A Comprehensive Plan is an aspirational document that sets forth a community's vision, goals, and a blueprint for navigation. It has a 20-year planning horizon and is revised and re-adopted at least every 10 years. The Plan desires to balance economic, social, and environmental needs, and recognizes potential future conflicts. It is a guide for planners, municipal staff, and elected officials to understand the collective objectives of a community and how to obtain them.

## ORGANIZATION OF THE COMPREHENSIVE PLAN

The West Warwick Comprehensive Plan is composed of an executive summary, chapters regarding a variety of topics, and an appendix. The executive summary, designed to be used as a standalone docu-

ment, includes a community profile, land use with the Future Land Use Map (FLUM), and implementation actions for the Town. The individual chapters are natural resources, recreation, historic and cultural resources, housing, economic development, services and facilities, energy, water, transportation, natural hazards, land use, and implementation program. The appendix contains various technical reports and information about public participation.

The layout of the Plan follows the Rhode Island Comprehensive Planning Standards Guidance Handbook Series created and distributed by Rhode Island Statewide Planning. The handbooks were created to assist municipalities in fulfilling their requirements of Rhode Island General Law Chapter 45-22.2, the “RI Comprehensive Planning and Land Use Regulation Act.” The Act requires that every community in Rhode Island write and adopt a Comprehensive Plan consistent with State planning goals.

### PUBLIC PARTICIPATION PROCESS

Public participation is the part of the comprehensive planning process that engages the general public and provides an avenue to guide the vision for the community. This vision is what drives the goals of the Plan.

The West Warwick Comprehensive Plan process included three public forums with the community. They were held during the evening at the West Warwick Senior Center, 145 Washington Street, in March, April, and July 2016. They included visioning exercises and prioritization of goals based on those in the 2005 Comprehensive Plan Update.

In addition to the public forums, there were six public Comprehensive Steering Committee meetings. These

steering committee meetings were held monthly December 2015 through May 2016. The steering committee was composed of residents and local business and property owners. Refer to the Appendix for an in-depth discussion and results of public participation.

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## 1.2 Community Profile

### TOWN OVERVIEW – HISTORY AND GEOGRAPHY

The West Warwick area was sparsely settled by colonists in the 1600s. Through the 1700s, the area was home to mostly family farms. In the 1800s, the area became industrialized. Factory owners built textile mills along the Pawtuxet River and used the river's power to run machinery. The jobs created by the mills attracted many people to the area. Small villages, many of which endure today, developed around the mills; these villages include Centerville, Crompton, Natick, Lippitt, Phenix, Riverpoint, Clyde, and Arctic.

As the area continued to grow and develop, Arctic and Phenix villages became centers of commerce serving the community. With the success of the mills and businesses, the Town of West Warwick separated from Warwick to become its own municipality in 1913.

West Warwick continued to be a mill town, but after World War II, paralleling the national trend, development patterns became more suburban. Beginning in the 1970s, West Warwick saw a decline in economic activity both from the loss of textile mills, which moved to the southern United States or overseas, as well as from the development of the Rhode Island and Warwick Malls and the proliferation of big box stores along Route 2. The loss of the mills meant that a considerable number of jobs left the area. The development of Route 2 directed commerce away from the centers of town, including the villages of Arctic and Phenix.

West Warwick is located in the center of Rhode Island. The densely populated 7.9-square miles is arranged as a number of small villages linked together

by the corridors of Main Street, Washington Street, and Providence Street. Its key natural feature, the Pawtucket River, has played a major role in the town's residential and commercial development.

West Warwick has rolling hills and low level coastal plain. The highest elevation, 390-feet above sea level, can be found at Andrews Hill and the lowest elevation is sea level, along the bank of the Pawtucket River and its north and south branches. There are multiple ponds, brooks, wetlands, and flood-prone areas throughout the town. Some areas of the town still have prime farmland soil, but most unconstrained soils have been developed.

### POPULATION DEMOGRAPHICS

Populations trends show that West Warwick is losing population. The town population in 2010 was 29,191, according to the U.S. Census, and the American Community Survey estimated the 2015 population at 28,891. During the decade between 2000 and 2010, when many communities experienced growth, the town lost 1.3% of its population, and is estimated to have lost 1.0% of its population between 2010 and 2015. The Rhode Island Statewide Planning Program's Technical Paper 162, Rhode Island Population Projections 2010-2040, offers population projections beyond 2015. Their analysis projects between now and 2040 further population declines are expected in West Warwick. **Table 1-1**, below, presents these results. The State's report attributes the statewide losses and small rates of growth to aging and migration, which also affects other towns in Rhode Island.

**Table 1-1: West Warwick and Rhode Island Population, Estimated Population, and Projected Population**

TIME PERIOD	POPULATION		TIME PERIOD	GROWTH	
	WEST WARWICK	RHODE ISLAND		WEST WARWICK	RHODE ISLAND
2000 Census	29,581	1,048,319	2000-2010	-1.3%	0.4%
2010 Census	29,191	1,052,567	2010-2015 Estimated	-1.0%	0.1%
2015 Estimated	28,891	1,053,661	2015-2020 Projected	-1.8%	-0.4%
2020 Projected	28,502	1,049,177	2020-2030 Projected	0.0%	2.0%
2030 Projected	28,496	1,070,677	2030-2040 Projected	-2.1%	-0.1%
2040 Projected	27,902	1,070,104			

Source: U.S. Census Bureau; Rhode Island Division of Planning, Statewide Planning Program, Technical Paper 162, Rhode Island Population Projections 2010-2040, April 2013.

**Table 1-2** presents West Warwick's racial characteristics for 2000, 2010, and as estimated for 2015.

**Table 1-2: West Warwick Racial Characteristics 2000, 2010, and 2015 (Estimated)**

RACE	2000		2010		2015 (ESTIMATED)	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
White Alone	27,740	93.8%	26,658	91.3%	25,923	89.7%
Black or African American Alone	328	1.1%	635	2.2%	713	2.5%
American Indian and Alaska Native Alone	105	0.4%	95	0.3%	17	0.1%
Asian Alone	420	1.4%	631	2.2%	995	3.4%
Native Hawaiian and Other Pacific Islander Alone	7	0.0%	10	0.0%	0	0.0%
Some Other Race Alone	425	1.4%	454	1.6%	521	1.8%
Two or More Races	556	1.9%	708	2.4%	722	2.5%

Source: U.S. Census Bureau

Table 1-3 presents West Warwick's age characteristics for 2000, 2010, and as estimated for 2015.

**Table 1-3: West Warwick Age Characteristics 2000, 2010, and 2015 (Estimated)**

AGE	2000		2010		2015 (ESTIMATED)	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Under 5	1,936	6.5%	1,747	6.0%	1,470	5.1%
5 to 9	1,865	6.3%	1,555	5.3%	1,662	5.8%
10 to 14	1,809	6.1%	1,505	5.2%	1,626	5.6%
15 to 19	1,718	5.8%	1,608	5.5%	1,393	4.8%
20 to 24	2,105	7.1%	2,003	6.9%	1,972	6.8%
25 to 29	2,354	8.0%	2,427	8.3%	2,168	7.5%
30 to 34	2,316	7.8%	2,160	7.4%	2,194	7.6%
35 to 39	2,412	8.2%	1,986	6.8%	2,078	7.2%
40 to 44	2,393	8.1%	1,895	6.5%	1,691	5.9%
45 to 49	2,117	7.2%	2,152	7.4%	1,924	6.7%
50 to 54	1,973	6.7%	2,367	8.1%	2,241	7.8%
55 to 59	1,393	4.7%	1,974	6.8%	2,008	7.0%
60 to 64	1,025	3.5%	1,797	6.2%	1,723	6.0%
65 to 69	987	3.3%	1,186	4.1%	1,594	5.5%
70 to 74	1,145	3.9%	773	2.6%	949	3.3%
75 to 79	1,008	3.4%	718	2.5%	666	2.3%
80 to 84	599	2.0%	680	2.3%	578	2.0%
85 and Over	426	1.4%	658	2.3%	954	3.3%
Median Age	36.4	n/a	39	n/a	39.8	n/a

Source: U.S. Census Bureau



## ECONOMIC DEMOGRAPHICS

**Table 1-4** presents the income profile of West Warwick. More than a quarter of households have an income under \$25,000. At the other end of the scale, fewer than 20% of households have an income over \$100,000. The median household income is \$48,435. By way of comparison, Kent County household income is generally higher than those within West Warwick. Less than 20% of Kent County households earn less than \$25,000, and over 28% earn at least \$100,000. The median income is \$64,383.

**Table 1-4: Estimated 2015 Household Income in West Warwick and Kent County**

HOUSEHOLD INCOME	WEST WARWICK		KENT COUNTY	
	NUMBER	PERCENT	NUMBER	PERCENT
Less than \$10,000	1,160	9.2%	3,758	5.5%
\$10,000 to \$14,999	696	5.5%	2,693	3.9%
\$15,000 to \$24,999	1,448	11.5%	6,399	9.3%
\$25,000 to \$34,999	1,201	9.5%	5,574	8.1%
\$35,000 to \$49,999	2,008	16.0%	8,317	12.1%
\$50,000 to \$74,999	2,015	16.0%	12,618	18.4%
\$75,000 to \$99,999	1,763	14.0%	9,711	14.2%
\$100,000 to \$149,999	1,782	14.2%	12,018	17.5%
\$150,000 to \$199,999	428	3.4%	4,159	6.1%
\$200,000 or More	78	0.6%	3,369	4.9%
Median (2015 \$)	\$48,435	n/a	\$64,383	n/a

Source: U.S. Census Bureau

## EDUCATIONAL ATTAINMENT

Over 85% of the adult population in West Warwick has attained an educational level of high school graduate or higher, and almost 20% have a bachelor's degree or higher. There is very little difference between the percent of males and females with a high school graduate or higher educational level (79% for both), but more males have a bachelor's degree or higher (23%) than females (17%). **Table 1-5** details the educational attainment for males and females by age and race.

**Table 1-5: Estimated 2015 Educational Attainment in West Warwick by Age, Race, and Gender**

AGE/EDUCATION ATTAINED	TOTAL		MALE		FEMALE	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
<b>Population 18 to 24 Years</b>	2,530	n/a	1,067	n/a	1,463	n/a
High School Graduate or Higher	2,215	87.5%	313	29.3%	324	22.1%
Bachelor's Degree or Higher	302	11.9%	171	16.0%	131	9.0%
<b>Population 25 to 34 Years</b>	4,362	n/a	2,187	n/a	2,175	n/a
High School Graduate or Higher	3,941	90.3%	1,889	86.4%	2,052	94.3%
Bachelor's Degree or Higher	1,179	27.0%	555	25.4%	624	28.7%
<b>Population 35 to 44 Years</b>	3,769	n/a	1,817	n/a	1,952	n/a
High School Graduate or Higher	3,288	87.2%	1,560	85.9%	1,728	88.5%
Bachelor's Degree or Higher	783	20.8%	341	18.8%	442	22.6%
<b>Population 45 to 64 Years</b>	7,896	n/a	3,681	n/a	4,215	n/a
High School Graduate or Higher	6,943	87.9%	3,187	86.6%	3,756	89.1%
Bachelor's Degree or Higher	1,415	17.9%	839	22.8%	576	13.7%
<b>Population 65 Years and Over</b>	4,741	n/a	2,023	n/a	2,718	n/a
High School Graduate or Higher	3,548	74.8%	1,546	76.4%	2,002	73.7%
Bachelor's Degree or Higher	937	19.8%	531	26.2%	406	14.9%

Source: U.S. Census Bureau

**Table 1-5 (continued): Estimated 2015 Educational Attainment in West Warwick by Age, Race, and Gender**

RACE/EDUCATION ATTAINED	TOTAL		MALE		FEMALE	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
<b>White Alone</b>	18,912	n/a	8,875	n/a	10,037	n/a
High School Graduate or Higher	16,049	84.9%	7,399	83.4%	8,650	86.2%
Bachelor's Degree or Higher	3,773	20.0%	2,055	23.2%	1,718	17.1%
<b>Black Alone</b>	620	n/a	278	n/a	342	n/a
High School Graduate or Higher	619	99.8%	277	99.6%	342	100.0%
Bachelor's Degree or Higher	208	33.5%	63	22.7%	145	42.4%
<b>American Indian or Alaska Native Alone</b>	17	n/a	0	n/a	17	n/a
High School Graduate or Higher	17	100.0%	0	100.0%	17	100.0%
Bachelor's Degree or Higher	0	0.0%	0	0.0%	0	0.0%
<b>Asian Alone</b>	578	n/a	222	n/a	356	n/a
High School Graduate or Higher	427	73.9%	196	88.3%	231	64.9%
Bachelor's Degree or Higher	183	31.7%	80	36.0%	103	28.9%
<b>Native Hawaiian and Other Pacific Islander Alone</b>	0	n/a	0	n/a	0	n/a
High School Graduate or Higher	0	0.0%	0	0.0%	0	0.0%
Bachelor's Degree or Higher	0	0.0%	0	0.0%	0	0.0%
<b>Some Other Race Alone</b>	326	n/a	158	n/a	168	n/a
High School Graduate or Higher	326	100.0%	158	100.0%	168	100.0%
Bachelor's Degree or Higher	110	33.7%	68	43.0%	42	25.0%
<b>Two or More Races</b>	315	n/a	175	n/a	140	n/a
High School Graduate or Higher	282	89.5%	152	86.9%	130	92.9%
Bachelor's Degree or Higher	40	12.7%	0	0.0%	40	28.6%

Source: U.S. Census Bureau



## 2. Natural Resources

### **WHAT ARE NATURAL RESOURCES?**

*Natural resources are the state's environmental and ecological assets; the land, water, plants and animals that sustain us and enhance our quality of life. Planning for natural resources means planning for natural resource protection, including conservation, quality protection measures and improved development practices. ...Rhode Island's natural resources are the state's premier asset and as such are incredibly valuable. ... While we depend on land, water, plants and animals for sustenance, they also provide many other benefits to the State and its residents. Natural resources are used for recreation, provide economic value and scenic beauty, enhance quality of life, help to minimize the impacts of natural hazards and establish rural character. For all of these reasons, it is imperative that communities consider and plan to protect natural resources.*

*Statewide Planning Handbook 2: Planning for Natural Resources*

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## 2.1 Introduction

Natural resources are made up of land, water, air, plants, and animals. These resources are finite and need to be preserved, protected, and restored, when practical. These resources provide the community with clean air and water, recreation, open space, and an improved quality of life.

A key role in the success of the town is the enhancement of its natural resources. The preservation, protection, and restoration of natural resources play a major role in improving water quality, controlling floods, preserving natural beauty, protecting diverse wildlife habitats, and providing outdoor recreation activities. Natural resources play an integral role in economic development by providing necessary resources such as water, shade and green space, among others and attracting tourist for recreational activities and commerce.

The maps included in this chapter are as follows:

- Figure 2-1: Natural Resources
- Figure 2-2: Ecological Communities
- Figure 2-3: Water Supply: Natural Features
- Figure 2-4: Existing Conservation Areas
- Figure 2-5: Conservation Opportunity Areas

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## 2.2 Current Conditions

### SURFACE WATER: PONDS, RIVERS, STREAMS, AND WATERSHEDS

Various natural waterbodies run throughout the Town of West Warwick. These resources have had a great historical impact on the town's economic and residential development. During the nineteenth century, the Pawtuxet River was the resource that attracted many mill owners to build in this area, harnessing the power of strong running water to power the mills. These mills supplied employment that attracted people to move to the town, settling in villages around the mills and the Pawtuxet River.

Today, the Town's freshwater waterbodies provide outdoor recreation activities, enjoyment of the natural environment, a habitat for local wildlife, and drainage areas for stormwater, assisting with flood mitigation. Almost all drinking water for the town comes from the Kent County Water Authority and is supplied via the Scituate Reservoir. However, some residents of the town still rely on healthy water quality to supply their drinking wells. Water supply is considered separately in Chapter 10.

Along with the Pawtuxet River's north and south branches, the Town has multiple brooks and ponds. The Town's brooks include Hawkinson, Cedar, Hardig, and Lippitt Brooks; and the ponds include



Natick, Matteson's, Remington, and Crompton Ponds. Natick Pond was formed from the damming of the Pawtuxet River.

Some of the Town's waterbodies are classified as impaired by the Rhode Island Department of Environmental Management (RIDEM). This classification is assigned to waterbodies that do not meet water quality standards for designated uses, such as supporting fish and wildlife habitats, fish consumption, and primary and secondary contact recreation. Primary contact recreation includes swimming and other activities that have a high risk of water ingestion and secondary contact recreation are those activities that do not result in immersion in the water, such as boating and fishing.

- **Pawtuxet River North Branch:** This river stem is one the largest rivers in the State. This portion of the river does not fully support fish and wildlife habitat due to mineral pollutants and invasive species. The river does not support fish consumption due to mercury in fish tissue and does not support primary and secondary contact recreation due to enterococcus bacteria.
- **Pawtuxet River South Branch:** This branch, originating from the Flat River Reservoir in Coventry and West Greenwich, is impaired and does not fully support fish and wildlife habitats due to lead in the water. Primary and secondary contact recreation is also not supported due to enterococcus bacteria.
- **Hardig Brook:** This brook also has impairment issues. It does not fully support fish and wildlife habitat due to lead and it does not support primary



and secondary contact recreation due to fecal coliform.

The town is divided up into four separate watersheds that feed into the waterbodies of the community. They are the Pawtuxet River Watershed, North Branch River Watershed, Greenwich Bay Watershed, and the South Branch River Watershed.

## AQUIFERS & GROUNDWATER

Aquifers are important components for maintaining water quality, including drinking water. Aquifers are areas that contain a significant amount of groundwater and often supply drinking water in a community. Groundwater is a layer of water that is contained under the surface of the land. The water table is the upper limit of the portion of the ground wholly saturated with water.

A sole source aquifer (SSA) is an aquifer that is the only drinking source or supplies at least 50 percent of the drinking water for its service area. West Warwick has only one sole source aquifer, the Hunt-An-

naquatucker-Pettaquamscutt Aquifer, located in the southeast section of town. Understandably, protection of this water source is a top priority.

## WETLANDS

Wetlands are an important part of the ecological system in a community. Wetlands are usually located on the edges of waterbodies or where the water table rises above the surface of the land. A wetland is an area where the soil is saturated with water. These natural resources are important for their retention of water and help with flood control and filtration of stormwater. These areas enable precipitation to slowly percolate through the soil and remove pollutants before they enter groundwater systems. They also provide habitats for plants and wildlife that need this resource for survival.

Wetlands are found throughout West Warwick and development of these sensitive areas can greatly affect the surrounding habitat and water quality. Due to their importance, RIDEM regulates wetlands and a freshwater permit is required for any alterations to these areas. Wetlands are shown on **Figure 2-1**.

## FLOODPLAINS

Floodplains are low-lying areas that have been historically prone to flooding in times of heavy storm and rains. Floodplains usually run along rivers and streams. West Warwick has many of these areas throughout the town. Flood hazard areas are those places where, during any given year, there is at least a 1-in-500 chance of flood oc-

curing; which is often called a 500-year flood zone. “A” and “AE” zones are areas with at least a 1-in-100 chance of having a flood occur in any given year. Several areas in West Warwick are considered flood zones and are shown on **Figure 2-2**.

## FORESTED AREAS

Forested areas in West Warwick are primarily deciduous oak and some ruderal forests. These areas are important for maintaining air quality. Forests and trees naturally clean the air by absorbing pollutants and carbon dioxide and producing oxygen. They provide areas of wildlife habitat, filter stormwater runoff be-



fore it enters groundwater and other waterbodies, and retain precipitation from heavy storms reducing the volume of stormwater entering the Town's drainage system. In addition, forests provide recreational areas and natural environments to enjoy.

The Town of West Warwick does not have an abundance of forested land, yet it does have a limited urban forest. The urban forest is made up of trees in public right-of-ways, sidewalks, parks, and suburban lawns. In addition to the benefits noted above regarding forested areas, urban forests can reduce energy costs by cooling buildings in the summer and blocking winds during winter. They muffle street noise, have been found to increase land values for residential and commercial properties, and can also add to social and psychological wellbeing. The benefits of urban forests usually outweigh their maintenance costs. Existing forests are shown on **Figure 2-1**.

### VALUABLE WILDLIFE HABITAT

According to the Rhode Island Natural Heritage Program, an area in the northern part of town has historical reports of several rare or endangered plant species. Additionally, although most of the town is heavily developed, RIDEM has identified areas of high value Ecological Land Units (ELUs), wildlife corridors, and wetlands.

### EXISTING PERMANENTLY PROTECTED CONSERVATION AREAS

The Town of West Warwick has eight permanently protected conservation areas. Permanently protected conservation areas are areas in the town that have easements, deed restrictions, or other legal safeguards that do not allow development. These conservation

areas cannot be developed, but may be used for passive or active recreation. The Town's conservation areas include Arctic Gazebo, Flat Top Pond Park, Loggers Run, Town owned land around Matteson's Pond, Natick Park, River Point Park, River Walk, the Pawtuxet River, and the Sabetha property. Existing conservation areas are shown on **Figure 2-4**; opportunity areas are shown on **Figure 2-5**.

### EFFECTS OF SEA LEVEL RISE ON SALTWATER MARSHES

The town contains no saltwater marshes and is not at risk from the effects of sea level rise.

## 2.3 Future Needs

### PROMINENT ISSUES

One of the most serious natural resource issues in the town is flooding along the Pawtuxet River. In the spring of 2010, the Town of West Warwick experienced recording-setting rainfalls which led to catastrophic flooding. The River crested over 20-feet, a record-breaking height, significantly above prevailing flood levels. This deluge inundated homes and businesses along the River, forcing residents out of their homes and devastating several businesses. In addition, the sewer treatment facility was flooded, curtailing its operation for a substantial period. Comparable storms are anticipated to occur more frequently because of climate change and thus the mitigation of future flood events needs to be addressed.

Another problem, which the Town faces, is the impairment of the Pawtuxet River and its nearby connected water bodies. Many of the townspeople recognize the potential value of the Pawtuxet River for its recreational and scenic value. The Town understands that the River could provide an increased quality of life and recreational opportunities for the residents and improved access would be an incentive for new residential and business development. The envisioned recreational activities include expansion of the existing River Walk, fishing, canoeing, and kayaking. The Pawtuxet River is currently impaired for these primary and secondary contact recreation uses. The pollution comes from non-point sources (where surface water runoff leads into the River and its adjacent water bodies bringing with it various contaminants).

Within the Town's business village districts of Arctic, Centerville, and Crompton, there are significant areas devoid of trees. People have been found to spend more money in businesses with significant urban forests and street trees. The Town hopes to increase its

economic development, and street trees can provide a more aesthetically pleasing area in which to shop. In addition to providing a natural amenity, trees also assist with stormwater management issues and can help relieve drainage systems by absorbing of some of their overflow. Trees are a form of green infrastructure and urban street trees can absorb a portion of precipitation before it enters the stormwater system.

### PRIORITIES FOR LAND CONSERVATION

RIDEM has highlighted certain areas and corridors within the town that are suitable for conservation. Protecting these areas will enhance water resource protection and regional linkages among wildlife habitats.

Within the town, RIDEM indicates there are minor corridors of regional wildlife linkages, Natural Heritage Areas, wetlands, and ELUs. Natural Heritage Areas are places that RIDEM has identified as having noteworthy animal and plant habitats. ELUs are identified landscapes with unique soil and topography properties that will support abundant biodiversity in changing climates.

### MINIMIZING THE NEGATIVE IMPACTS OF DEVELOPMENT

#### Low-Impact Development

Low-impact development (LID) is a natural way to manage stormwater. Instead of rain or snow falling, traveling across impervious pavement, running onto public streets, and then into a stormwater drainage system, precipitation would be absorbed directly into the ground. LID provides for onsite treatment of stormwater. Stormwater percolates through soil and



the soil cleans the precipitation before it enters the water table. LID is considered a form of green infrastructure.

LID techniques include rain gardens, swales, tree box filters, permeable pavers, and green roofs. These approaches use natural systems for stormwater management instead of relying on the Town's infrastructure, which can be overwhelmed in heavy rains resulting in flooding.

Since flooding is a prominent issue in the town, the encouragement of LID techniques can be used to assist in flood mitigation. Some methods can include updating the Town's land development regulations to allow for alternative stormwater management systems and site plans. For example, regulations could be changed to allow swales instead of requiring granite concrete curbing.

In addition to allowing alternative stormwater management, the Town could also encourage less impervious pavement through reduction and modification of parking requirements. The Town can examine the possibility of creating maximum parking requirements rather than minimum requirements. The Town may also want to modify its parking ordinance to permit pervious pavement and/or pavers rather than necessitating parking with impervious pavement.

### Green Buildings

The Town can preserve and enhance its natural resources by encouraging that future development and redevelopment is green. Rhode Island State Law requires that any new public building construction exceeding 5,000 square feet or redevelopment exceeding 10,000 square feet be LEED certified or to an equivalent of a high performance green build-

ing standard. The State has also created a revolving loan program, the Efficient Buildings Fund, which provides capital for green infrastructure initiatives for municipally-owned buildings. Future Town facilities will need to be green. The Town can additionally encourage private green buildings or energy efficient development and redevelopment with incentives such as allowing greater densities of housing.

### Compact Development

To maintain the continuity of open space habitats and avert the construction of large amounts of impervious pavement and infrastructure, the Town can encourage compact development. Building residential structures in a compressed area halts the division of expansive ranges thus sustaining a variety of wildlife. It also limits the need to build extra roadways of impervious pavement.

The Town can approve a zoning ordinance that allows cluster development of larger residential parcels and compact development. Instead of permitting large tracts of land to be divided, as in a traditional subdivision with equally spaced parcels and a network of roads throughout the site, a parcel can be developed in a way that retains areas of continuous open space. Cluster development can provide a developer with the same density as a traditional subdivision, but retain more open space and create fewer roads.

The Town's current zoning ordinance requires 2,500 square feet per dwelling unit be set aside as open space for multifamily housing developments consisting of five or more acres. This ordinance does not mandate that the open space be contiguous. Maintaining contiguous areas of open space is an important part of ensuring the open space benefits wildlife and reduces impervious infrastructure.

West Warwick is a densely-populated community, yet it does have areas of natural open space. Currently, some of these areas do not have public infrastructure, but the Town's zoning regulations allow them to be developed with multifamily housing by special use permit. The Town should reevaluate its zoning to establish specific criteria to qualify for multifamily housing. This criterion should be designed to consider availability of utilities, roadway access, and the general development patterns of the surrounding area. It should also be designed to protect large undeveloped open space areas and environmentally-sensitive areas, including areas near the River and its adjacent water bodies and in flood zones. The Town should encourage residential infill development in locations where public infrastructure and other land disturbance has already occurred, thus compacting development in previously established areas.

## Flood Protection Overlay

The Town has special flood hazard areas and a floodplain overlay district within its zoning which includes all areas designated zone A, AE, or AO from Kent County Flood Insurance Rate Maps issued by the Federal Emergency Management Agency. All construction within the district is required to obtain a special flood hazard area permit if another building permit is not required. All proposed construction in the district must be designed to minimize flood damage. The Town should continue to implement this ordinance due to the threat of flooding and increased storm precipitation caused by climate change.

## Conservation and/or Acquisition Programs

The Town should identify areas for preservation and conservation—especially areas near the Pawtuxet

River—to mitigate future potential flooding. Other areas to target for conservation are the locations indicated by RIDEM where there are minor regional wildlife corridors, Natural Heritage Areas, wetlands and ELUs. The Town can apply for open space grants through the RIDEM open space and recreation grant program to assist in any conservation, preservation, and acquisition program.

## Community Forest Tree Management Programs

An urban forestry plan can manage the maintenance of public trees and propose additional locations for tree plantings throughout the community. One of the first steps in an urban forestry plan is to complete an inventory of public trees and their conditions throughout the town. Many communities have successfully organized a completely volunteer process to record public trees in a municipality. Residents usually find this activity engaging, helpful to the community, and take ownership of their public spaces. Tree management programs can provide community engagement and more trees that will offer aesthetic beauty and stormwater management for the town. Grants are available through the America-the-Beautiful grant program and from the RIDEM. The Town can develop an urban forestry plan with assistance of these grants.



## 2.4 Goals, Policies, and Actions

### 1. Recreation, open space, and conservation opportunities will be incorporated into new development within the Town.

- Consider recreational uses and open space preservation for land dedicated to the Town.
- Continue to enforce provisions in the Town's Subdivision and Land Development Regulations enabling the Town to reserve suitable land for open space, recreation, and conservation purposes.

*NR-1. Investigate the use of easements to expand recreational opportunities, preserve scenic resources and environmentally sensitive land, and/or to provide access to recreational facilities, areas and natural resources.*

### 2. Open space will be retained as both a resource for active and passive recreational opportunities and as protection for the physical and natural environment.

- Preserve and enhance the natural and scenic landscapes which provide the visual support for residential, industrial, and commercial activities.
- Preserve open spaces to protect residential neighborhoods from incompatible land uses and practices and as an enhancement to the Town's economic development.

*NR-2. Investigate grant funding opportunities for the purchase of development rights to preserve the town's golf courses as open space.*

*NR-3. Establish an open space acquisition and development program intended to preserve remaining desirable land and water resources for parks, picnicking, fishing, and other passive and active recreational activities.*

### 3. Threatened plant and animal species and unique natural communities will be identified and protected, to preserve biological diversity.

- Coordinate the land dedicated in the subdivision process to form interconnected greenbelts, and larger areas of protected open space for habitat preservation where practical.
- Preserve the town's natural resources by working to save the best representatives of ecosystem types found in West Warwick by protecting unique geologic or other natural features.
- Prevent and/or mitigate the adverse impact of human activities on wildlife habitats.
- Protect and expand wildlife linkage corridors throughout the town; such corridors may provide recreation and open space opportunities.

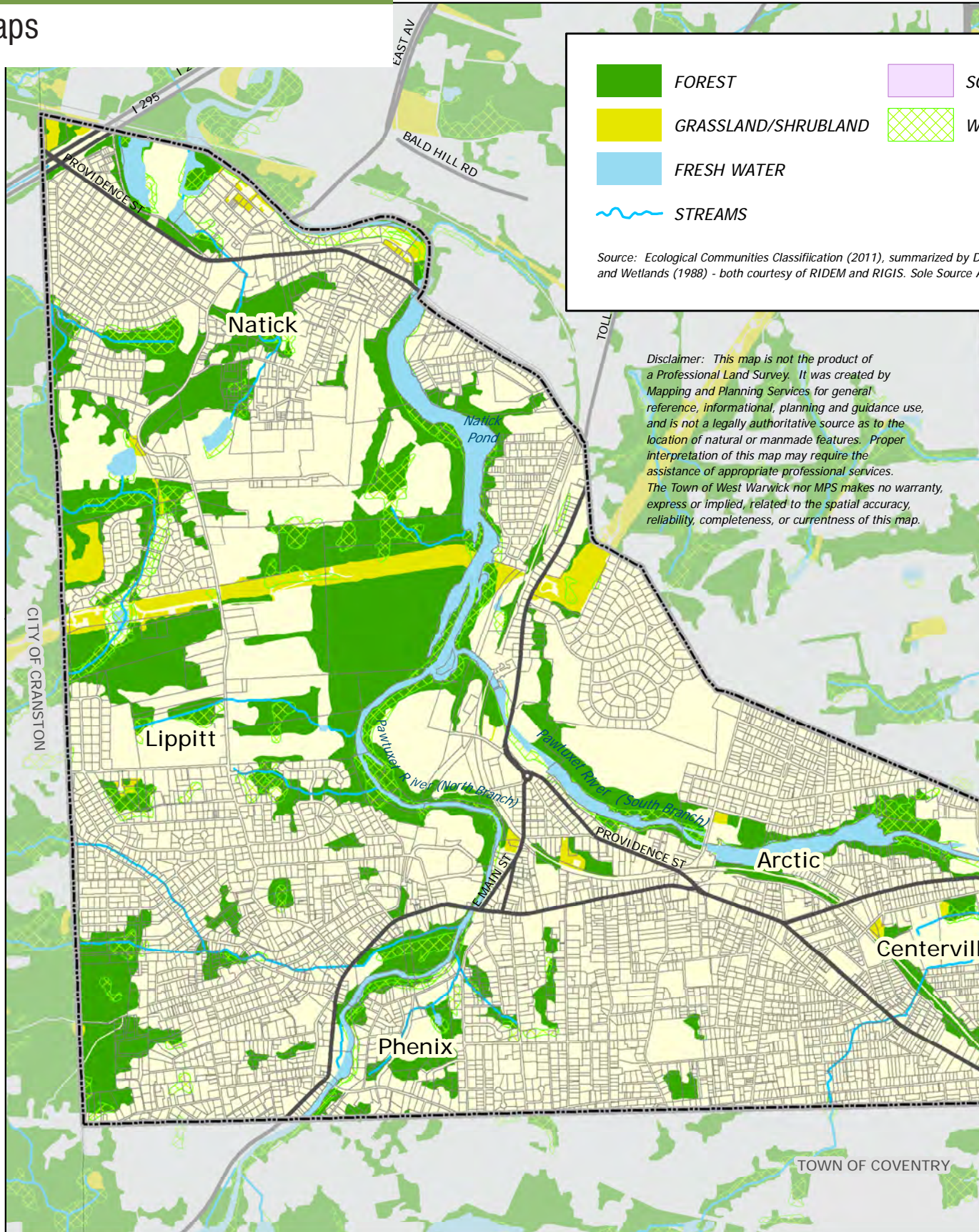
### 4. The Pawtuxet River, water bodies, and adjacent shorelands, and wetlands will be preserved and, where necessary, restored for recreation, open space, and wildlife corridors.

- Support organizations, such as the Pawtuxet River Authority, in their efforts to upgrade the water quality and the aesthetic viability of the River and its shoreline.
- Protect wetland areas which serve as wildlife habitat, groundwater recharge, floodwater storage, and other benefits to the community.
- Prioritize the acquisition and protection of property adjacent to, and providing access to, water bodies.

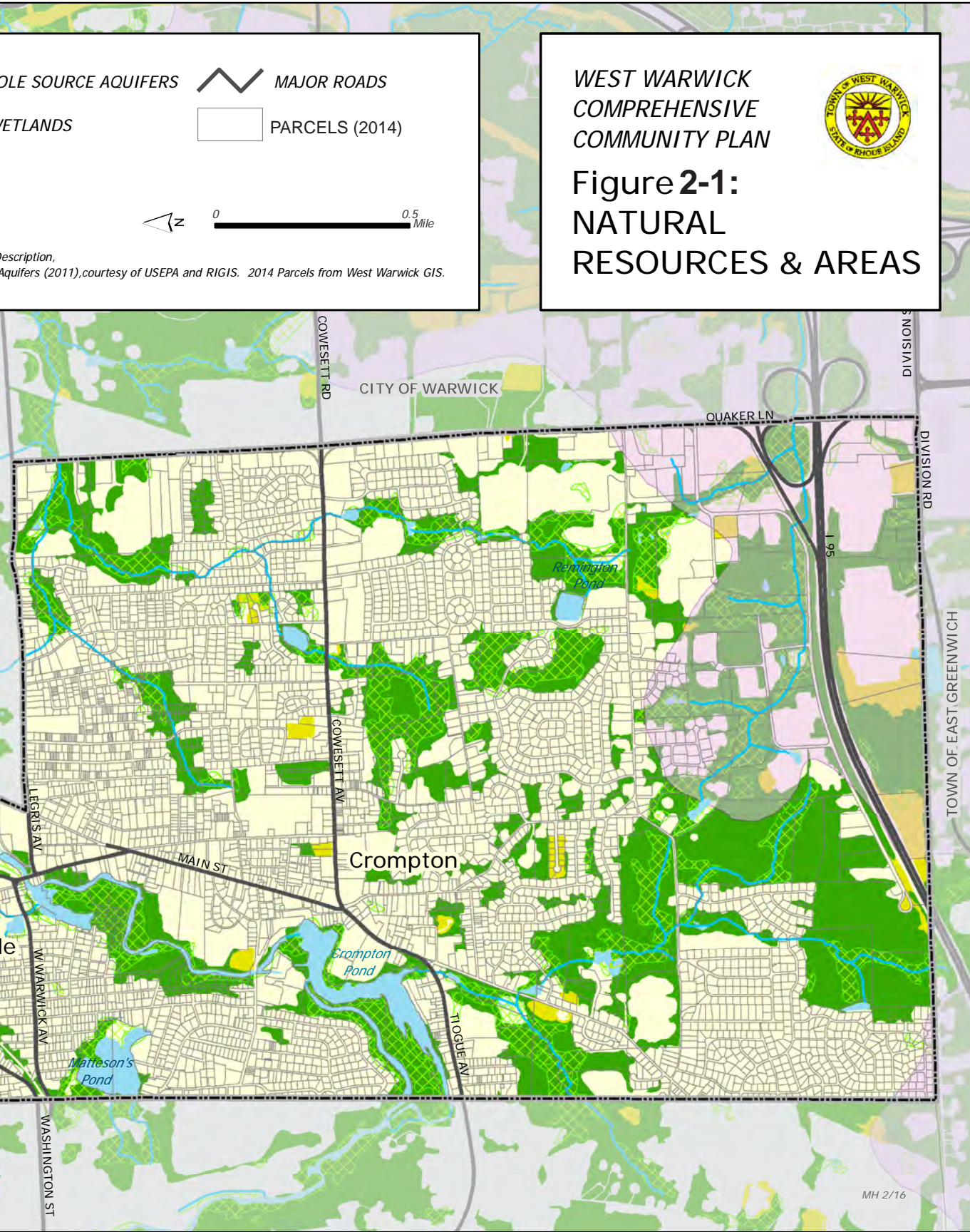
*NR-4. Include acquisition/protection of Pawtuxet River shoreline in the Town's land protection program.*

- Maximize the use of water bodies for recreation and other purposes, wherever possible, consistent with the characteristics and uses of the water bodies.
- Protect lands through acquisition and/or easements which protect wetlands' biological and hydrological integrity, provide opportunities for public access and usage, and enhance the proper management of wetland systems.

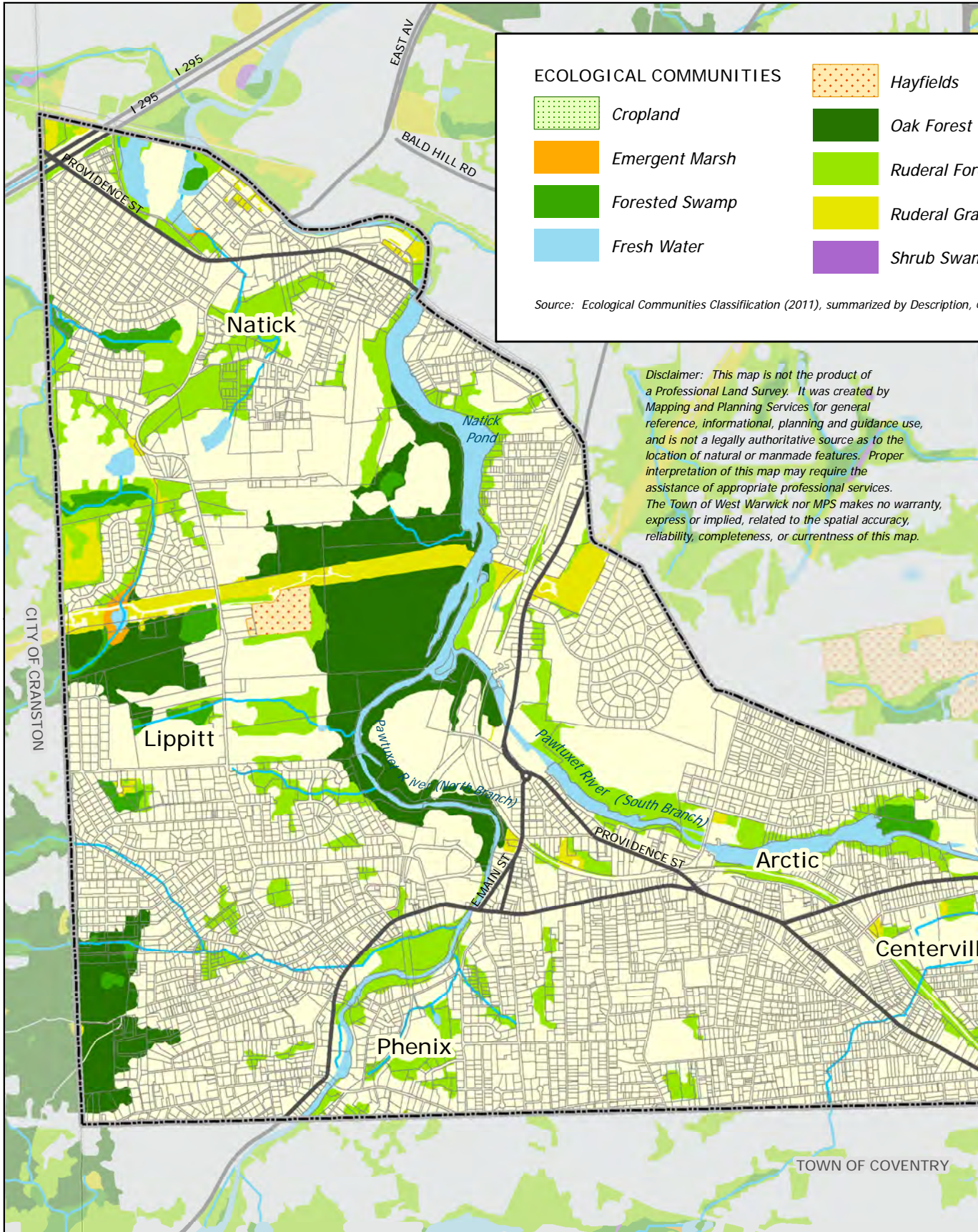
# Maps



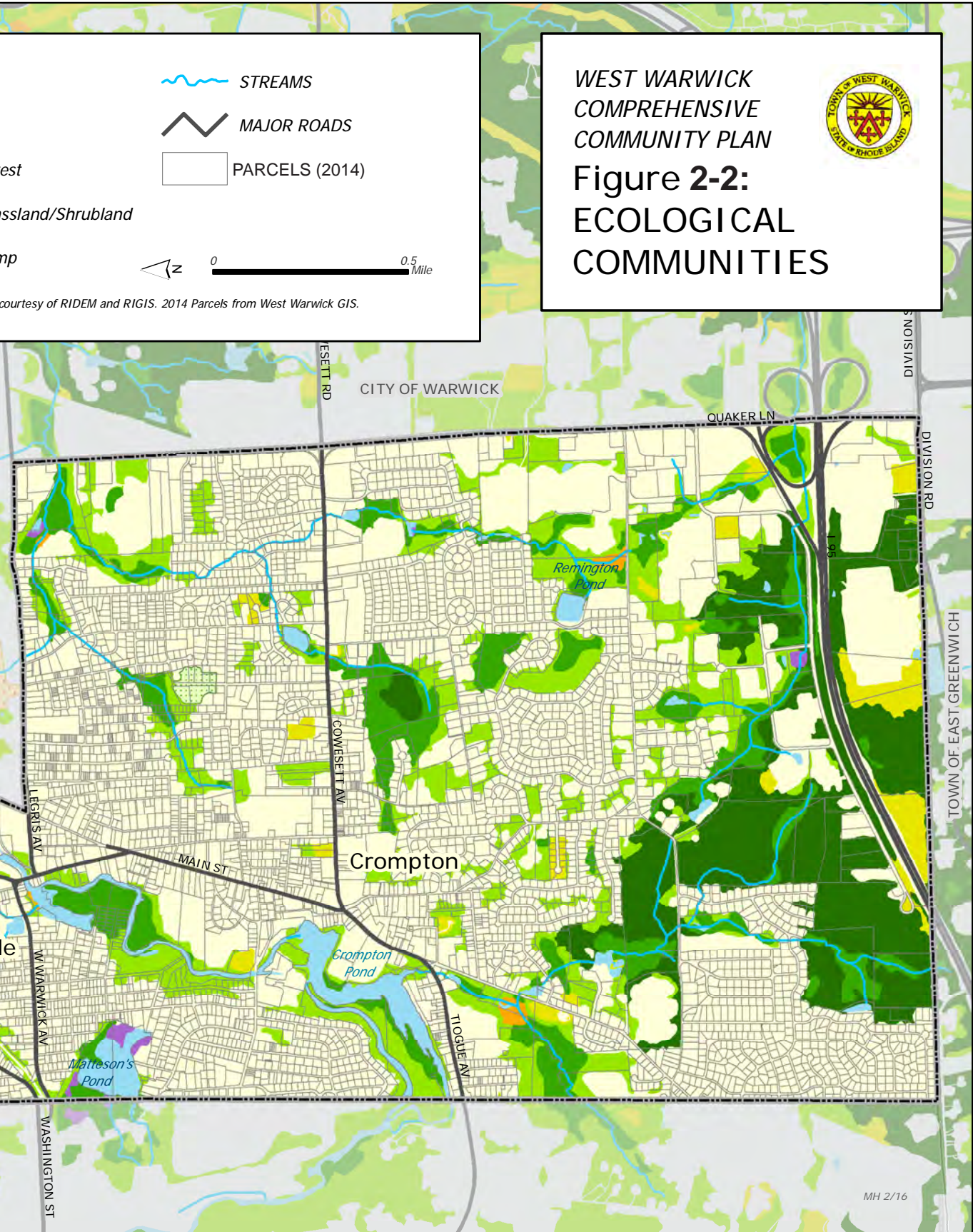




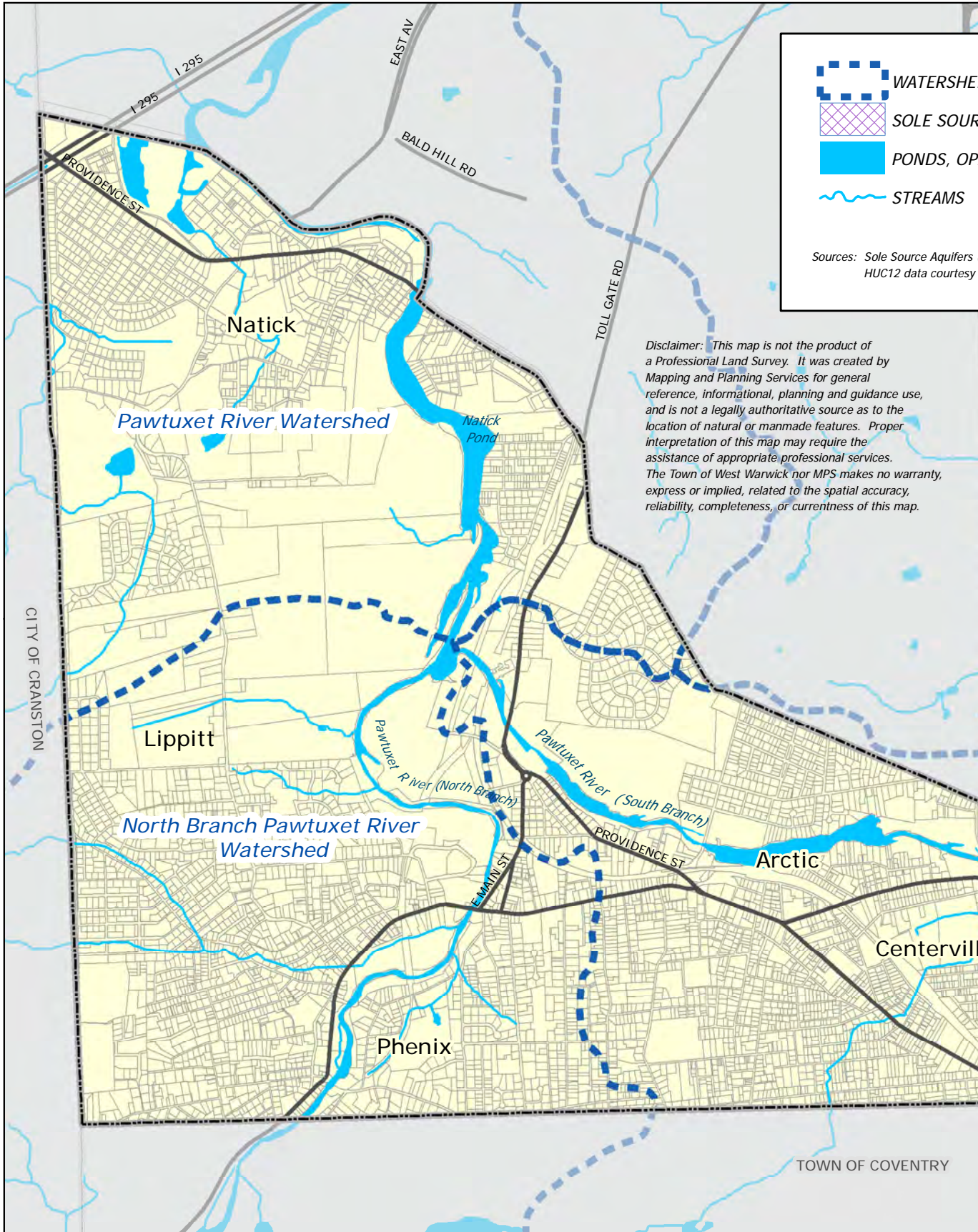




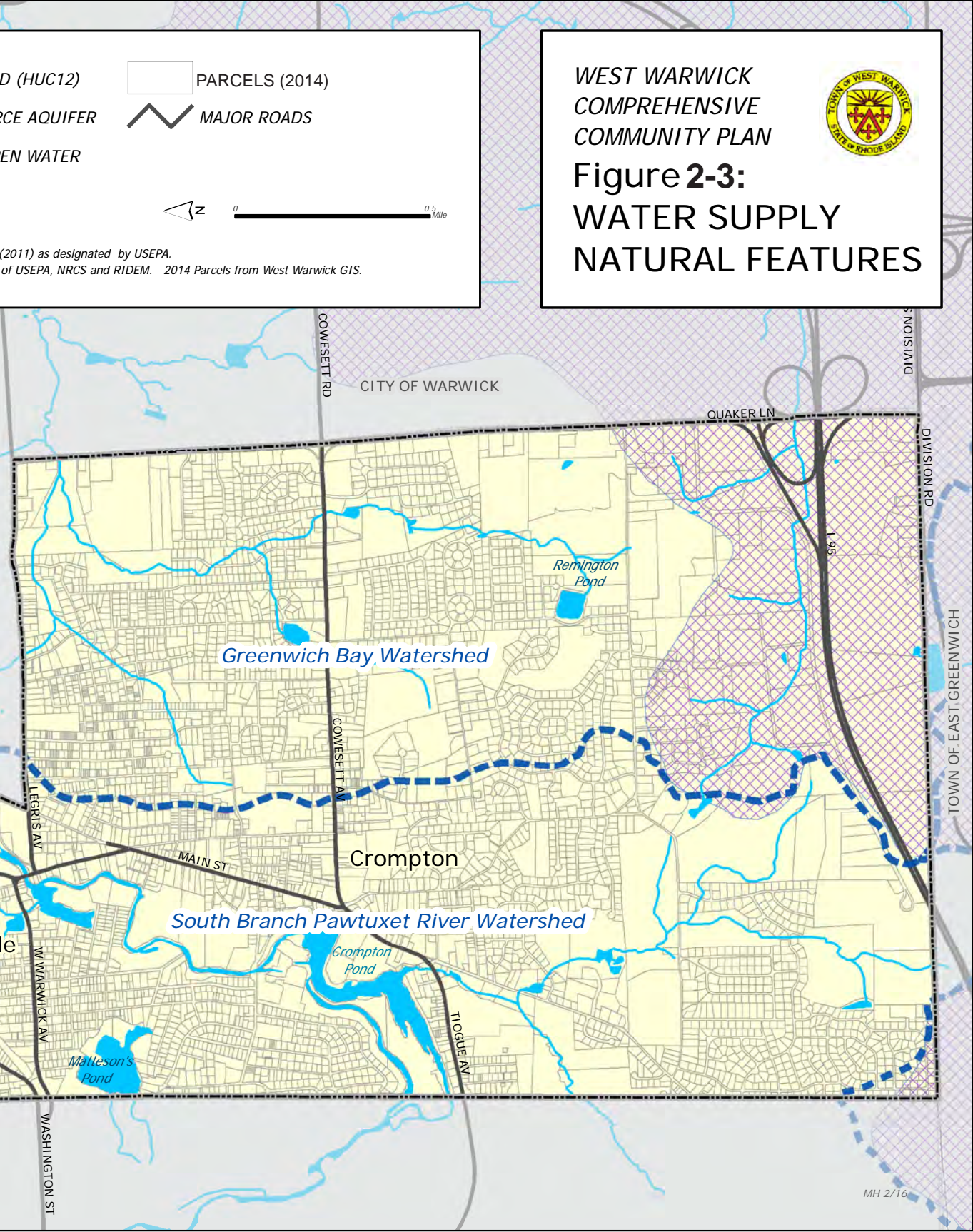










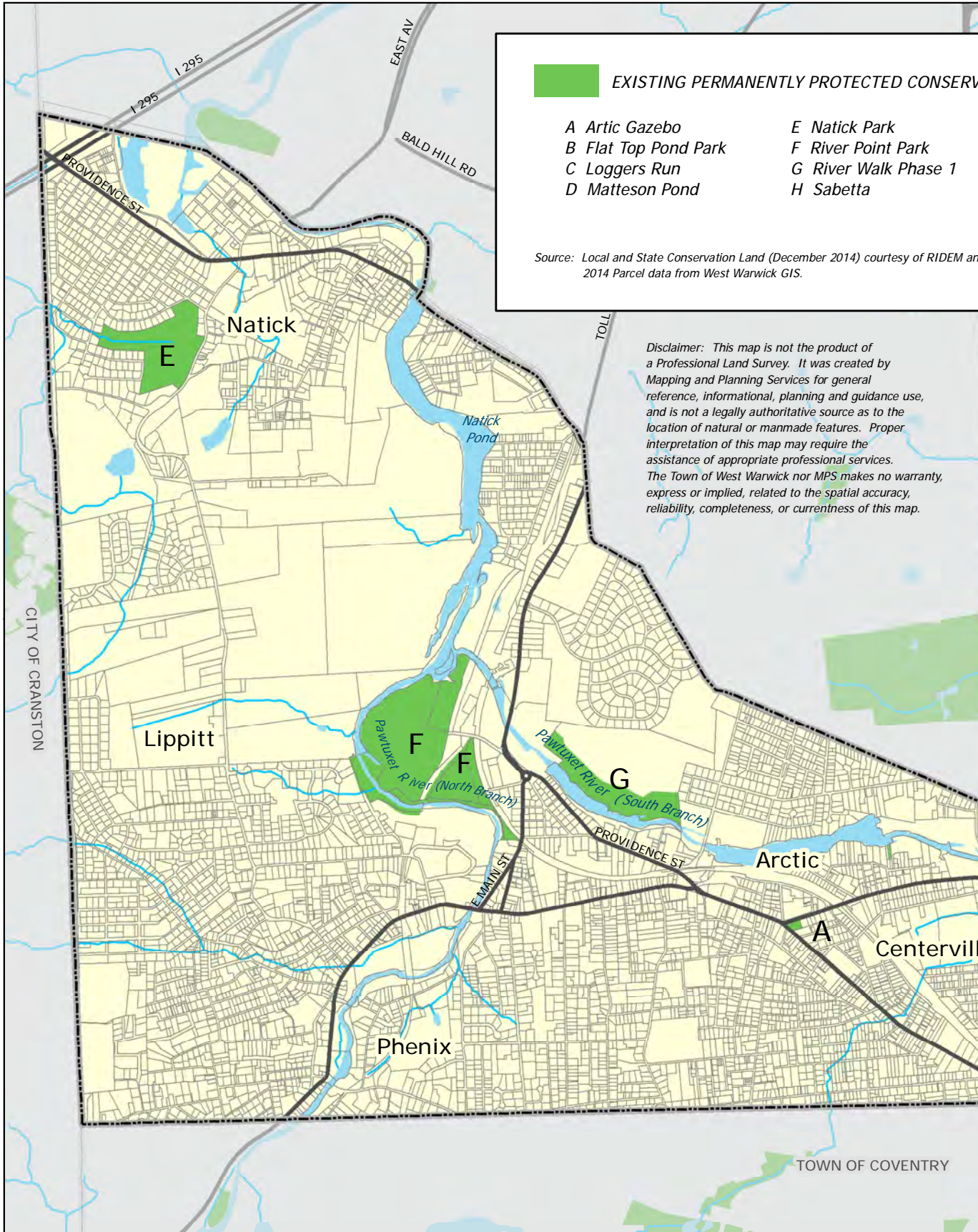


WEST WARWICK  
 COMPREHENSIVE  
 COMMUNITY PLAN

**Figure 2-3:**  
**WATER SUPPLY  
 NATURAL FEATURES**

D (HUC12)  
 CE AQUIFER  
 EN WATER  
 PARCELS (2014)  
 MAJOR ROADS  
 0 0.5 Mile  
 (2011) as designated by USEPA.  
 of USEPA, NRCS and RIDEM. 2014 Parcels from West Warwick GIS.





EXISTING PERMANENTLY PROTECTED CONSERVATION AREAS

- A Artic Gazebo
- B Flat Top Pond Park
- C Loggers Run
- D Matteson Pond
- E Natick Park
- F River Point Park
- G River Walk Phase 1
- H Sabetta

Source: Local and State Conservation Land (December 2014) courtesy of RIDEM and 2014 Parcel data from West Warwick GIS.

*Disclaimer: This map is not the product of a Professional Land Survey. It was created by Mapping and Planning Services for general reference, informational, planning and guidance use, and is not a legally authoritative source as to the location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. The Town of West Warwick nor MPS makes no warranty, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.*



CONSERVATION AREAS

MAJOR ROADS

PARCELS (2014)

PONDS, OPEN WATER

STREAMS

0 0.45 Mile

WEST WARWICK  
COMPREHENSIVE  
COMMUNITY PLAN


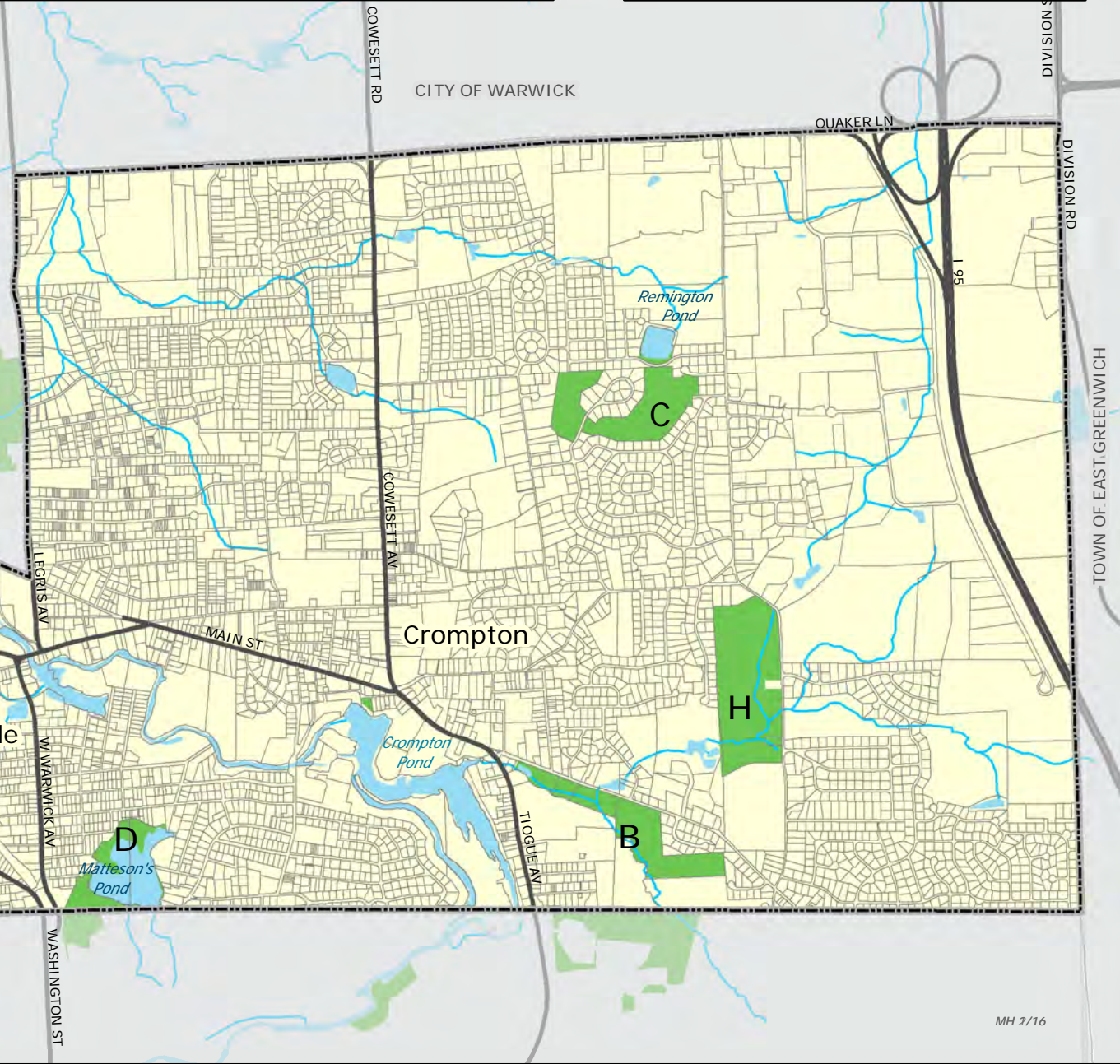
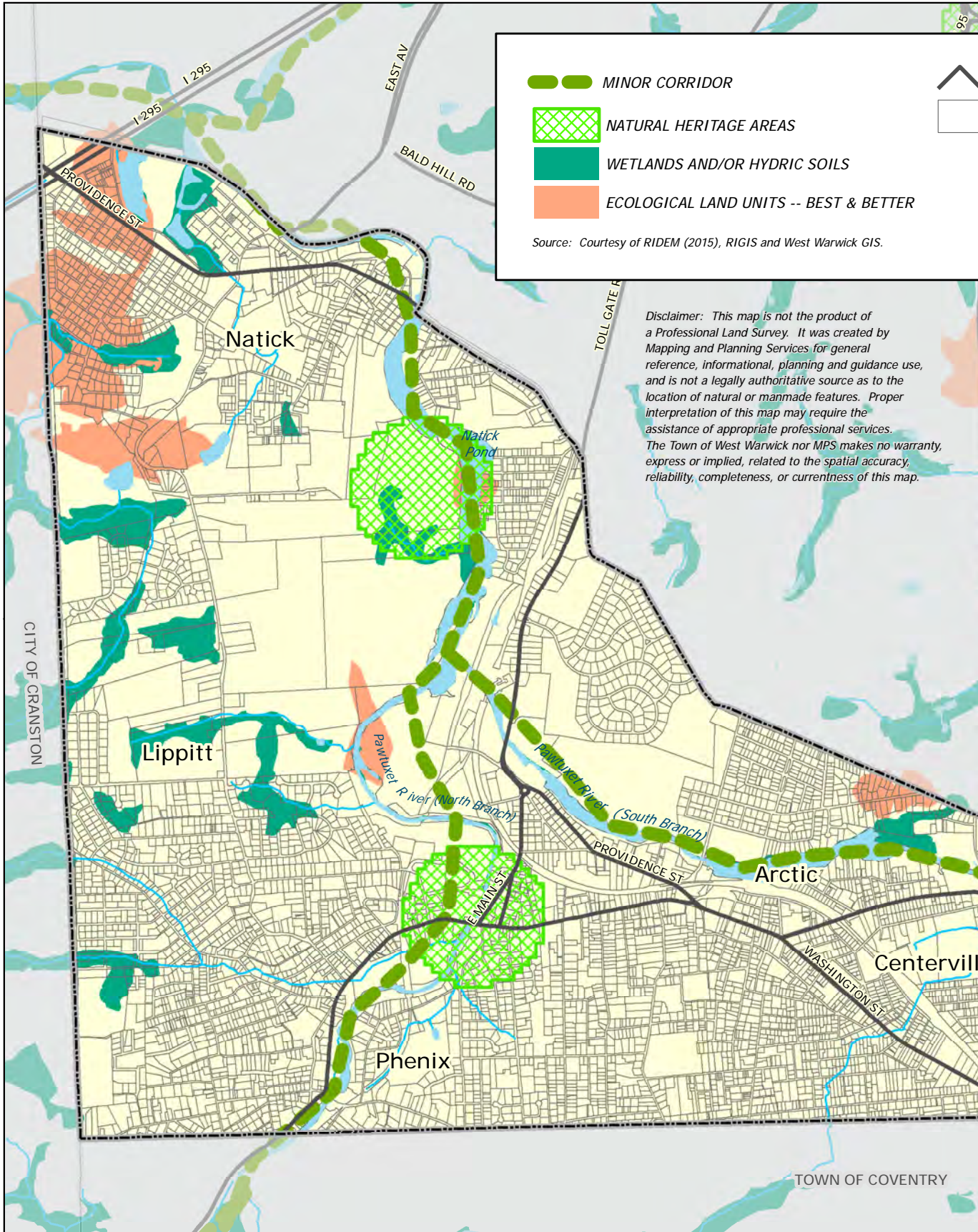


Figure 2-4:  
EXISTING  
CONSERVATION AREAS





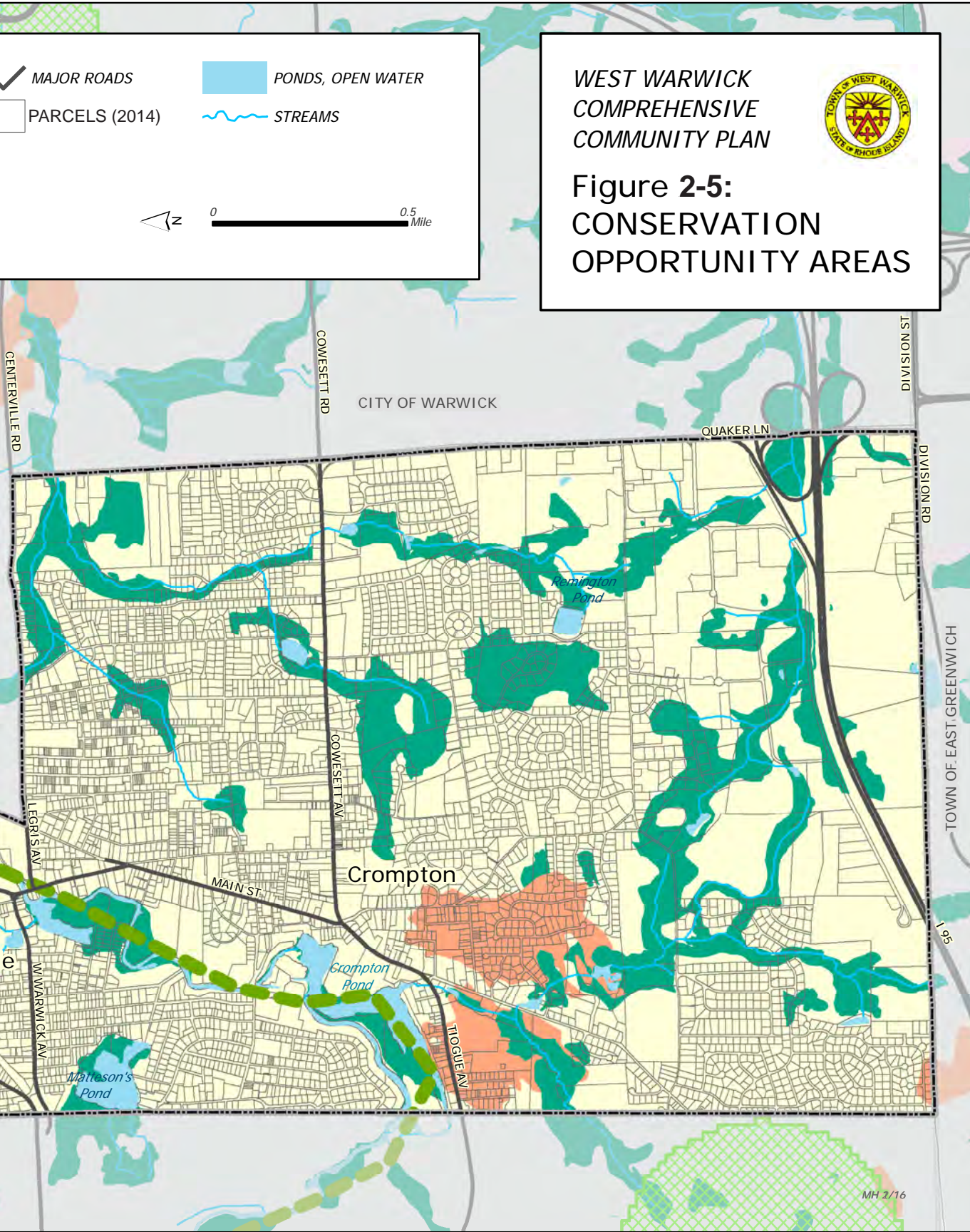


-  MINOR CORRIDOR
-  NATURAL HERITAGE AREAS
-  WETLANDS AND/OR HYDRIC SOILS
-  ECOLOGICAL LAND UNITS -- BEST & BETTER

Source: Courtesy of RIDEM (2015), RIGIS and West Warwick GIS.

*Disclaimer: This map is not the product of a Professional Land Survey. It was created by Mapping and Planning Services for general reference, informational, planning and guidance use, and is not a legally authoritative source as to the location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. The Town of West Warwick nor MPS makes no warranty, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.*







## 3. Recreation

### WHAT IS RECREATION?

*The term “recreation” refers to anything people do to relax, exercise or have fun, whether outside or indoors. Recreation can broadly be categorized as “active” or “passive”. Active recreation is generally sports related and passive recreation is characterized by activities that are usually unstructured, require little use of physical facilities, and frequently involve interaction with natural resources. Recreation is vital to the health and well-being of the population and recreation is one of the easiest and most fun ways to fit physical activity and stress relief into a busy life. When there are a variety of recreational opportunities available in a community, it is more likely that residents will find one that suits their interests.*

*Statewide Planning Handbook 3: Planning for Recreation*

## 3.1 Current Inventory of Recreation Facilities

### PARKS AND RECREATION

The Town of West Warwick provides a variety of recreational opportunities for its residents; there are neighborhood playgrounds, public parks, ballfields, basketball courts, soccer fields, tennis courts, a skateboard park, the Donald Roch Riverwalk in Riverpoint Park, the West Warwick Greenway, and limited access to the Pawtuxet River. There are additional team sport fields at the West Warwick Civic Center which also houses the Benny Magiera Ice Rink and the Thomas A. Lamb field house.

The following is a list of the Town's recreational areas and assets:

- **Brookside Park:** (Brookside Avenue) Open recreational area and playground equipment
- **Carlson Circle:** (Carlson Circle) Open recreation area
- **Crompton Playground:** – lighted basketball court, recreational area, and playground
- **Crompton Veterans' Ball field:** (Hepburn Street) Combination baseball and football field
- **Flat Top Park:** (New London Turnpike) Public park, nature walk, recreational area, T-ball field and playground
- **Maisie Quinn Elementary School:** (Brown Street) Neighborhood playground, baseball field and basketball court
- **Majestic Gazebo:** (Main and Washington Streets) Center of the downtown Business District and home to the Town's Weekly Summer Concert Series sponsored through a private-public partnership
- **Manchester Street Park:** (Manchester Street) Access to Crompton Pond including a fishing pier accessible to the disabled
- **Matteson Pond Recreation Area:** (West Warwick Avenue) Passive recreation and public open space
- **Natick Park:** (Crossland Road) – three ball fields and playground area
- **Riverpoint Park:** (Hay Street) – public park, gazebo, five ball fields including McCarthy Stadium, three soccer fields, two lighted basketball courts, four tennis courts, playground, and a skateboard park; access to the Donald Roch Riverwalk
- **Veterans Square Fishing Area:** – fishing area and canoe launch owned by the Town and maintained by the Pawtuxet River Authority
- **West Warwick Civic Center:** (Factory Street) Thomas A. Lamb field house, Benny Magiera Ice Rink; High School football field and running track (at the rear of the complex); handicapped accessible playground
- **Youth Center:** (Factory Street) Basketball court; access to the entrance of the Riverwalk.

West Warwick also has two nine-hole golf courses, Midville Golf Course which is a public course and the West Warwick Country Club which is a semi-private course; both are located along Wakefield Street in the northerly portion of the Town.

See the locations of West Warwick's recreational assets in **Figure 3-1: Existing Recreation**.





The West Warwick Parks Department hosts recreational programming and events such as the summer concert series at the Majestic Gazebo. These evening concerts are sponsored through a public-private partnership between the Town and local businesses.

## BLUEWAYS AND GREENWAYS

Rhode Island is beginning to link its waterways as it has already begun to connect its bike and pedestrian trails. Explore Rhode Island (ExploreRI: (<http://exploreri.org/>)) has a mapping tool for both land trails (greenways) and water access (blueways). In West Warwick, only one access point to the Pawtuxet River is listed: a hand carry boat launch at the corner of Main Street and Legris Avenue.

The Town is working to create strong connections to its water-bodies, including a new handicapped fishing pier is currently under construction on conservation land located along Manchester Street abutting Crompton Pond near the intersection of Main Street and Cowesett Avenue.

The Pawtuxet River Authority and Watershed Council provides maps of two blueways on ExploreRI.com: The Lower Pawtuxet River and Rhodes to Pawtuxet Cove. The launch for the Lower Pawtuxet starts at the Pontiac Canoe Launch in Warwick and ends at Rhodes-on-the-Pawtuxet, a banquet facilities in Cranston. The second route starts at Rhodes-on-the-Pawtuxet and ends at the Aspray Boat House in Pawtuxet Park.

Within West Warwick, portage will be required as the Pawtuxet River is blocked by numerous dams that supported the mills.

- Phenix Mill Pond Dam

- Riverpoint Mill Pond Dam (Lippitt)
- Natick Pond Dam
- Riverpoint Lower Dam
- Riverpoint Upper Dam
- Arctic Dam
- Centerville Pond Dam
- Crompton Lower Dam
- Crompton Pond/Upper Dam

The Pawtuxet River Authority would be an appropriate partner in addressing portage needs and connecting a series of blueways along the entire river.

ExploreRI does not list any walking/bike trails in West Warwick. However, the Washington Secondary Bike Path runs along an old rail corridor from Cranston, through the Town, to Coventry. In West Warwick, this trail is also known as the West Warwick Greenway. More information is available at <http://www.dot.ri.gov/community/bikeri/washington.php>.

The East Coast Greenway Alliance seeks to connect existing bicycle and walking trails from Calais, Maine to Key West, Florida (<http://www.greenway.org/>). An informational kiosk is located on the Coventry Bike Path which is part of the Washington Secondary Trail.

There are limited access points to the trail in West Warwick and limited signage directing people not already on the trail to those access points. Additional signage and partnerships with organizations such as ExploreRI or the East Coast Greenway Alliance would help bring attention to this trail, which will eventually connect to the Connecticut border.

## 3.2 Future Needs

### FIELD MAINTENANCE NEEDS

The Town should maintain and enhance the quality of its existing sport fields. The soccer and baseball fields situated at Riverpoint Park need improvement. New batting cages should be installed and public restrooms added as an amenity to the Cal Ripken Little League fields at Riverpoint. These new facilities will enhance the experience of the players and spectators participating in events at these fields.

The Town currently charges fees to out-of-town sports leagues for use of these fields to assist with maintenance of recreation areas. However, the revenue received from these fees is not enough to offset the necessary maintenance of the fields and other facilities.

The Town may consider partnering with or leasing the fields to non-profits and interested sports leagues willing to assume the responsibility of field maintenance. Alternatively, the Town may encourage the creation of a Friends of Riverpoint Park organization that could fundraise for maintenance and field improvements at the park.

### WALKING AND BICYCLING NEEDS

Creating safer access to walking and bicycling can help residents lead a healthier and more active lifestyle. The Town should continue to maintain the West Warwick Greenway and build bicycle-friendly roadways by ensuring all new and reconstructed roads are constructed in accordance with Complete Streets philosophy. The Town should also continue to repair sidewalks and mandate that sidewalks be included in all new commercial and residential construction projects. Focusing on these strategies will enable the Town to incrementally build a network

### WHAT ARE COMPLETE STREETS?

*A Complete Streets approach integrates people and place in the planning, design, construction, operation, and maintenance of our transportation networks. This helps to ensure streets are safe for people of all ages and abilities, balance the needs of different modes, and support local land uses, economies, cultures, and natural environments.*

*National Complete Streets Coalition  
[www.smartgrowthamerica.org](http://www.smartgrowthamerica.org)*

of bicycle- and pedestrian-friendly routes for use by the community.

### PROTECTION OF OPEN SPACES

The West Warwick and Midville Country Clubs provide active recreation for the Town and should be protected from future development. Keeping these areas open will maintain natural viewsheds and wildlife habitats; it will also provide relief from traffic congestion which would result from the development of these properties. The Town should consider purchasing the development rights to these properties; grants from the Rhode Island Department of Environmental Management for open space are regularly available for this purpose through regular application cycles.

The Town should also consider protecting areas for passive recreation that would also protect against future damage resulting from natural disasters. Development in flood plains should be dissuaded especially



in areas adjacent to the Pawtuxet River near the south side of Pontiac Avenue, the area around Industrial Lane, and Riverpoint Park near Hay Street. These areas would be appropriate for consideration for the purchase of development rights and potential environmental grants. Creating open space with access points to the river will not only add recreational opportunities but would also enhance the community's connection to the Pawtuxet River.

### PARK AND GREENSPACE NEEDS

Every neighborhood in West Warwick should have its own park. Vacant or empty lots could be converted into greenspace for the local community. Creating pocket parks in the Centerville area and on Main Street would be advantageous. The Town should investigate vacant or empty properties throughout the

municipality for additional recreational opportunities.

### ALTERNATIVES TO TEAM SPORTS

The Town has begun to provide recreation opportunities for all members of the community including those who do not have an interest in league sports. Skateboarding, BMX bicycling and lacrosse are growing in interest as alternatives to traditional team sports. The Town has a skateboard park, but should consider outreach to determine if there is a larger demand for these different types of recreational activities in West Warwick. If such demand exists, the Town should consider setting aside additional safe spaces for non-team activities that can provide a positive space for young people to congregate.

## 3.3 Potential Expansion

Recreation expansion should be based on the needs of the community. As mentioned in above, the amenities of Riverpoint Park should be expanded where possible as the community already makes significant use of the fields. Providing pocket parks in neighborhoods that have both vacant lots and a shortage of greenspace would be another appropriate method of expanding green space throughout the community and contributing to walkable neighborhoods. The expansion of the Riverwalk along the Pawtuxet River should be a priority for the community and should also include enhanced connections between the community and the river.



## 3.4 Goals, Policies, and Actions

### GOALS

#### 1. Parks and recreation facilities and programs meet the passive and active recreational needs of the community.

- Promote handicapped accessibility to West Warwick's parks and public recreation facilities.
- Ensure that the needs and recreational interests of residents of all social and age groups and abilities are considered fully in developing recreational facility plans.
- Consider recreational uses for land dedicated to the Town.
- Encourage the Senior Citizens Center to supplement senior programs and use the Civic Center for senior oriented recreational activities such as a morning walking program.

R-1. *Establish balanced recreational facilities and programs for Town residents of all ages, interests, and abilities.*

R-2. *Establish an open space acquisition and development program intended to preserve remaining desirable land and water resources for parks, picnicking, fishing, and other passive and active recreational activities.*

R-3. *Expand amenities and recreational opportunities at Riverpoint Park.*

R-4. *Evaluate parks and recreation facilities for accessibility to handicapped persons.*

R-5. *Establish tot lots and playgrounds in existing park/playground areas where desirable.*

R-6. *Investigate the demand for nontraditional recreational activities within the Town.*

R-7. *Create access points to the Pawtuxet River for boaters, canoes and kayakers to maximize use and enjoyment of the river for all.*

#### 2. The Town will have a stable source of funding for capital and maintenance needs.

- Maintain a Recreation Department as a unit of municipal government with a full-time qualified recreational director and staff.
- Continue to require land dedication or fees in lieu of land expressly for recreational purposes in all subdivisions and major residential developments.

R-8. *Increase the Town's recreation maintenance budget on a phased basis as necessary to improve operation and maintenance of existing recreational facilities.*

R-9. *Develop a formal maintenance schedule to insure ongoing maintenance activities for all facilities on a year-round basis.*

R-10. *Include short and long term recommendations for recreational facilities, land*



*protection, and recreational programming in the Recreation Department's Capital Improvement Program.*

*R-11. Allocate sufficient funding for acquisition and development of recreational facilities and open space resources.*

*R-12. Identify and pursue Federal and State financial and technical assistance, grants and funding for recreation and open space conservation projects.*

*R-13. Investigate non-profit funding for field maintenance.*

**3. Partnerships between the Town and private or nonprofit entities will support recreation needs.**

- Foster public/private efforts to enhance the Town's parks and recreational facilities.
- Coordinate municipal recreation facilities and programming with school system activities.
- Encourage private, non-profit organizations to provide and enhance recreational opportunities.

*R-14. Increase the level of communication on recreation matters between the Planning Department and Recreation Department.*

*R-15. Cooperate with the neighboring communities identify joint recreational and open space opportunities as joint ventures (i.e. the Riverwalk).*

*R-16. Work with RIDEM and the Pawtuxet River Authority to secure passage via rights-of-way, easements and other avenues to provide for portages around local mill dams and other obstacles along the Pawtuxet River waterway.*

*R-17. Work with ExploreRI and the East Coast Greenway Alliance to list and link the West Warwick Greenway with other trails.*

**4. New development will address recreation needs within the neighborhood and the community.**

*R-18. Enhance neighborhood playgrounds with better lighting and facilities, demarcated paths and signage for children who walk or bicycle to the neighborhood facility.*

*R-19. Create pocket parks in vacant lots in areas that are not served by nearby recreational facilities.*

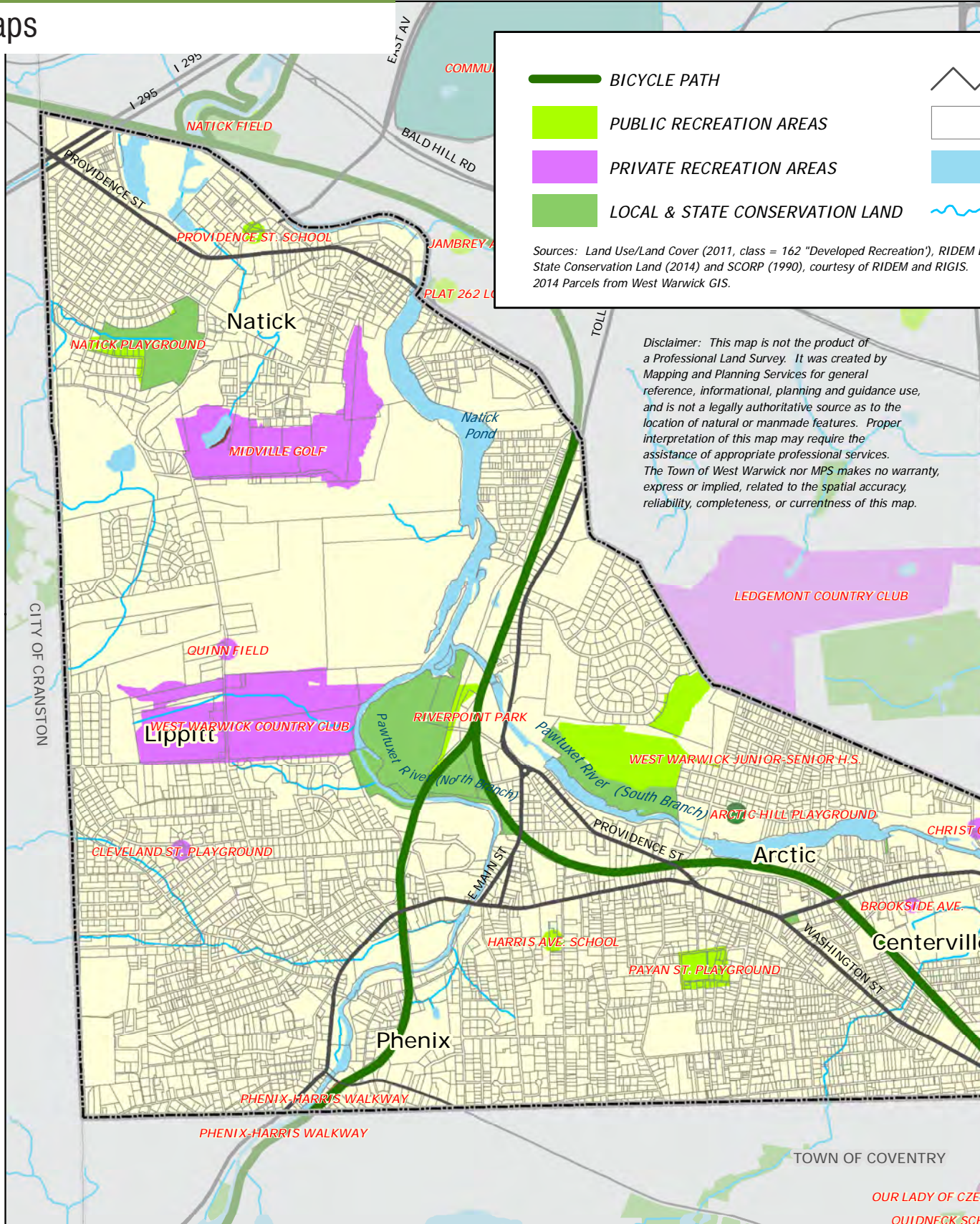
**5. Bicycle- and pedestrian-friendly infrastructure will connect existing and new recreation space with neighborhoods.**

*R-20. Connect neighborhoods and open spaces through a network of bicycle and pedestrian friendly streets and trails, especially in underserved neighborhoods.*

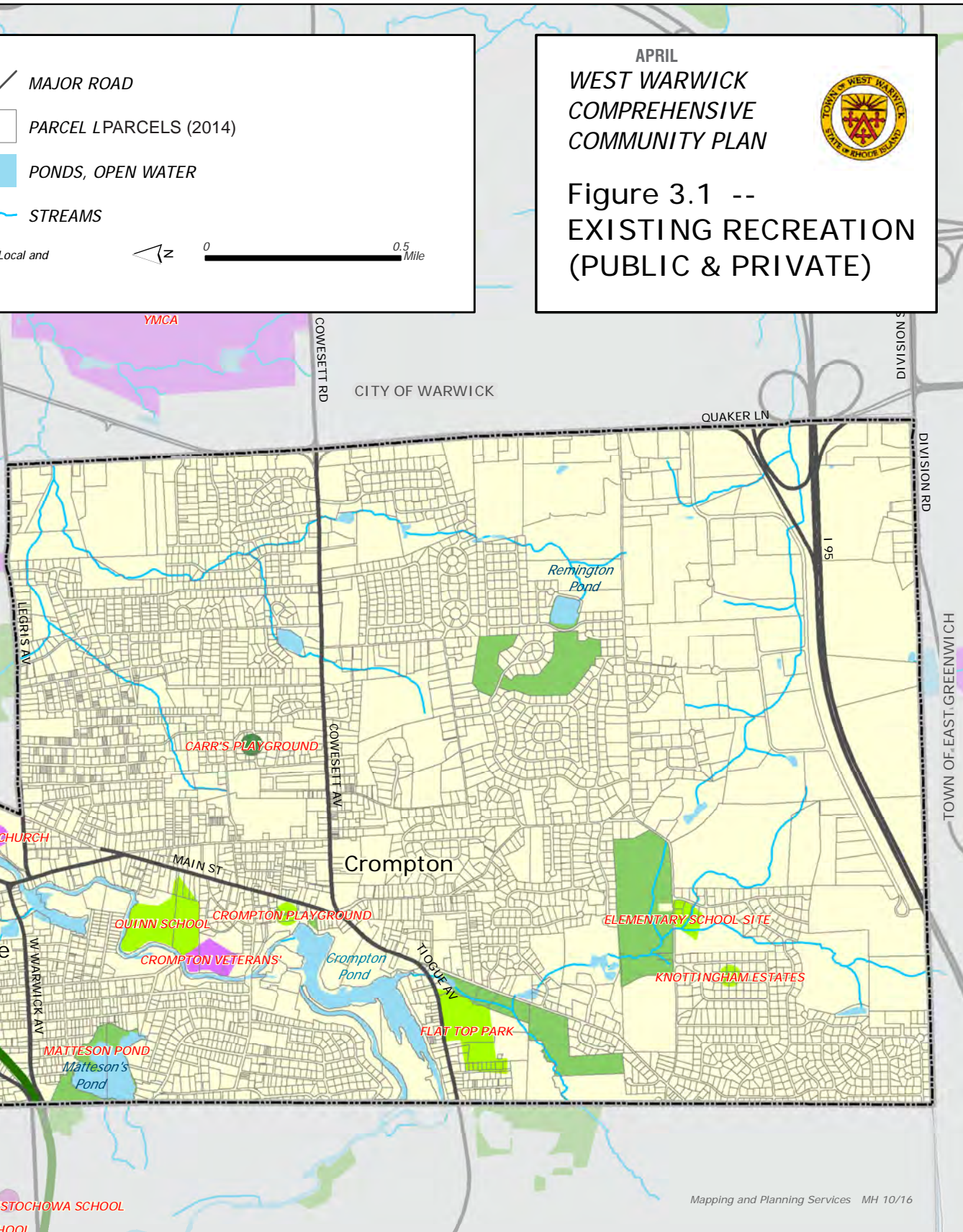
*R-21. Establish links between the West Warwick Gateway and state and national trails.*



# Maps











## 4. Historic and Cultural Resources

### **WHAT ARE HISTORIC AND CULTURAL RESOURCES?**

*Historic and cultural resources are markers of our collective heritage and may include properties, structures, natural objects, places, landmarks, landscapes, and archaeological sites that the community has determined to be significant and therefore worthy of protection. ...An understanding of where a community came from—its heritage—is essential to plan for what it will become. The physical remnants that represent this heritage tell us a story about the way that people lived, their values, and how the built environment changed over time. These resources help foster a connection to the past and our interconnectedness with other human beings, both past and present, and the environment. They also contribute to the character of a specific place and help determine its quality of life. A community's understanding of itself also evolves through its arts and culture...*

*Statewide Planning Handbook 4: Planning for Historic and Cultural Resources*

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## 4.1 Introduction

West Warwick was populated by colonists migrating from Warwick, Rhode Island beginning in the Seventeenth century. The area continued to be settled by family farms throughout the 1600s and 1700s. Some of the homes from this period are still present today, including the Carr-Levalley House (1722) and the Nathaniel Arnold House (1760). This agrarian settlement pattern began to change during the nineteenth century.

As the American Industrial Revolution began in the 1800s, industrialists searched for areas in proximity to naturally running water of sufficient volume and velocity to power the textile mills. These business owners looked favorably at West Warwick because of its location along the Pawtuxet River. This led to the establishment of multiple textile mills being constructed along the Pawtuxet in West Warwick. As the textile mills became the focal point of existence in the town, manufacturing companies began building worker housing adjacent to the mills. This practice resulted in a pattern of creating small mill villages throughout the town including Arctic, Centerville, Clyde, Crompton, Lippitt, Natick, Phenix, and Riverpoint. Community institutions, such as churches

and schools, were expanded to serve the population. Phenix and Arctic Village, in particular, developed into urban centers. Many of these mills remain today and establish the unique character of West Warwick. West Warwick continued to increase in population and was incorporated as a town in 1913.

After World War II, the automobile began to dominate transportation leading to suburban sprawl – the spreading of development (such as housing developments and shopping centers) away from urban areas into suburban or rural areas. West Warwick's development was influenced by this trend, which accelerated after the construction of Interstate 95, connecting West Warwick to the rest of Rhode Island and to the New England region.

West Warwick's historic buildings were developed over a significant amount of time and their preservation is important for the future success of the Town. These historic and cultural assets provide a sense of history and place for the community and with proper care and consideration have the potential to provide economic (re)development opportunities for the Town as well as a vehicle for tourism.

## 4.2 Current Inventory of Historic Districts and Buildings

Historic resources include buildings and/or land listed on or eligible for listing on the National Register of Historic Places (<https://www.nps.gov/nr/>). An historic resource need not be a building – places eligible for listing include cemeteries and monuments, among others. **Figure 4-1: Historic Resources** illustrates the locations of West Warwick’s historical buildings and districts.

### NATIONAL REGISTER OF HISTORIC PLACES

#### Listed

West Warwick has several properties listed on the National Register of Historic Places, as follows:

**Table 4-1: Properties Listed on the National Register of Historic Places**

PROPERTY	LOCATION
Crompton Mill Historic District	Remington and Manchester Streets
Centreville Mill	3 Bridal Avenue
St. Mary's Church and Cemetery	Church Street in Crompton
Silas Clapp House	East Greenwich Avenue
William B. Spencer House	11 Fairview Avenue
Crompton Free Library	Main Street in Crompton
Lippitt Mill	825 Main Street
Royal Mill Complex	125 Providence Street
Valley Queen Mill	200 Providence Street
West Winds	300 Wakefield Street

#### Eligible Properties

The Rhode Island Historical Preservation Commission surveyed historic districts and properties in West Warwick that may be eligible for the National Register of Historic Places List, as shown in the tables below:

**Table 4-2: Districts Eligible for Listing on the National Register of Historic Places**

DISTRICTS	LOCATION
Arctic Mill Historic District	Border and Earl Streets
Fairview Avenue Historic District	Fairview Avenue
Phenix Historic District	Main Street

**Table 4-3: Properties Eligible for Listing on the National Register of Historic Places**

PROPERTY	LOCATION
Carr-Levalley House	42 Fairview Avenue
Arctic Mill Complex	33 Factory Street
Arctic Mill Store	12 Factory Street
United States Post Office	1190 Main Street
Centerville National Bank	1218 Main Street
J.J. Newberry Store	37-43 Washington Street
Donant Archambault Building	115-116 Washington Street
Waterhouse Mills/ Kent Manufacturing Company Complex	1454 Main Street
Centerville United Methodist Church	Main Street
Centerville Bridge	Centerville Road
Crompton Mills Complex	Manchester and Pulaski Streets
Crompton New Village	Hepburn Street
Crompton Company Houses	Hepburn and Manchester Streets
Carey Dyer House/Episcopal Rectory	1565 Main Street
Superintendent's House	696 Providence Street
O.S. Baker's Building	703 Providence Street
Sacred Heart Roman Catholic Church	840 Providence Street
St. Joseph's Roman Catholic Church	854 Providence Street
Natick Bridge	Providence Street
Royal Mills Bridge	Providence Street
Phenix Fire Complex/ Harris Fire Department	701 Main Street
Frank Block	743 Main Street
Phenix Mill Complex	771 Main Street
Pike Mansion	Pike Street
Nathaniel Arnold House	101 Quaker Lane
Riverpoint Mill Houses	East Main and Providence Streets
Riverpoint Congregational Church and Parsonage	73 Providence Street
Westcott Mill Houses	Providence Street
Westcott New Village	476-578 Providence Street
Burlingame Farm	Wakefield Street
Greene House	22 Woodside Avenue

## HISTORICAL CEMETERIES

West Warwick has numerous historical cemeteries that date back as far as 1743 (from a marked grave in the Jones Lot). The following is a list of the state-registered historical cemeteries in West Warwick:

- Godfrey Cemetery
- Arnold-Hopkins Lot
- Maj Peleg Arnold Lot
- William Rice Lot
- Nason-Sweet-Spink Lot
- John Tew Lot
- Old Baptist Cemetery
- William Rice Lot
- St. Mary's Cemetery
- Emanuel Lutheran
- St. Philips Episcopal Cemetery
- Centerville Methodist
- Greene-Anthony Lot
- Sion Arnold Lot
- St. Joseph's Cemetery
- Anthony Rice Lot
- Old Phenix Cemetery
- Our Lady Of Council
- Notre Dame Cemetery
- Notre Dame Cemetery Annex
- George Burlingame Lot
- Lucy Tefft Lot
- George Baker Lot
- William Baker Lot
- Sacred Heart Church Cemetery
- Dr. John Mcgregor Lot
- Olney B. Pierce Lot
- Captain John Waterman Lot
- Ellis-Barney-Sheldon
- Arnold-Budlong
- Natick Cemetery
- Rufus Wakefield Lot
- Wightman-Sweet Cemetery
- Snell-Atwood Lot
- Clapp-Greene Lot
- William Arnold Lot
- Governor Robert Quinn Lot
- General Reuben Whitman Lot
- Anthony Arnold Lot
- John Stanton Lot
- Colonel Job Greene Lot
- Centerville Cemetery
- Frederick Hamilton Lot
- Gideon Arnold Lot
- Brayton-Steadman Lot
- Reverend Stephen Allin Lot
- Thomas Tiffany Lot
- Lory Chace Lot
- Nichols Lot
- Thomas Matteson Lot
- Tripp-Cutter Lot
- Natick Burial Ground
- Baker Lot
- Rogers Lot
- Arnold Lot
- Slave Cemetery – Spink
- Tanner Lot
- Rice Lot
- Spink Lot
- Hathaway-Mitchell Lot
- Anthony Angell Stone

- Unknown Lot (three)
- William Rogers Lot
- Briggs Lot
- Jones Lot
- Church Yard Cemetery
- Hargraves

## VIEWSHEDS

A viewshed is a distinctive geographical area visible from one or more viewing points that are deemed worthy of preservation. Distinctive views and vistas can provide a common positive experience for the

community, enhance quality of life, and increase the desirability of an area. Viewsheds that should be considered for preservation include:

- **St. Joseph Cemetery:** From Riverpoint Park to the forested area on Wakefield Hill;
- **Wakefield Street:** South to Arctic and the other villages
- **Murray Square:** North along the Pawtuxet River toward mill buildings.

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## 4.3 Cultural Resources

Today, West Warwick has a number of cultural institutions, including active religious organizations, a theater group, and schools

### RELIGIOUS ORGANIZATIONS

West Warwick's religious organizations are primarily Christian. The number of Catholic parishes reflects the varying national origins of West Warwick's original mill workers. Current churches include the following:

- **Christian Hill Community Church:** 56 Tiogue Avenue; Non-denominational
- **Christ the King Church:** 130 Legris Avenue; Catholic
- **Emmanuel Lutheran Church:** 20 Leaf Street; Lutheran
- **First Baptist Church:** 1613 Main Street; Baptist
- **Riverpoint Advent Christian Church:** 1107 Main Street; founded 1858 as the Riverpoint and Arctic Second Advent Church
- **Riverpoint Congregational Church:** 75 Providence Street; United Church of Christ
- **Saints John & James Parish:** 20 Washington Street; Catholic, formed by the merger of St. John's Parish and St. James' Parish
- **St. Joseph Parish:** 854 Providence Street; Catholic
- **St. Mary's Church:** 70 Church Street; Catholic. St. Mary's is the oldest operating church in the Diocese of Providence



- **Saints Peter and Paul Church:** 48 Highland Street; Catholic
- **Saint Therese Old Catholic Church:** 1500 Main Street; Catholic, but not affiliated with the Roman Catholic Diocese of Providence

## THEATER

The Arctic Playhouse (<http://www.thearcticplayhouse.com/>) is a nonprofit theater group located in Arctic Village. The theater has a capacity of 90 seats and offers both theater productions and open auditions.

## SCHOOLS

Schools are important centers for community building and engagement. In addition to the public schools, West Warwick has several private schools and educational services.

- **Islamic School of Rhode Island:** PreK-8; Islamic
- **St. Joseph School:** PreK-8; Catholic
- **Tides Family Services:** Provides support services for young people and their families

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## 4.4 Future Needs

The most critical future need is to establish an Historic District Commission (HDC) as a municipal body. The HDC's mission will be to identify and protect historic and cultural resources.

West Warwick's historic buildings contribute to the sense of place that is so important to establishing the unique identity of a community. West Warwick has a reputation as a community that prides itself on its recreational assets. Capitalizing on its historic buildings and tying the history to the promotion of the West Warwick Greenway and access to the Pawtuxet River would reinforce the attractiveness of the community as a place to visit, work, and live.

The Arctic Playhouse is a great beginning to the restoration of Arctic Village as a center of cultural activ-

ity, helping to replace the loss of the Majestic Theater and other destinations. The Town should work with residents and other nonprofits to encourage additional uses to supplement the theater and the focus on recreation. A community-based art center or music school would help round out existing activities. A "maker space" with 3D printers and other tools is a new type of space some communities are encouraging to provide resources to residents. In many cases, the public library is involved with such efforts.

## 4.5 Goals, Policies, and Actions

### 1. West Warwick's historic sites, structures, documents, and artifacts will be identified and preserved as representations of the Town's cultural heritage.

- Encourage the Pawtuxet Valley Preservation and Historical Society and others to work with the HDC to review and document properties potentially eligible for listing on the National Register of Historic Places, including the Emmanuel Lutheran Church, Saints Peter and Paul Church, the Carr-Levalley house, the Spencer house on Maple Street, and the Fairview Avenue Historic District.

*HC-1. Re-establish a West Warwick Historic District Commission (HDC) by Ordinance.*

*HC-2. Provide the HDC with suitable operating budget to carry out its functions as expressed in the Town Charter.*

*HC-3. Provide the HDC with meeting and storage space at the Town Hall or other appropriate Town-owned facility.*

*HC-4. Provide support through the HDC and Historical Society for public education on historic and cultural resources.*

*HC-5. Apply for Certified Local Government (CLG) status through the HDC which would allow the Town to secure preservation grants and loans to carry out the preservation activities necessary to protect historical resources.*

*HC-6. Form a coalition of local preservation interests, with the HDC as the core, to promote a public/private partnership in preservation.*

*HC-7. Establish a listing of known archaeological sites as a resource for the Planning Department to identify locations which may have archaeological sensitivity.*

- Consider including a line item in the Town's budget to provide for a historic cemetery maintenance program.
- Consider development of a historic cemetery adoption program to assist the Town with maintenance of historic cemeteries.

*HC-8. Establish a cemetery commission as a subcommittee of the HDC which would assess general conditions and oversee maintenance of historic cemeteries, and provide information for people seeking genealogical information.*

- Assist the Pawtuxet Valley Historical Preservation Society in providing suitable fire-proof, climate controlled space to archive historical records and materials related to the Town.

- Require the Town's Community Development Block Grant (CDBG) assisted housing rehabilitation program and other housing programs administered by the Town to give priority to historic structures and require compliance with historic district guidelines when appropriate.

*HC-9. Expand the Town's knowledge and documentation of historical and archaeological sites and structures.*

*HC-10. Prepare legislation creating local historic district zoning and designate those areas of the community to be targeted for preservation.*

*HC-11. Prepare and adopt design guidelines as part of the historic district regulations.*

*HC-12. Review and modify land use regulations to encourage preservation and reuse of historic mill structures.*

*HC-13. Amend the Subdivision and Land Development Review Regulations to allow the Planning Board to request an on-site archaeological investigation if the State Archaeologist indicates there is potential for an archaeological site on the premises.*

**2. Residents will learn about, understand, and appreciate West Warwick's historic resources.**

- Encourage the expansion of educational efforts and resources committed to teaching local history in the Town's schools.
- Educate the public about the importance of preserving historic resources.

**3. Historic assets will be promoted as part of a larger marketing and tourism effort linked to walking and bicycle trails.**

- Promote the Town's rich historical heritage to attract tourism and other viable economic development activities.
- Promote the Town's historic resources with an emphasis on the mill villages, the textile industry and Pawtuxet River.
- Support the development of a network of historic homes and sites which are open to the public for walking and interpretive tours.
- Promote the revitalization of the Arctic Village Redevelopment District by developing appropriate historical streetscape, lighting, signage, and awning guidelines and other amenities.

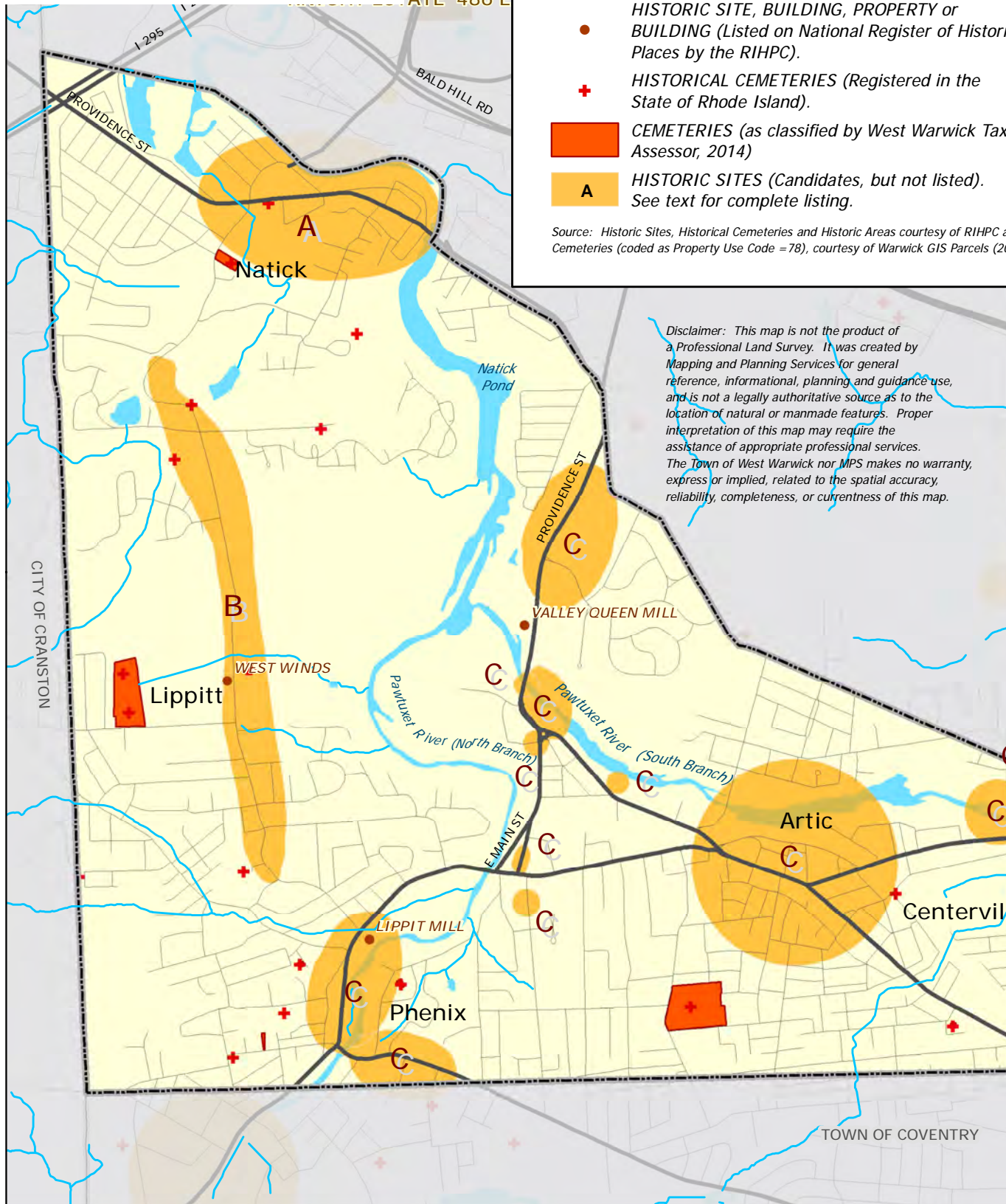
*HC-14. Work with the Pawtuxet River Valley Authority to expand its river walk network in the Phenix area and include an interpretive program on the textile production industry in West Warwick.*

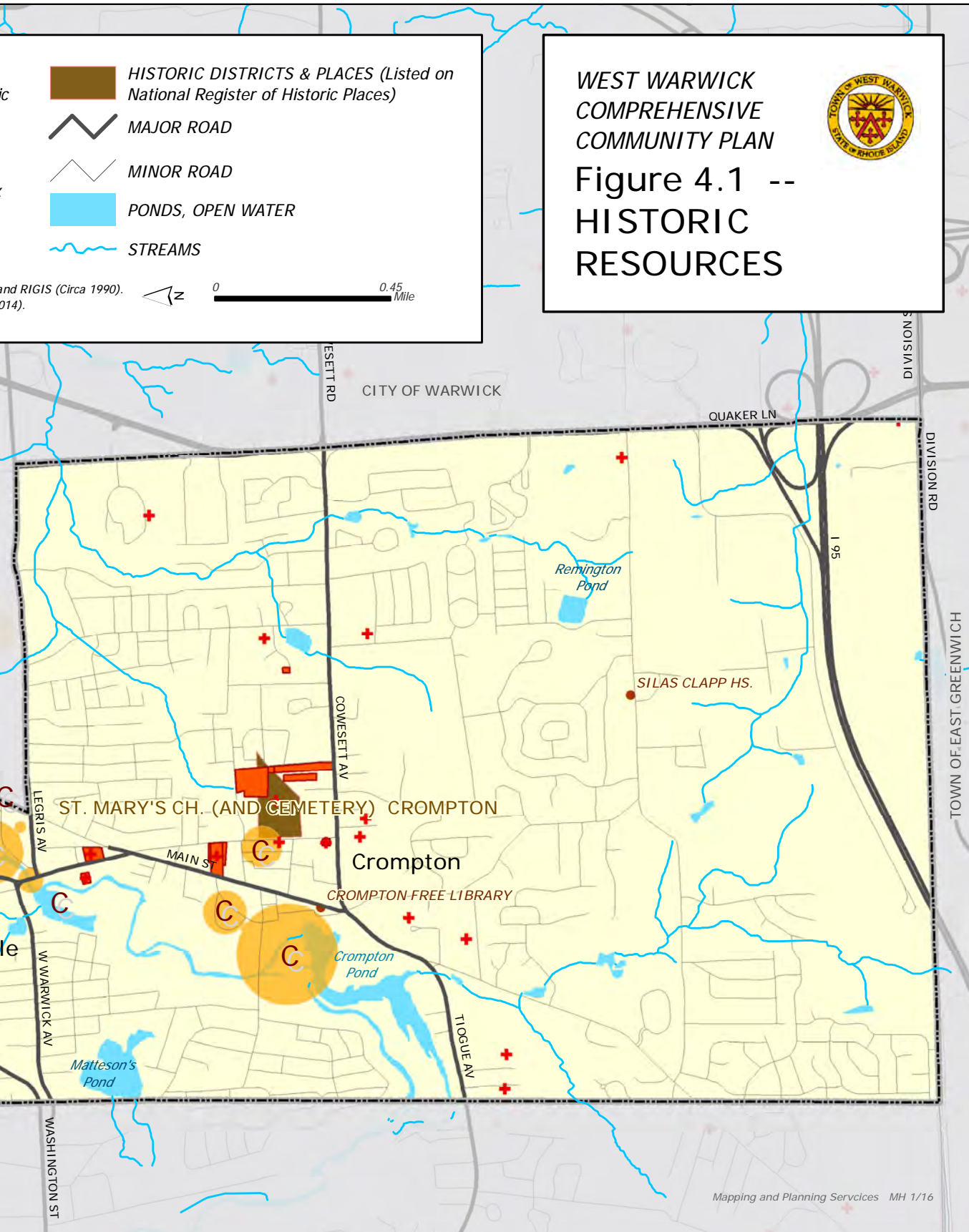
**4. Arts, music, and maker spaces will provide additional resources and activities to town residents.**





# Maps







## 5. Housing

### **WHAT IS HOUSING?**

*The term “housing” refers to all of the structures in which people live – single-family homes, multi-family homes, apartment buildings, condominiums, mobile homes, mixed-use buildings, group homes, homeless shelters, etc. “Housing” includes both market-rate and subsidized units. Planning for housing within a comprehensive plan requires the assessment of existing and future housing needs for all populations and the development and inclusion of goals, policies and implementation actions for meeting the identified needs. Additionally, planning for housing within a comprehensive plan requires alignment between housing goals and those of the other topical areas of the plan, particularly land use, transportation and services and facilities.*

*Communities are made up of neighborhoods, which house residents, permit interactions between neighbors and allow families to build roots and make connections to a place. Housing, therefore, is not only a vital need of all human beings; it can also be a mechanism for building community.*

*Statewide Planning Handbook 5: Planning for Housing*



## 5.1 Housing Overview and Characteristics

The Town of West Warwick is estimated in 2017 to have a total of 14,070 housing units, almost all of which are year-round homes. It has a large stock of multifamily housing; only 43% of units are single-family detached units. Almost a third of structures were built before 1939. **Table 5-1** demonstrates their basic characteristics.

### RESIDENTIAL UNITS CONSTRUCTED

The data on recent housing construction suggest a slowing trend. In the last 19 years, fewer than 1,000 units were constructed, in contrast to the peak decades of the 1980s and 1990s when over 4,300 units were constructed. In fact, data on West Warwick's construction industry generally show a steep decline throughout the last 20 years, despite the recent conversions of Royal Mill and Lippitt Mill to residential units.

99.5% of the total housing units are year-round, only 0.5% are seasonal.

**Table 5-1: Tenure, Structure Type, and Age of West Warwick Housing Stock**

HOUSING UNITS	NUMBER	PERCENT
Total housing units, 2017	14,070	100%
Owner-occupied	6,985	49.5%
Renter-occupied	5,812	41.3%
Total occupied	12,797	91.0%
Vacancies	1,273	9.0%

Housing Units by Units in Structure, 2017		
1 Unit Attached	858	6.1%
1 Unit Detached	6,057	43.0%
2 Units	1,834	13.0%
3 or 4 Units	1,481	10.5%
5 to 19 Units	1,907	13.6%
20 or More Units	1,933	13.7%
Mobile Home or Trailer	0	0.0%
Boat, RV, Van, etc.	0	0.0%
Total	14,070	

Housing Units by Year Structure Built, 2017		
2010 or later	28	0.2%
2000 to 2009	857	6.1%
1990 to 1999	752	5.3%
1980 to 1989	2,019	14.3%
1970 to 1979	2,303	16.4%
1960 to 1969	1,743	12.4%
1950 to 1959	1,664	11.8%
1940 to 1949	958	6.8%
1939 or earlier	3,746	26.6%
Total	14,070	

Median year structure built: 1964

Source: U. S. Census, 2013-2017 American Community Survey 5-year Estimates

## HOME SALE PRICE

The current median home sale price is estimated at \$159,900, which is 43% lower than the estimated home sale price of \$282,000 in 2004. It is 7% lower than the estimated 2009 selling price of \$171,031 (adjusted to 2014 dollars). These declines are larger than the declines in Rhode Island overall, where prices decreased 3% over the five-year period 2009 to 2014 and 38% over the ten-year period 2004 to 2014. The current median home price statewide is \$215,000, considerably higher than the West Warwick median.

Other sources put the median home value in West Warwick at higher levels. The American Community Survey estimate for 2017 is \$183,200, while Nielsen/Claritas Site Reports (2015), also based on Census data, puts it at \$202,252. These higher estimates may be because they are median values of owner-

occupied units only, while the \$159,900 estimate is for median home price.

The Warren Group, which tracks sales of single-family homes and condominiums in New England, shows a median sales price of single family home in West Warwick to be \$160,000 in 2014 and \$161,000 in 2015, close to the estimates by HousingWorksRI. The median condo sales price in 2014 was \$132,000 and \$135,500 in 2015. The median for all home sales, both single family and condominium, in 2015 was \$155,000. Thus far in 2016 there have been nine single family home sales, with a median sales price of \$200,000. **Table 5-2** shows the price trend since 2004. These data reflect the effects of the recession: there is a sharp drop in prices, beginning in 2008, with no recovery at all until 2013, with continuing upticks in 2014 and 2015, but even then prices have not come close to their 2005-2006 levels.

**Table 5-2: Past Trends in Sales Prices - Single Family Homes and Condominiums**

YEAR	SINGLE-FAMILY	CONDOMINIUMS	ALL
2004	\$221,000	\$182,500	\$212,500
2005	\$244,000	\$216,000	\$239,000
2006	\$240,000	\$232,000	\$241,500
2007	\$237,000	\$209,500	\$234,500
2008	\$194,950	\$185,000	\$185,000
2009	\$155,950	\$143,000	\$149,500
2010	\$169,120	\$146,700	\$156,000
2011	\$150,023	\$135,500	\$140,000
2012	\$137,500	\$123,000	\$132,000
2013	\$157,500	\$130,750	\$147,000
2014	\$160,000	\$132,500	\$150,000
2015	\$161,000	\$135,500	\$155,000

Source: The Warren Group, RE Records Search, Town Stats, 2016

## RENTALS

The average rent for a two-bedroom unit is estimated at \$1,075 for 2014. Like housing prices, rents have also declined: -5% for the five-year period 2009 to 2014, and -14% for the decade 2004 to 2014. These decreases are less than those experienced at the state level, which are -9% for 2009 to 2014 and -17% for 2004 to 2014.

**Table 5-3** is based on data broken down by year and by number of bedrooms. The source is different, and it indicates very small increases over the period overall. Another possible reason for the difference in the direction of the trend is that the annual survey by Rhode Island Housing includes utilities. This data too, however, show a decline in rents, beginning in 2011-2012.

As with sales prices, rents show the effects of the recession, dropping in 2009, though not as dramatically as house prices, and still not reaching 2005 levels.

While there is variation among the various data sources, the declines, or very small increases, in prices of sales and rentals, while increasing affordability for consumer households, make problematic the financial feasibility of new construction. Projected declines in population and in numbers of new households can be expected to reduce demand for housing, leading to continued price weakness in the sector.

**Table 5-3: West Warwick Rents, 2001 to 2014, by Number of Bedrooms**

YEAR	STUDIOS	1 BEDROOMS	2 BEDROOMS	3 BEDROOMS
2004		\$769	\$996	\$1,217
2005		\$855	\$1,136	\$1,537
2006		\$796	\$1,143	\$1,354
2007		\$850	\$1,114	\$1,379
2008		\$856	\$1,175	\$1,312
2009		\$838	\$1,022	\$1,332
2010		\$830	\$1,069	\$1,319
2011		\$863	\$995	\$1,426
2012	\$813	\$866	\$1,096	\$1,306
2013	\$720	\$839	\$1,080	\$1,223
2014		\$814	\$1,075	\$1,284
<b>Percent Change 2001 to 2014</b>	6%	8%	6%	
<b>Average Annual Change</b>	0.4%	1%	0.4%	

Source: Rhode Island Housing and FXM Associates

## 5.2 Housing Patterns and Conditions

As in many communities, fewer than half the units in the housing stock have more than two bedrooms, making finding units suitable for larger families difficult. Nevertheless, overcrowding is not an issue here, with over 98% of units housing one person per room or fewer on average. Another measure of housing adequacy is the presence of plumbing and kitchen facilities. Only 1% of West Warwick housing units lack these facilities. The majority of occupied housing units use utility gas and fuel oil, in almost even numbers. A little less than 10% heat with electricity. None are without heating fuel. **Table 5-4** summarizes unit sizes, by number of rooms and number of bedrooms.

The density of housing units in the Town of West Warwick is 2.75 units per acre.

The average household size of an owner-occupied unit: is 2.5 and of a renter-occupied unit is 1.9.

**Table 5-4: Unit Size by Number of Rooms and Bedrooms**

NUMBER OF ROOMS	HOUSING UNITS	PERCENT
1	431	
2	665	
3	1,993	
4	2,783	
5	2,731	
6	2,258	
7	1,429	
8	949	
9 or more	831	
<b>Total</b>	<b>14,070</b>	
<b>Median number of rooms</b>		<b>4.9</b>

NUMBER OF BEDROOMS	HOUSING UNITS	PERCENT
None	448	3.2%
1	2,606	18.5%
2	4,962	35.3%
3	4,467	31.7%
4	1,168	8.3%
5 or more	419	3.0%
<b>Total</b>	<b>14,070</b>	

Source: U. S. Census, 2013-2017 American Community Survey 5-year Estimates



## 5.3 Affordable Housing

A significant proportion of West Warwick households face challenges in finding affordable housing on the private market. **Table 5-5** presents U.S. Census estimates of the cost burdens for owners and renters, stratified by income group.

**Table 5-5: West Warwick Housing Cost Burdens as Estimated by U.S. Census**

PERCENT OF INCOME FOR HOUSING BY INCOME CATEGORY	OWNER-OCCUPIED HOUSING UNITS	RENTER-OCCUPIED HOUSING UNITS	ALL OCCUPIED HOUSING UNITS
<b>Income less than \$20,000</b>	8.6%	31.1%	18.8%
Less than 20%	0.0%	0.6%	0.3%
20% - 29%	0.4%	5.3%	2.6%
30% or more	8.2%	25.1%	15.9%
<b>Income \$20,000 - \$34,999</b>	9.1%	20.1%	14.1%
Less than 20%	0.8%	0.4%	0.7%
20% - 29%	1.7%	1.1%	1.5%
30% or more	6.5%	18.5%	12.0%
<b>Income \$35,000 – \$49,999</b>	11.7%	12.2%	11.9%
Less than 20%	3.0%	2.4%	2.8%
20% - 29%	3.1%	4.9%	3.9%
30% or more	5.6%	4.9%	5.3%
<b>Income \$50,000 - \$74,999</b>	21.4%	14.5%	18.3%
Less than 20%	6.9%	5.8%	6.4%
20% - 29%	8.6%	6.8%	7.7%
30% or more	5.9%	2.0%	4.1%
<b>Income \$75,000 or more</b>	49.1%	15.6%	33.9%
Less than 20%	32.6%	11.5%	23.0%
20% - 29%	12.9%	3.9%	8.8%
30% or more	3.5%	0.3%	2.0%
<b>Zero or negative income</b>	0.0%	2.6%	1.2%
<b>No cash rent</b>		3.9%	1.8%

Note: Margins of error range from +/-0.4 to +/-4.5

Source: U. S. Census, 2013-2017 American Community Survey 5-year Estimates



For lower income households, i.e., those earning less than \$35,000, rent burdens are striking; 44% of these households pay over 30% of their income for housing. By contrast, 15% of lower income homeowners pay over 30% of their incomes for housing. As incomes rise, the proportions with housing cost burdens exceeding 30% decline, but the owner-renter relationship reverses: at incomes over \$50,000, only 2% of renters are paying more than 30% of incomes for housing, while 10% of homeowners do.

Another way to view housing affordability issues is to look at the incomes needed to afford the prices of housing actually available on the market. **Table 5-6** shows these numbers for households needing to purchase housing. The precipitous drop in median home prices since 2004, another reflection of the recession, is noteworthy. Even with the relatively lower prices of homeownership, however, over a third of homeowners spend more than 30% of income on housing.

**Table 5-6: Incomes and Affordability, Homeowners**

	WEST WARWICK		RHODE ISLAND	
	\$	PERCENT CHANGE	\$	PERCENT CHANGE
<b>Median home price</b>				
2004	\$282,000		\$1,405	
2009	\$171,031	-39%	\$1,291	-34%
2014	\$159,900	-7%	\$1,172	-3%
<b>Change 2004 - 2014</b>		-43%		-35%
<b>Monthly cost of 2014 median home price</b>	\$1,365		\$46,880	
<b>Annual income needed to afford 2014 median home price</b>	\$54,592		\$54,891	
<b>Estimated median income, 2014</b>	\$50,138			
<b>Cost-burdened owners</b>		34%		35%

Sources: HousingWorksRI at Roger Williams University; The Nielsen Company; U.S. Census, American Community Survey, and FXM Associates



For renters, the picture is even more challenging. **Table 5-7** shows the same data for these households, over half of whom at both the West Warwick and state levels pay over 30% of their incomes for rental housing.

The extent to which recent declines in housing prices, shown in **Table 5-6** and **Table 5-7**, represent a trend which will continue is unknown, but the possibility exists that housing on the private market may become more affordable for both renters and owners. While declining prices make housing more affordable, they deprive existing homeowners of equity and lower the tax base. The section below presents information on production of housing by the private sector, as well as public sector supply of affordable housing.

**Table 5-8** presents the most recent data from the HUD Comprehensive Housing Affordability Strategy (CHAS) for 2011-2015. Almost 40% of all households are cost burdened and 18% are severely cost burdened. For households making 100% or less of area median income, 60.8% of them are cost burdened and 31.6% of them are severely cost burdened.

Renters are less burdened than home owners.



**Table 5-7: Incomes and Affordability, Renters**

	WEST WARWICK		RHODE ISLAND	
	\$	PERCENT CHANGE	\$	PERCENT CHANGE
<b>Average 2-Bedroom Rents</b>				
2004	\$1,248		\$1,405	
2009	\$1,128	-10%	\$1,291	-8%
2014	\$1,075	-5%	\$1,172	-9%
<b>Change 2004 - 2014</b>		-14%		-17%
<b>Annual income needed to afford 2014 average 2-bedroom rent</b>	\$43,000		\$46,880	
<b>Estimated median income, all households 2014</b>	\$50,138		\$54,891	
<b>Cost-burdened renters</b>		55%		51%

Sources: HousingWorksRI at Roger Williams University; The Nielsen Company; U.S. Census, American Community Survey, and FXM Associates

**Table 5-8: Renters and Owners with Cost Burdens and Severe Cost Burdens**

INCOMES	COST BURDENED	PERCENT OF HOUSEHOLDS	SEVERELY COST BURDENED	PERCENT OF HOUSEHOLDS	TOTAL HOUSEHOLDS
Income less than 30% HAMFI	1,700	74.1%	1,495	65.1%	2,295
Income more than 30% and less than 50% HAMFI	1,155	72.6%	560	35.2%	1,590
Income more than 50% and less than 80% HAMFI	1,230	49.3%	155	6.2%	2,495
Income more than 80% and less than or equal to 100% HAMFI	300	26.9%	55	4.9%	1,115
Greater than 100% HAMFI	500	9.8%	35	0.1%	5,090
<b>TOTALS</b>	<b>4,885</b>	<b>38.8%</b>	<b>2,300</b>	<b>18.3%</b>	<b>12,580</b>

Source: Comprehensive Housing Affordability Strategy (CHAS) data - 2011 - 2015 ACS 5-year estimates

## 5.4 Future Housing Needs

Future populations were forecasted to provide a full picture of future housing needs. This method in use estimates of future population and households, losses in current stock, and expected vacancy rates to forecast likely future demand. **Table 5-9** shows the data used and their sources. As the bottom lines in the table make clear, forecasts of future demand for new housing in West Warwick are negative, reflecting the projected losses in both population and number of households. This trend is not unique to West Warwick, as declines in population are forecast for nine other towns in the state, and projected increases statewide are modest.

Without changes in the relationships between housing costs and incomes, the current heavy burden of housing costs is likely to persist in the future, meaning there will be a need to either increase the public and/or private supply of affordable housing.

On the public sector side, increases in portable housing subsidies will be needed, despite the forecast decline in total housing demand. The availability of the federal and state funding programs required for public housing subsidies, however, remains highly questionable. Even if funding for subsidies were to increase, it would be unlikely to fill the large affordability gap for the over 3,000 renters in West Warwick now paying more than 30% of their monthly income for housing.

On the private sector side, planned new multifamily housing construction, as shown in **Table 5-9**, will likely meet the needs of households that can afford to pay market rates required to make new construction feasible. The rents and market prices will depend on land and construction costs, permitting, and other factors affecting private investment in housing.

**Table 5-9: Forecasts of Future Demand for New Housing Units in West Warwick**

POPULATION PROJECTIONS	
2015	28,720
2020	28,514
2025	28,563
2030	28,506
2035	28,293
2040	27,902
Person Per Unit (Current and Projected)	2.3
PREDICTED NUMBER OF FUTURE HOUSEHOLDS	
2015	12,487
2020	12,392
2025	12,412
2030	12,390
2035	12,299
2040	12,131
Vacancy Rate	9%
Total Number of Housing Units in Base Year - 2015	13,884
Protected Loss in Stock Over 10 Years	100
PROJECTED HOUSING DEMAND	
2025 Demand	-245
2035 Demand	-368

Source: Rhode Island Statewide Planning; HousingWorksRI, 2014; Rhode Island Statewide Planning; FXM Associates Calculation; and The Nielsen Company

Clearly, higher rent levels and market prices would make private construction more feasible.

Similar considerations apply for the 94 single family homes recently permitted.

The data analyzed and presented above do not suggest easy answers. The gap between affordable housing units and incomes, for both renters and owners, will not be filled by increased housing production, given declining populations and therefore declining overall demand for housing. As noted above, the gap is also unlikely to be filled by public subsidies, given the magnitude of need compared to available public funding.





## FUTURE MULTIFAMILY RESIDENTIAL DEVELOPMENT

Between 2007 and April 2019, approximately 200 building permits were issued in West Warwick; 107 for single family homes and the rest for multifamily structures of varying sizes. This translates into a ratio of only one unit per 1.60 people annually over the period, even fewer than at the state level, where the ratio is the lowest of any state in the US. The recently-released *Projecting Future Housing Needs Report*, from HousingWorksRI, calls the pace of residential construction “stagnant,” with dramatic impacts on not

only households, but also construction employment and other parts of the economy.

Currently, in West Warwick, there are 516 units of multifamily housing planned and proposed for development. The **Table 5-10** summarizes their status.

**Table 5-10: Planned and Proposed Multifamily Residential Development**

LOCATION	# OF UNITS	STATUS
North Pleasant Street	108	23 units under construction
825 Main Street	165	65 units under construction
45 Green Street	17	Preliminary plans under review
175 Greenbush Road	119	119 units under construction
Cowesett Avenue	8	Final approval; no activity
1545 Division Road	12	Final approval; no activity
554 Wakefield Street	17	17 units under construction
Gildcrest Drive	50	22 units under construction
101 Quaker Lane	12	12 units under construction
69 Washington Street	8	8 units under construction
<b>Total</b>	<b>516</b>	

Source: West Warwick Planning Department, April 2019

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## 5.5 Mandated Low- and Moderate-income Threshold

West Warwick is one of the ten Rhode Island communities exempt from the requirements of the Rhode Island Comprehensive Housing Production and Rehabilitation Act of 2004 and the Moderate Income Housing Act (Rhode Island General Laws 45-53), either because of its percentage of rental housing (46% in the case of West Warwick) and/or current affordable housing inventory. As such, the Town does not have a formal affordable housing policy. Public housing, however, is a key resource for households unable to afford housing on the private market. The town's supply of affordable housing is described in **Table 5-11** and summarized in **Table 5-12**.

According to state guidelines, 10% of housing in each community should be affordable, that is, costing less than 30% of monthly incomes. As shown in **Table 5-7**, 55% of West Warwick tenants pay more than 30% of their monthly income for housing. With an estimated 5,812 renters in West Warwick, this means that 3,197 renter households are in need of more affordable housing. The current stock of public housing is far from meeting that need. Indeed, at the state level, production of new workforce housing and other affordable homes averaged only 334 units per year between 2004 and 2012 and dropped even further to 152 units per year from 2013 to 2015, mainly because of declines in federal and state funding.

For homeowners, the situation is only slightly better: an estimated 2,375 households pay more than 30% of their income for housing, even with the mortgage interest subsidy they already have.

**Table 5-11: Low- and Moderate-Income Homes in West Warwick**

POPULATION	DEVELOPMENT NAME	TYPE	TENURE	
Elderly	Clyde Towers	Public Housing-Elderly	Rental	
	DeAngelis Manor	RIH Elderly	Rental	
	DeAngelis Manor II	HUD 202	Rental	
	Esperanza Hill	HUD 202	Rental	
	Foxfire	HUD Section 8 - Elderly	Rental	
	Providence Street	RIH Elderly	Rental	
	West Warwick Manor	Public Housing-Elderly	Rental	
	Westcott Terrace	RIH Elderly	Rental	
	Wildberry Apartments	HUD 202	Rental	
Family	Earl Street	RIH Family	Rental	
	Echo Valley Apartments	HUD Section 8 - Family	Rental	
	Parkview Terrace	RIH Family	Rental	
	Pond Street	RIH Family	Rental	
	The Elms	RIH Family	Rental	
	Vine Street	RIH Family	Homeownership	
	Weaver Street	RIH Family	Homeownership	
	West Warwick	RIH Family	Rental	
	Woodbine Street	RIH Family	Homeownership	
	Sisson Street	RIH Family	Rental	
	Pond Street 2013	Other Family	Rental	
Special Needs	1315 Main Street	Supportive Units	Rental	
	Group Home Beds	Group Home Beds	N/A	
	Melrose Street	RIH Special Needs	Rental	
	Crossroads II Apts/ Robert Street	HUD 811	Rental	
	St. Germain Home	RIH Special Needs	Rental	
<b>LIMH Grand Total</b>				

Source: Rhode Island Housing, October 3, 2016

	ACTUAL ADDRESS	TOTAL
	1021 Main Street	124
	825 Wakefield Street	94
	845 Wakefield Street	80
	58 Tiogue Avenue	56
	48 Eddy Street	18
	54 Providence Street	14
	62 Roberts Street	126
	319 Providence Street	155
	95 Archambault Avenue	
	119 Earl Street	2
	9 Echo Lane	100
	72 Gough Avenue	62
	70 Pond Street	1
	59 Cowestt Avenue	120
	16 Vine Street	1
	48 Weaver Street	1
	20 Summit Avenue	3
	18 Woodbine Street	1
	1-3 Sisson Street	2
	72 Pond Street	2
	1315 Main Street	6
	N/A	90
	32 Melrose Street	1
	18 Roberts Street	12
	790 Providence Street	9
		<b>1,127</b>

Table 5-12: Summary of LMIH Units

POPULATION	TOTAL
Elderly	714
Family	295
Special Needs	118
Grand Total	1,127
Annual Housing Units (2010)	13,81
2015 % LMIH	8.16%
Status from 2014	down 0.01

Source: Rhode Island Housing, October 3, 2016

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## 5.6 Inclusionary Zoning

The Town of West Warwick does not have an inclusionary zoning ordinance and is not planning to in the future. No affordable housing development incentives are currently offered by the Town. Since the Town's percentage of rental housing is high, the community is not required to fulfill the State's 10% mandate for affordable housing. The Town complies with the requirement of Rhode Island General Law 45-24-46.1(b).



## 5.7 Goals, Policies, and Actions

1. **New construction and renovation of existing structures will promote housing stock that is safe, sanitary, and well-constructed.**
2. **Encourage and support the rehabilitation of historic buildings for housing.**
  - H-1. *Emphasize and preserve the identity of historic neighborhoods through historic district zoning.*
3. **New housing developments that are compatible with the existing surrounding land uses and housing stock will create a safe and desirable neighborhood atmosphere.**
  - H-2. *Replace the Multifamily dwellings section of the zoning ordinance with a Planned Residential Overlay District to accommodate multifamily developments, and establish appropriate design and site planning standards.*
  - H-3. *Establish a Planned Unit Development section in the Zoning Ordinance which permits a parcel of land to be planned and developed as one unit containing a mix of residential uses, commercial uses and common open space.*
  - H-4. *Provide incentives for combining open space preservation efforts with new housing construction, such as through cluster development.*
  - H-5. *Strictly enforce the Zoning Ordinance minimum area requirements for two-family and multifamily dwellings.*
4. **The quality, accessibility, and variety of residential structures will be maximized.**
5. **Development of a variety of housing, in terms of cost, size, location and design, will meet the range of needs and desires of homeowners and renters of all income groups and family sizes.**
  - Encourage and support optimum location of new housing in terms of its relationships to transportation, pollution control, water supply, education and other public facilities and services; employment opportunities and commercial and community services; adjacent land uses; and the suitability of the specific site for other land uses, including open space.
6. **The variety of housing options including a range of types, sizes and costs, will be increased through public and private actions and joint public/private efforts.**
  - Support the West Warwick Housing Authority in identifying and assisting eligible recipients of state/federal funding for safe and healthy housing.
  - Encourage affordable housing efforts that achieve development of a variety of housing types, including single family, two-family, accessory family dwelling units (in-law apartments), 3 and 4 family structures, congregate housing and other alternatives.
    - H-6. *Work with the Housing Authority to ensure that existing units are maintained and modernized as necessary.*
    - H-7. *Cooperate with Rhode Island Housing to identify expiring Section 8 subsidized housing projects and work to establish new replacements or maintain existing Section 8 units.*
    - H-8. *Work with the Senior Citizen Center, local houses of worship and other social service agencies to provide adequate shelter for the homeless.*



## 6. Economic Development

### **WHAT IS ECONOMIC DEVELOPMENT?**

*Economic development involves expanding the capacity of individuals, firms and communities to maximize the use of their talents and skills to support innovation, lower transaction costs, and responsibly produce and trade valuable goods and services. It also involves expanding businesses to create greater economic opportunity for residents and ensuring that these opportunities are accessible. Economic development requires effective, collaborative institutions focused on advancing mutual gain for the public and private sector. Economic development is also about communities building on the assets and strengths that make them unique and that complement, rather than compete with, the assets for their neighbors. ...While it will differ from municipality to municipality, the economic activities considered within a comprehensive plan should include commercial and industrial development and redevelopment for uses such as offices, retail businesses, restaurants, entertainment, personal services, warehousing and distribution, factories, and agriculture.*

*Rhode Island Comprehensive Planning Standards Guidance  
Handbook 6: Planning for Economic Development*

## 6.1 Existing Conditions, Trends, and Projections

Employment trends in West Warwick and Kent County were examined and projected into the future. Both West Warwick and Kent County have experienced declines in the number of jobs over the last decade, yet there is indication of some job growth. West Warwick lost almost 2,000 jobs, representing a 20% decline, and Kent County lost over 5,000 jobs, a 5% decline. Both declines are likely attributable to the great recession which began in 2007. If these trends persist, both the town and county will continue to lose jobs. Nevertheless, some industries within the totals offer some evidence of growth. **Table 6-1** shows those sectors in West Warwick which have shown the greatest growth in jobs over the five-year period between 2012 and 2017.

The Professional and Technical Services sector, often a source of good-paying jobs, grew by 107% in West Warwick between 2012 and 2017, adding 130 new jobs. The Administrative Support and Waste Management industry also grew at fast pace, 61%, over the five-year period, adding 89 new jobs.

Examining the historic growth trends of the above sectors in West Warwick and Kent County indicates sectors in which West Warwick could capture more economic activity. The Professional and Technical Services industry saw a decline in employment each year in Kent County between 2007 and 2010, with an overall change of -19%, most likely reflecting the impact of the recession. The sector was more stable in West Warwick, with a decrease between 2006 to 2007, and gains each year between 2007 to 2010. There has been a great deal of volatility in the past, so the predictors for future growth are uncertain.

The Administrative Support and Waste Management industry experienced declining employment in both Kent County and West Warwick between 2006 and

2008. West Warwick saw employment increase in 2009, a year before the county experienced an increase.

**Table 6-2** shows four additional sectors in Kent County with growth rates. In terms of absolute numbers, however, although the pace of growth in Accommodations and Food Services, was only 8% over the same five-year period, it represents 664 new jobs, almost as many as the Professional, Scientific, and Technical Services industry, which grew at 19%, as shown in **Table 6-1**.

The industries employing the largest number of people in Kent County, and adding the largest numbers of jobs between 2012 and 2017, are the Healthcare and Social Assistance industry and the Accommodation and Food Services industry. Both show signs of recovery from the recession, but the reliability of the Accommodation and Food services sector forecast is very weak and a poor predictor of what is likely to happen based on past performance. In the face of more flat growth in the surrounding county, as forecast for the next few years, it may be difficult for West Warwick to capture more jobs for the town.

**Table 6-1: Selected Growth Sectors in West Warwick**

	JOB IN 2012	JOB IN 2017	PERCENT CHANGE 2012 – 2017
<b>Construction</b>			
West Warwick	237	361	52.3%
Kent County	2,816	3,247	15.3%
<b>Transportation and Warehousing</b>			
West Warwick	312	419	34.3%
Kent County	2,802	3,140	12.1%
<b>Professional and Technical Services</b>			
West Warwick	121	251	107.4%
Kent County	3,305	3,915	18.5%
<b>Administrative Support and Waste Management</b>			
West Warwick	146	235	61.0%
Kent County	2,764	3,667	33.0%
<b>Health Care and Social Assistance</b>			
West Warwick	625	900	44.0%
Kent County	12,105	12,782	5.6%
<b>All Industries</b>			
West Warwick	7,601	7,742	1.9%
Kent County	72,615	74,994	3.3%

Source: Rhode Island Department of Labor and Training Quarterly Census of Employment and Wages

**Table 6-2: Other Kent County Growth Industries**

	JOB IN 2012	JOB IN 2017	PERCENT CHANGE 2012 – 2017
<b>Wholesale Trade</b>	2,610	2,827	8.3
<b>Management of Companies and Enterprises</b>	1,612	1,978	22.7
<b>Educational Services</b>	1,330	1,532	15.2
<b>Accommodation and Food Services</b>	8,152	8,816	8.1

Source: Rhode Island Department of Labor ES202 Series; US Department of Commerce, REIS; and FXM Associates



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## 6.2 Current Tools for Economic Development

The Town has implemented a tax stabilization program to encourage economic development within abandoned and blighted properties, and the West Warwick Business Park. The program is restricted to new construction or substantial improvements to commercial and industrial businesses located within the West Warwick Business Park, and abandoned properties and blighted areas. The program includes a six year phase-in to the full assessed value of the improvements – in year 1 property is assessed at pre-improvement value, then phased in at 20% per year for the next 5 years until assessed at full value during year 6.

West Warwick has the ability to enter into tax exemption or stabilization agreements within the

Arctic Village redevelopment district. The State of Rhode Island’s enabling legislation (Rhode Island General Laws 44-3-9.9) allows the Town to enter into tax exemption or stabilization agreements not to exceed a 20-year term for the Arctic Village redevelopment district.

The federally-managed Opportunity Zone program also encourages economic development through a tax incentive for investments in qualified projects within designated Opportunity Zones, including one within West Warwick. The program is designed to encourage investment in low income census tracts, which could provide future investment in West Warwick, within a census tract that generally covers the area on either side of the Pawtuxet River.

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## 6.3 Economic Development Issues

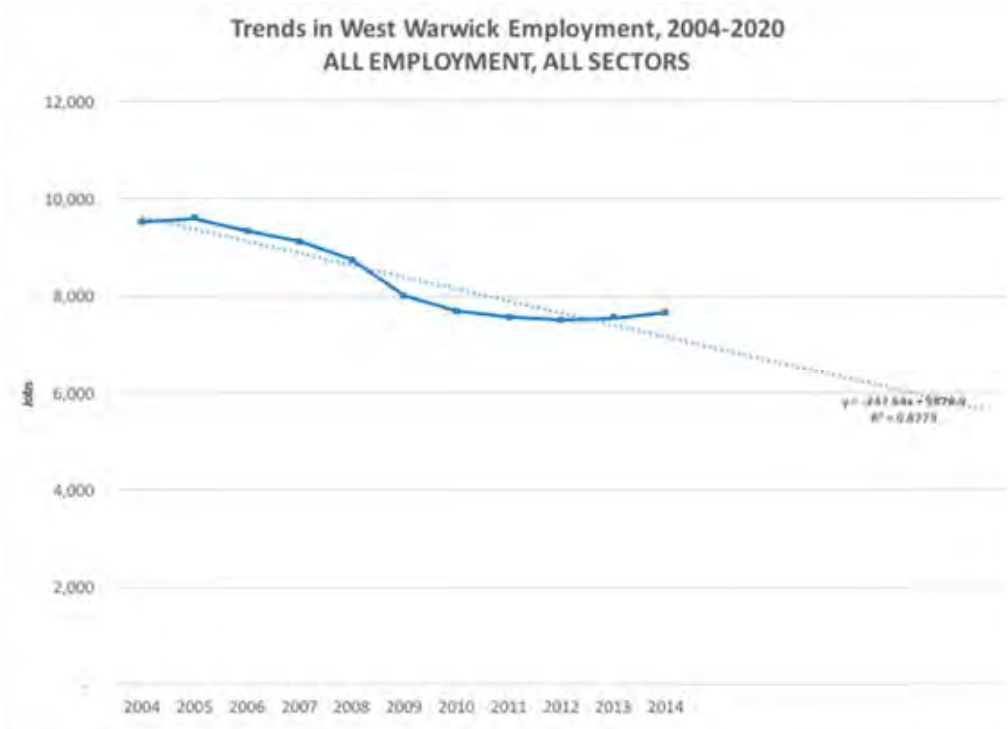
One of the key issues facing the community is how to deal with a town that is not growing. Except for a small increase in population projected for 2025, projections to 2040 all show declines for both West Warwick. Unemployment in West Warwick was 4.7% in 2017, above the state average of 4.5%. **Figure 6-1**, below, summarizes the declines projected for employment in all sectors of West Warwick’s economy. Managing these trends will be a challenge.

The earlier Comprehensive Plan recognized that a multi-faceted approach would be needed to energize economic development in West Warwick. To coordinate that approach, the 2005 Plan said that “the Town will promote a more active role for the Economic Development Commission.” Since then, the Commission has been replaced by the Arctic Village Redevelopment Agency in 2014 and the Town Plan-

ner who also serves as the Economic Development Coordinator.

Efforts to date have focused on the Town’s economic center in Arctic Village, designated as a redevelopment area by the Town Council in 2014, based in part on the Arctic Village Redevelopment Strategy developed in 2012. The strategy recognizes the need for public and private sector action and coordination to make priority changes, concentrating on those that will make the biggest impact. The strategy builds on reinforcing and revitalizing the existing traditional commercial areas of the village by strengthening their historic mixed-use character. Office sectors are an obvious choice for re-use of historic buildings, but trends in this area are not promising, based on past performance. The same applies to retail, which responds to population size.

Figure 6-1: Trend in West Warwick Employment Sectors



The Town of West Warwick has been designated as a Rhode Island “Hope Community” and as such receives priority status under the newly created economic development incentives and programs administered by the Rhode Island Commerce Corporation.

In addition to the State incentive programs, the General Assembly, during the 2016 session, granted authority to the West Warwick Town Council to enter into Tax Stabilization Agreements (TSA) for up to 20 years for new or improved developments in Arctic Village. The village is also one of only two communities in Rhode Island with an approved Municipal Economic Development Zone (MED Zone). The MED Zone provides sales tax relief to qualifying retail businesses and also returns a portion of sales tax revenue to the community to be used for various improvements within the zone.

The Redevelopment Agency has been working since 2014 on laying the groundwork for attracting new development into Arctic Village. During that time, a new CVS building has been constructed at the intersection of Main Street and Washington Street. Centreville Bank at 1218 Main Street has undertaken a major renovation project to be complete in the first quarter 2017, which will allow Centreville to relocate its residential and commercial lending offices to Arctic increasing the number of employees by more than one hundred.

The Arctic Playhouse, a live theatre group, is also expanding its presence in Arctic. The Arctic Playhouse, formally the Daydream Theatre, moved from Providence to West Warwick in 2014, reestablishing live theatre in Arctic. The theatre has grown in popularity since moving to Arctic and recently purchased the

former Mastro Electric Building at 1249 Main Street. The Arctic Playhouse was expected to rehabilitate the building, which is five times larger than the existing theatre, providing a night-time presence in the area. Also, Boneheads, a local restaurant, is extremely popular, attracting patrons from throughout Rhode Island. Boneheads has outgrown its current location and is actively looking to for a larger facility, wanting to remain in Arctic Village.

The hope of the Redevelopment Agency is that these new projects will provide a catalyst for future projects in the redevelopment district including such spinoff business as hospitality, tourism, and new restaurants.

Accommodation and Food Services has shown stability, even during the recession, and may offer opportunities for capturing growth, including possible links to the on-going upgrades at nearby T. F. Green Airport in Warwick. As the airport expands to accommodate larger and heavier planes, new opportunities for expansion of tourism may result. This is a sector for which amenities and attractive surroundings are key to competitiveness for existing and new businesses looking for locations.

Whatever sectors are chosen for focus, public sector measures will be needed. For example, Tax Increment Financing can provide tax incentives for businesses to locate, or relocate, to the town center. The Redevelopment Agency could also enable the Town to take advantage of other state programs, such as the Municipal Economic Development zone tax incentives. Other changes are needed at the local level to improve the attractiveness and utility of the village center.

One such change was approved by the Town Council in 2014. At that time, the Town Council amended

the Town's zoning regulations to authorize the issuance of a building permit following an administrative review for compliance to non-residential development that is fully compliant with the standards and provisions in the zoning ordinance. Prior to this amendment, all non-residential development projects were required to apply to the Planning Board as Major Land Development Projects. This process added months to the review process requiring three separate approval stages by the Planning Board before an applicant could apply for a building permit.

Some undeveloped parcels remain in the West Warwick Business Park located on the southerly end of town, off of Quaker Lane and adjacent to Route 95. The park, which includes a mixture of office, industrial, and commercial uses, still has approximately eight parcels available for development totaling approximately 70 acres.

The West Warwick Zoning Ordinance currently includes a special overlay district for mill properties, the Mill Reuse Zone, that allows mixed-use development on these historic properties. Several mill properties have taken advantage of the Mill Reuse Zone but there are currently mill properties that have not been rezoned for mill reuse. The Mill Reuse Overlay Zoning regulations are extremely broad and lack quantitative specificity. The Town should consider re-addressing the overlay zone to include more specific guidelines for development.

The majority of the economic development within the town is expected to consist of infill commercial development and redevelopment of older buildings located along the main roadways within the town and mill conversions/redevelopment.

## 6.4 Goals, Policies, and Actions

### 1. Revitalization and reuse/redevelopment of existing commercial and industrial facilities, particularly the numerous historic mill complexes, will bring additional economic development to the Town.

- Combine historic preservation and revitalization efforts with economic development and promotion of tourism in the Town
- Assist building owners in finding new tenants and adapting historic mills and other structures for alternative uses.
- Promote light industrial/manufacturing uses where appropriate by exploring options for available space, particularly in existing mills.
- Target mill space which is unsuitable for industrial use for less intensive reuse or demolition.
- Consider readdressing the Mill Reuse Overlay Zone to include more specific guidelines for development.

*ED-1. Develop an inventory of available space in mill buildings to be regularly maintained and updated by the Town Planner.*

### 2. Selected economic growth and diversification of those economic activities will provide employment and business growth opportunities.

- Assist owners of industrial land to promote appropriate sites for development in West Warwick Business Park and throughout the Town.
- Continue to identify and evaluate various funding sources for economic development programs in the local, state, federal and private sectors.

*ED-2. Evaluate the use of tax incentives to attract and encourage economic development.*

*ED-3. Develop and implement a long-range plan to retain existing businesses and attract new investment in West Warwick.*

- Improve the availability, access and overall condition of public parking areas in Arctic.

*ED-4. Prepare revised zoning guidelines for signage including size, location, illumination, elevation, etc.*

*ED-5. Provide site improvements to enhance the visual quality of Arctic, Phenix, and Natick Villages, including standards for street lights, furniture, street trees, paving materials, and signage.*

*ED-6. Prepare and implement a program of regular clean-up and maintenance of public areas in Arctic, Phenix, and Natick Villages.*

### 3. Diversifying the sources of Town revenue will promote fiscal stability.

- Encourage the development of home based “cottage” industries.
- Maintain a fact sheet in the Town Planner’s office about home-based businesses and industries.

*ED-7. Investigate and promote establishment of small business incubators, particularly in association with the reuse of mill buildings.*

### 4. Supporting organizations of businesspeople in town toward will improve the overall business climate.

- Encourage partnerships between local businesses, nonprofits, and the School Department to train teens and adults in workplace skills.

*ED-8. Work with local volunteer groups to conduct community pride campaigns and regular clean-ups in Arctic, Phenix, and Natick Village.*

5. **The expansion of economic development activities will include cultural, recreational, and educational activities in the Arctic, Phenix, and Natick Villages.**
  
6. **Investment by the public and private sectors will stabilize and improve economic opportunities in the Town of West Warwick.**
  - Assist business owners to promote appropriate locations for business and/or development.  
*ED-9. Explore the acquisition of properties and relocation of businesses subject to repetitive flooding along the Pawtuxet River.*



## 7. Agriculture

### WHAT IS AGRICULTURE?

*Agricultural operations in Rhode Island are diverse and varied. From plant and animal farming, to beekeeping, forestry, aquaculture, and turf farming, Rhode Island is rich in agricultural assets. The Rhode Island Agricultural Partnership has defined agriculture as:*

*the propagation, care, cultivation, raising, and harvesting of the products of truck farming, horticulture, turf, viticulture, viniculture, floriculture, forestry/ tree farming, sugar bush, stabling of five or more horses, dairy farming, aquaculture, or the raising of livestock, including for the production of fiber, furbearing animals, poultry, or bees.*

*A Vision for Rhode Island Agriculture: Five-year Strategic Plan*

*...The comprehensive planning process allows cities and towns to look at agriculture and the pieces of the agricultural system in a new way as part of the working landscape . The comprehensive planning process allows communities to address the subject of agriculture and farming within the framework of achieving a shared vision for the future .*

*Rhode Island Comprehensive Planning Standards Guidance Handbook 7: Agriculture*

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## 7.1 Agriculture Soil Locations

Because of its origins as a manufacturing mill town, West Warwick has only one active farm, however, there are various areas in the Town that have prime farmland soils of statewide-importance. Most of these locations have been developed with residential uses, however there is a large swath of prime farmland soils, located at the Town's golf courses that remains undeveloped and is currently used for recreation. See **Figure 7-1: Agricultural Soils.**

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## 7.2 Significant Agricultural Operations

The Town of West Warwick has currently has one working farm and no nurseries within the municipality. 65 Hamilton Road is a private farm; it is not clear whether the activities are commercial. 457 East Greenwich Avenue is a former farm property which is no longer active but is being managed as an open field and regularly maintained and mowed.

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## 7.3 Economic Activity

The Rhode Island Department of Labor's Quarterly Census of Employment and Wages, reports that no one in West Warwick is employed in the agricultural sector. Employment in this sector is expected to remain unchanged.

## 7.4 Opportunities

While there are no active farms in the Town, West Warwick has an opportunity to take advantage of Rhode Island's success in the local food movement. One way to capitalize on this movement is for the Town to host a weekly farmer's market. Farmer's markets not only offer healthy fresh produce for residents, they provide a destination to attract shoppers. Farmer's markets located in areas adjacent to local business bring more traffic and commerce to these places. The Majestic Gazebo in Arctic Village would fit these specifications.

Currently, Thundermist, a local healthcare provider, partners with Farm Fresh Rhode Island to host a seasonal farmers market at its 186 Providence Street location beginning in the early summer and ending in early fall. The Town has also partnered with Thundermist as part of the health equity zone to organize pop-up markets throughout the summer at the senior center and public library. The health equity zone collaborative has also partnered with Food on the Move, a program under the Rhode Island Public Health Institute, to arrange monthly markets at senior housing facilities within the Town; these are not necessarily farmers' markets but they provide inexpensive produce to residents of the community.

The Town is also partnering with Thundermist to establish a small orchard at the West Warwick Civic Center Complex located on Factory Street. The orchard will be located adjacent to a new handicapped accessible playground as part of the overall Civic Center Complex. The purpose of the orchard is to introduce fresh fruit into the community and make it available to residents visiting the playground and complex. The orchard will also serve to improve the

social connectedness within the community by providing a space for people to gather. Creating such a place will help facilitate relationships, catalyze a sense of community and increase the ability for people to be active, as harvesting fruit is an inherently physical act. The orchard will also be a destination to which people can walk and visit.

West Warwick being a mill town with several mill complexes remaining in operation as mixed use and industrial developments may have a unique opportunity to capitalize on the expanding area of hydroponics. Hydroponics is the process of growing plants with nutrients but without soil. Mill buildings are uniquely positioned for establishing potential hydroponics enterprises. The mills have substantial open floor space, access to power and were originally designed to take advantage of exposure to natural light. The Town has received inquiries from parties interested in touring mill buildings for the purpose of establishing indoor hydroponics farms.

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## 7.5 Goals, Policies, and Actions

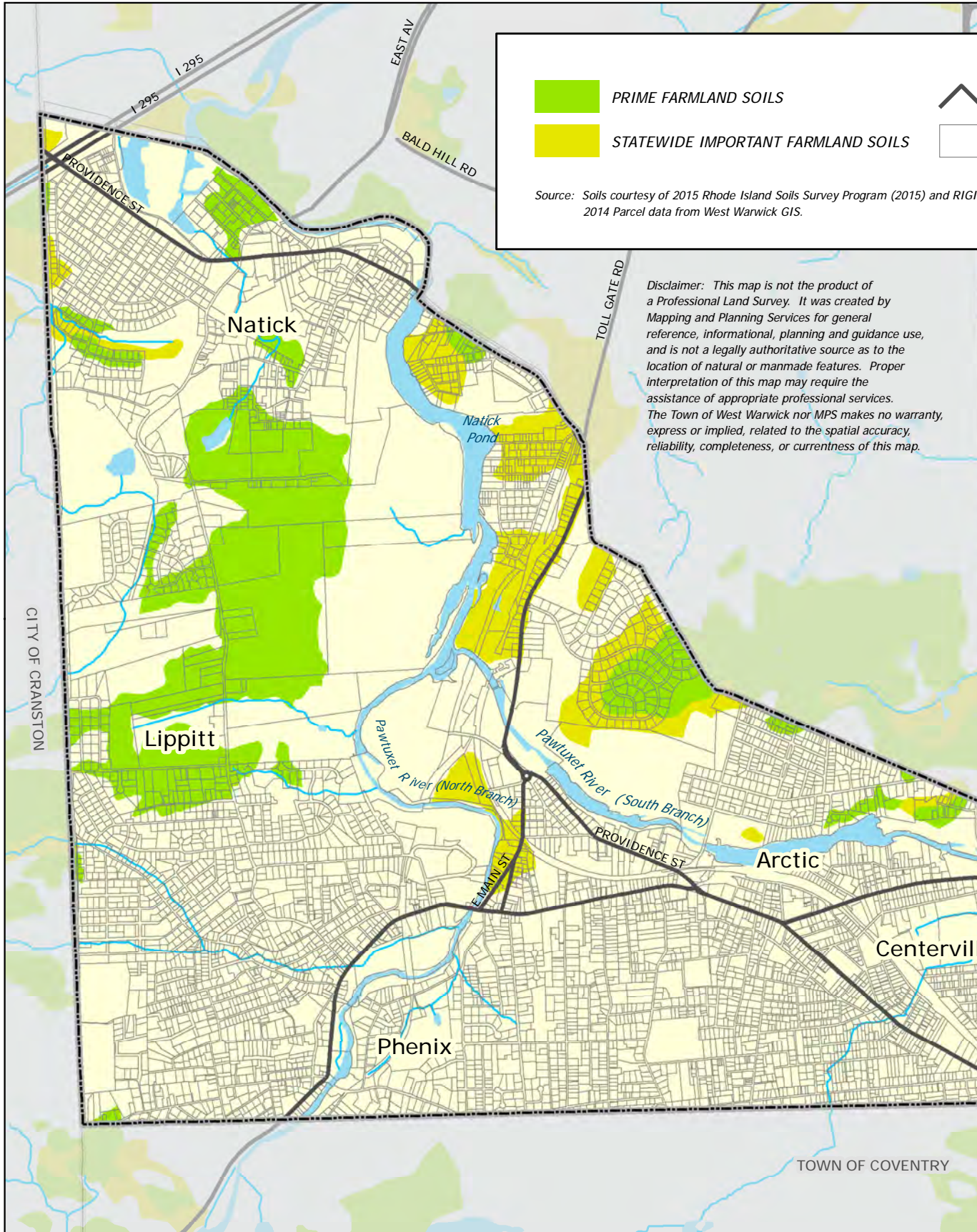
- 1. Urban agricultural initiatives will include both outdoor and indoor farming.**
- 2. The Town will partner with existing community organizations to increase access to local agricultural products.**

*A-1. Work with Farm Fresh Rhode Island and/or other community organizations to host a weekly Farmer's Market event located near other local businesses and to provide opportunities for local residents to obtain local produce.*

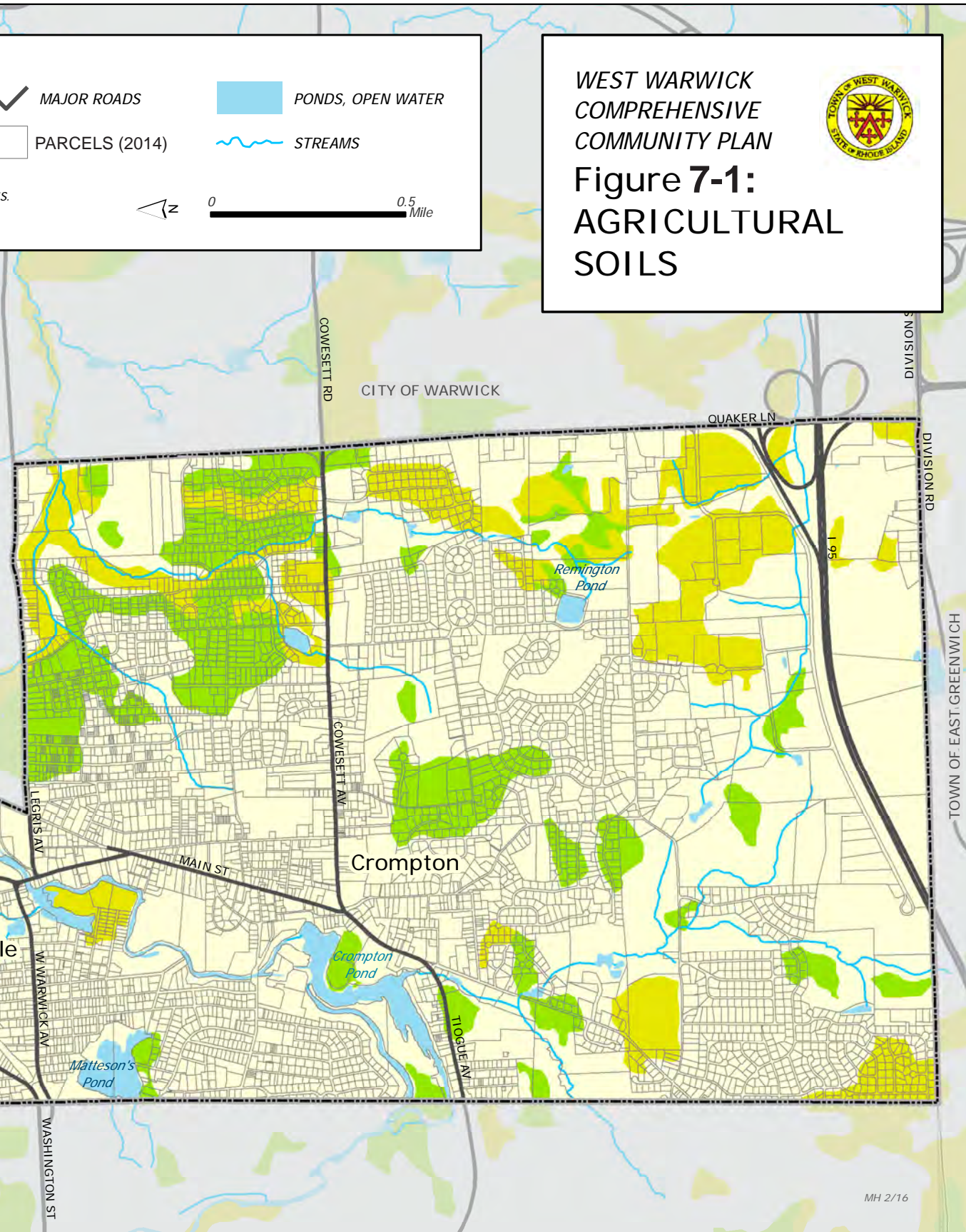
*A-2. Work with the Senior Center, the Youth Center, the School Department, and local nonprofits to create community gardens on Town-owned spaces such as school property, recreation areas, and vacant lots.*















## 8. Services and Facilities

### **WHAT ARE SERVICES AND FACILITIES?**

*Services and facilities refer to a range of local government services and public facilities for which a municipality is responsible. These include, but are not limited to, educational facilities, public safety facilities, libraries, indoor recreation facilities, community centers, water supply and the management of wastewater, storm water, and solid waste...*

*There are two primary reasons for planning for services and facilities within a comprehensive plan. First, community services and facilities directly impact the ability of a community's citizens to live in a safe, adequate and healthy environment. Anticipating and preparing for the needs and safety of the residents is essential to ensuring a high quality of life in your community. Second, for the State to grow in a sustainable way, future growth, development and redevelopment must align with the provision of services and facilities to the community. It is essential that growth patterns reflect existing and future levels of services and facilities, with most development occurring where investments in infrastructure have already been made.*

*Statewide Planning Handbook 8: Planning for Services & Facilities*

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## 8.1 Introduction

The Town of West Warwick provides services to its residents and business owners. These services include the following: a full-time police and fire fighting staff, public school system from kindergarten through grade twelve, public water is provided by the Kent County Water Authority (KCWA) and sewer, and community resource such as the West Warwick Public Library, the Senior Center, the West Warwick Civic Center and other recreational facilities.

The parts of West Warwick that are serviced by public sewer as can be seen in **Figure 8-1: Existing and Proposed Sewer Service**. Large parts of areas without sewers are undeveloped; the Town does not plan to extend sewers to those areas.

**Figure 8-2: Public Services and Facilities** shows locations in the Town of various public buildings, including the Town Hall, Police Station, fire stations, schools, Library, Wastewater Treatment Facility, Animal Shelter, Highway Department, Civic Center, Youth Center, and Senior Center.

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## 8.2 Current Public Service and Facilities

### SOLID WASTE MANAGEMENT

The Town of West Warwick's recycling rate ranges between 20 and 22%, and the overall diversion rate ranges from 31% to 33%. The solid waste management system is funded through the General Fund in the operating budget. The Rhode Island Resource Recovery Corporation currently charges \$47 per ton for the disposal of municipal solid waste. Per the Municipal Solid Waste Disposal Fee Pricing Structure and Procedure rule, the tip fee is calculated biennially to calculate firm two-year disposal fees.

The Town currently contracts with MTG Disposal for curbside trash and recycling collection. MTG Disposal picks up garbage weekly in 95-gallon trash carts provided by the Town and collects recycling

every other week, also in 95-gallon carts. Trash, recycling, and bulky items are delivered to Rhode Island Resource Recovery. There is no transfer station located within the Town.

Curbside trash collection requires that all items fit in the trash cart with the lid closed. Those items that cannot fit into supplied trash containers, such as lumber, furniture, carpets, and other items that can't be diverted from the waste stream, are picked up twice per month by appointment. This service is free of charge for Town residents, up to four times a year. After that, residents pay \$25 for each additional bulky item pickup. Large appliances are not included in the four free pickups per year, and require a \$25 sticker purchase to be picked up curbside.

The Town of West Warwick promotes Resource Recovery's list of accepted mixed recyclables. This extends the life of the Central Landfill and saves money for the Town resulting from recyclables being diverted from the waste stream, as recyclables are accepted at no charge. Items accepted in Rhode Island's mixed recycling currently include plastic containers, metal cans, lids and foil; glass, bottles and jars; and paper, cardboard, and cartons.

The Town's Department of Public Works (DPW) picks up yard waste with municipally-owned trucks, which is brought to Resource Recovery to be composted. The Town needs new trucks and may consider a potential lease purchase program. Yard waste is collected twice a month on two routes – one in the northern part of the Town and one in the southern part. The Town also collects Christmas trees from the first week after January 1 through the end of January. Trees are brought to Resource Recovery and are chipped into mulch.

In order to encourage the diversion of hard-to-recycle materials from the landfill, the town offers a recycling drop-off area behind the DPW Yard at 10 Junior Street. Residents can drop off the following for recycling, free of charge: electronic waste, bulky rigid plastics, scrap metal, tires, paint, empty propane tanks, mattresses and box springs. There's also a dumpster for cardboard and bagged shredded paper only. Large appliances (white goods) can also be dropped off at DPW for recycling, but those that contain Freon carry a fee of \$25.

## WASTEWATER AND SEWER

Most of West Warwick is served by public sewer, as can be viewed on **Figure 8-1**. The West Warwick Wastewater Treatment Facility, which serves West Warwick and neighboring communities, was rebuilt

after damage sustained in the 2010 floods. The secondary treatment facility has a capacity of 10.5 million gallons per day and an average flow of 6.5 million gallons per day. Wastewater treatment at the Facility consists of screening, grit removal, and primary sedimentation, a fine bubble aeration tank for activated sludge, secondary sedimentation, and tertiary treatment for phosphorus removal before the treated effluent is discharged to the Pawtuxet River. There are issues with illegal connections to the sewer system. When it rains, the volume of wastewater entering the treatment plant increases because of seepage into the system. Wastewater user fees are deposited into an enterprise fund which is utilized to fund the Authority's administration and staff.

## STORMWATER MANAGEMENT

The Town's stormwater infrastructure is need of repair and upgrades. The system is comprised of corrugated steel piping that is old and individual pipes occasionally collapse.

The Town conducts street sweeping to remove pollutants and other debris from the roadway in an effort to prevent the materials from entering the stormwater system. Streets are swept annually in the spring and the Natick, Arctic and Phoenix villages are swept weekly during the spring and summer.

A DPW contractor cleans the storm drains throughout the town by early fall. During this effort, staff from the DPW Highway Division work with the contractor to report damaged storm drains or collapsed pipes and issue work orders. Catch basins are inspected annually and repaired as needed, or as failures occur.

The stormwater system works to capacity, but is too small to adequately handle the stormwater runoff of even moderate storms. The Town should explore regulations for low-impact development to assist with stormwater management; these are discussed under *Chapter 2. Natural Resources*. The Town is also exploring the feasibility of establishing a Town wide stormwater management district.

Major stormwater management problems in the Town include flooding from the Pawtucket River, particularly in Natick. Stormwater control and management are the focus of West Warwick's Code of Ordinances Chapter 13, Article V and VI. Article V establishes administrative mechanisms to ensure proper stormwater management of runoff from new development and redevelopment projects, including requiring development applicants to develop and submit a stormwater management plan. Article VI prohibits discharges to the municipal storm sewer system, with limited exceptions, requires notification of spills to stormwater or the storm drain system, and establishes enforcement of illicit discharges.

## PUBLIC SAFETY

### Police Department

The Town's Police Department is housed in Town Hall. The Department currently employs 52 police officers, which is the minimum required to patrol the Town effectively, according to the Police Chief. Since the Town only has minimal staffing, if an officer is unexpectedly unable to work for any reason, the Town pays overtime wages for additional workforce hours. Within the last five years, the police force has been reduced by seven officers: five from the traffic unit, one detective, and one officer from the drug unit. The Chief suggested that an additional six offi-

cers would be optimum for the Town's Police Department operations.

The Police Department has both facility and personnel needs. The Department needs more space for evidence, locker rooms, and meetings. An option is to share a joint facility with another public safety department. The Department has begun replacing its radio system, which is over 20 years old. The Department has enough police cars, after purchasing four front line patrol cars in the last four years and regularly replaces vehicles on a rotating basis.

The Town's Police Department addresses many public safety concerns. As with other communities in the State, the Town does have a problem with narcotics; however, the level of problem is not out of line with other communities. Speeding occurs in some neighborhood areas, and the central intersections have frequent accidents. Currently, the Police Department does not have a traffic unit. Traffic calming display boards to monitor traffic and speed could help address these deficiencies. Fortunately, there are few areas with pedestrian accidents.

West Warwick Animal Control and Shelter, a division of the Police Department, is located at 106 Hay Street. The Department employs two full-time Animal Control Officers, who together provide coverage seven days a week. Volunteers from West Warwick Angels Caring for Animals and Defenders of Animals assist the Animal Control Officers with cleaning, feeding, animal interaction and socialization, as needed. West Warwick Angels Caring for Animals have also conducted fundraising efforts to help defray the expenses associated with veterinary care, medicine, and animal food.



The facility includes kennel space for approximately seven to eight dogs, a room for five to ten cats, and a quarantine room. The aging facility has a sufficient capacity for animals; however, the Town's Building and Zoning Department has identified necessary items for the building's maintenance. The oil tank for the heating system was recently replaced, but additional maintenance and upgrades to the heating, electrical, plumbing, and mechanical systems remain to be addressed.

## Fire Department

The Fire Station Headquarters is also located at Town Hall. Three additional fire stations are located throughout the community. Fire Station #2 is in Phenix and includes emergency medical services. Fire Station #3 is in Natick and Fire Station #4 is in Crompton; neither of these stations has emergency

medical services. If the West Warwick Industrial Park becomes more developed, another fire station may be required to service this location.

The Fire Station Headquarters needs more usable facility space. There are no separate areas for changing clothes or gym equipment. Since the Police and Fire Department Headquarters are both located at Town Hall, there is an option to share changing and locker room space. Other fire stations in the Town also need additional space. The trucks in Station #2 have little room for maneuvering. Station #4 might need to expand, if additional vehicles are obtained.

Currently, the Fire Department is understaffed according to National Fire Protection Association Code 1710 (NFPA 1710). According to NFPA, to effectively and efficiently run firefighter apparatus there should be at least three to four firefighters per truck.



Presently, there are approximately two firefighters working per truck, and Station #3 has only two firefighters. Each shift consists of 15 firefighters; two firefighters fewer than recommended. The Department has a ladder truck that reaches over three stories and this apparatus requires at least four firefighters.

The Town does not have an Emergency Medical Services (EMS) Officer. New mandates from the State regarding patient tracking and reporting requirements have created added demands on emergency staff. The Town's two rescue vehicles receive a total of 4,500 EMS calls annually. Due to the trend of an aging population, the amount of EMS utilization will likely continue. Having a third rescue would be optimal for the number of emergency calls received. More demands are being made on the Town's emergency service vehicles due to the increase in patients needing to be transported to different hospitals further out of town. If a third rescue vehicle was obtained, additional space would be needed to house the vehicle.

The Fire Department dispatch is staffed by three to four civilians with previous fire service experience. The staff uses portable 300 megahertz car communicators with repeaters in dead spots in Town. Most calls initiate from the Arctic, Natick, and Phenix areas.

The Fire Department has a rescue, pumper, and ladder truck replacement plan. Engine 4 has been targeted for replacement this year and there are plans to replace Engine 3 in the next one-in-a-half years. Funds for these vehicles come from grants and rescue reimbursement revenue; the town recently implemented an apparatus replacements program utilizing a portion of the rescue reimbursement revenue to

fund the lease purchase of any necessary new apparatus and/or rescues.

The Department encounters many medical emergencies, accidents, and fires daily. The Fire Department responds to more than 250 motor vehicle accidents a year throughout the Town, including an area on I-95 from Exit 7 to Exit 8. Additionally, the Fire Department handles 80 fires a year, and the large, vacant mill buildings represent the potential for a major fire. Current concerns include the potential for electrical fires at marijuana growing operations using high intensity lighting in properties that do not meet current electrical code.

## PUBLIC EDUCATION SYSTEM

The West Warwick Public School System includes West Warwick High School, the John F. Deering Middle School, and three elementary schools (Greenbush, John F. Hogan, and Wakefield Hills). There is an additional alternative school, Maisie E. Quinn Elementary, that houses pre-school students and an alternative educational setting for middle and high school students.

West Warwick has over 3,400 public school students enrolled for the 2016 school year. The high school and middle school each have approximately 1,000 students enrolled. Each of the elementary schools has between 400 to 500 students. The Maisie E. Quinn Elementary School, which has a lottery system for enrollment, has about 60 children in pre-kindergarten. As seen in **Table 8-1**, overall enrollment in the school system during the past six school years has been relatively stable. There has been, however, a recent increase in the number of younger children within the system. In the past year, so many children were enrolled in the Middle School, that a classroom was created in a portion of the school library.

## 8. SERVICES AND FACILITIES

In the past, the Town did not have all the required functions for special education services and was required to bus approximately 90 students annually to other communities for their education. The West Warwick School Committee recently decided to provide the Town's children with in town special education. As a result, there are now only six children that are out-of-district for special education. Although a relatively high percentage (25%) of the Town's students have special education requirements, not many students have English as a second language.

West Warwick Public Schools are generally anticipated to be able to meet capacity needs over the next 10 years. **Table 8-2**, however, shows a few instances where enrollment during certain fiscal years is estimated to exceed the capacity of the school system. For example, the estimated fourth grade enrollment during the 2017 fiscal year (310 students) exceeds the system's capacity (286 students). In addition, the esti-

mated enrollment at the High School exceeds the capacity during the 2023, 2024, and 2025 fiscal years.

The Town receives 53% reimbursement from the State for any capital improvement to school buildings. Over the next 10 years, required replacements will include all roofs in the West Warwick Public School System, windows in the Middle and High Schools, and a new boiler in the Middle School. The School Department does not have any outstanding bonds to fund these improvements, and plans to create a capital improvement fund to ensure funding for maintenance on a consistent basis.

A very low percentage of the Town's children attend private schools. Currently, the State allows students in any community to enroll in any vocational school. The Town is responsible for transporting its children within the region (Exeter, West Greenwich, Cranston and Warwick). More than 100 children attend the

**Table 8-1: West Warwick Public School Enrollment by Grade**

GRADE	SCHOOL YEAR					
	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
Pre-Kindergarten-Kindergarten	346	368	362	355	335	351
1	283	280	307	287	288	275
2	249	281	263	302	275	281
3	278	246	275	250	318	277
4	257	267	246	254	249	309
5	275	239	253	232	259	247
6	250	272	240	259	227	265
7	213	254	266	243	269	230
8	275	216	255	261	246	269
9	328	259	267	302	326	266
10	279	272	249	238	263	285
11	205	241	210	232	211	239
12	232	226	228	202	219	180
<b>Total</b>	<b>3,470</b>	<b>3,421</b>	<b>3,421</b>	<b>3,417</b>	<b>3,485</b>	<b>3,474</b>

Source: Rhode Island Department of Education Enrollment, Dropout, and Graduation Data, <http://www.ride.ri.gov/InformationAccountability/RIEducationData/EnrollmentGraduationData.aspx>

Warwick Area Career and Technical Center. In addition to transportation, the Town is responsible for providing the tuition of \$15,000 per student attending the Warwick Area Career and Technical Center.

## PUBLIC LIBRARY

The West Warwick Public Library is located on Main Street. The Library is open 56 hours a week; 60 hours per week is the minimum state standard for municipalities with a population between 20,000 and 49,999. The Library’s plan is to increase hours by four each year until the minimum state standards are achieved. The Town lost the opportunity to receive State funding because the Library does not meet those standards.

As the Library increases its hours of operation, additional staff will be needed. The Library’s staff are compensated with the lowest salaries in the State, which makes it difficult to hire qualified staff. It will be necessary to provide higher salaries to hire and retain qualified staff.

Even though the Library is owned by the Town, capital investments in the building are usually funded through grants. Over the past several years, the Library has installed cable upgrades, replaced lighting and windows, as well as the HVAC system for more energy efficiency. The Library was also able to upgrade the Jean Nash Community Room with track lighting and a wireless microphone system. Continued funding of capital improvements is likely to be funded through grant sources.

**Table 8-2: West Warwick Public School Capacity and Projected 10-Year Enrollment**

	GRADE							
	KINDERGARTEN	1	2	3	4	MIDDLE SCHOOL 5-8	HIGH SCHOOL 9-12	ALL GRADES
<b>Capacity</b>	299	322	300	325	286	1,144	1,100	3,776
<b>Fiscal Year</b>								
<b>2016</b>	270	291	281	317	253	994	1,009	3,415
<b>2017</b>	267	266	282	277	310	995	1,021	3,418
<b>2018</b>	268	263	257	278	271	1,031	1,068	3,436
<b>2019</b>	255	264	254	253	272	1,066	1,049	3,413
<b>2020</b>	274	251	255	250	248	1,067	1,043	3,388
<b>2021</b>	268	270	243	251	245	1,062	1,044	3,383
<b>2022</b>	266	264	261	239	246	999	1,091	3,366
<b>2023</b>	266	262	255	257	234	974	1,122	3,370
<b>2024</b>	266	262	253	251	251	938	1,119	3,340
<b>2025</b>	268	262	253	249	246	942	1,105	3,325
<b>2026</b>	267	264	253	249	244	942	1,044	3,263

Source: West Warwick School Department



Future capital improvements include an outdoor terrace between the two buildings that make up the Library. The concept would include a wireless internet hotspot, a fountain element, tables, and an outdoor shade garden. Currently, people sit in their vehicles outside of the Library to gain Internet access when the Library is closed. The addition of a café within the Library is another planned capital improvement. Such a community space would create an additional destination for the residents to meet.

Programming at the Library serves a variety of different populations. Library programs include films, live music, and leads exercise programs. Other programs include childhood activities and teen programs. English as a Second Language is very popular program; 150 students from more than 30 countries are enrolled in these classes. The Library also provides outreach to the residents of public housing.

Future programming plans include collaborating with the Pawtuxet Historical Society to digitize the history of the Town; grant funding is required for this project. A community needs assessment will be conducted in the next few years to determine what types of programming is desired, yet residents will need to adjust their expectations about library services relative to the Library's budget.

## SENIOR CENTER

The West Warwick Senior Center is located in center of Arctic Village. The Town purchased the building in 2016 through a special bond issue approved by the residents in a town-wide referendum as part of the annual budget approval process. A private non-profit organization leases the Senior Center for \$1 per year, manages the facility and provides programming, while the Town provides funding for senior and social

services. Previous funding cuts affected staffing levels. While the Center once had 14 full-time employees, it currently has three part-time employees. The West Warwick Senior Center offers many activities for senior citizens, including a variety of classes, bingo, and AARP tours. Increasing the staffing level would allow for a part-time activity director to run these activities.

The West Warwick Senior Center also offers a variety of food programs, including a free lunch with requested donations, Monday through Friday; two free dinners served during the week; an emergency food pantry, Monday through Friday; day-old bread, four days a week; and BJ's Wholesale Club provides free fresh and frozen meats and produce once a week.

Free transportation to shopping is available from the Senior Center once a week. Two buses are used for these trips, however only one bus is equipped with a wheelchair lift. Another service offered to seniors, LogistiCare, which provides free trips to non-emergency medical appointments. These transportation services are well-used and should be expanded.

## YOUTH CENTER

The West Warwick Youth Center, located at 40 Factory Street near the Middle School and High School complex, provides a safe, violence, and drug-free area for youths, grades five to twelve who are under the age of 18. The Center is staffed from 8 a.m. and 8 p.m. by West Warwick Police Officers assigned to the Juvenile Division. Youths may enter the building at 1:45 p.m. during the school year, and from 8 a.m. in the summer. The facility includes a recreation room, conference room, cafeteria with vending machines, Police gym, and an outdoor paved area for sports or other activities.

## CIVIC CENTER

West Warwick Civic Center, located at 100 Factory Street, is a dual facility comprised of the Thomas A. Lamb Memorial Field House and the Benny Magiera Memorial Ice Rink. The Field House is used for a variety of events, including the Recreation Department's summer recreation program, concerts, sports events, and conferences. The Ice Rink is used year-round for recreational and competitive ice hockey, public skating, and can be rented by groups or for private lessons.

are housed within Town Hall, including offices for the Town Manager, Town Clerk, Tax Assessor, Tax Collector and Town Planner.

## TOWN HALL

West Warwick's Town Hall is located at 1170 Main Street and open weekdays 8:30 a.m. through 4:30 p.m. Many of the Town's administrative functions

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## 8.3 Future Needs

Non-educational public services in West Warwick can be organized in several categories: public safety, public health, and quality of life. Most of the Town's departments cross these lines – the Department of Public Works manages stormwater treatment which has implications for all three; the Senior Center provides community services (quality of life) and social services (public health). The services provided by each department vary in scope and quality; the quality is in part dependent on the Town's financial resources.

The Town implemented a five-year financial improvement plan in fiscal 2015; the fiscal 2019 plan will be the final year of the financial improvement plan. Property taxes provide the primary revenue for operations (67% in the proposed fiscal 2019 budget). State aid provides an additional 30% of total revenues.

The budgeted expenses for fiscal 2019 totals approximately \$97.1 million. Education is the largest share of the budget, at 58.4%. Certain operating expenses are non-discretionary; in other words, they must be paid. Pension obligations and debt service tend to be the largest single items, but each department will have contracts that are required for certain equipment. The recommended contribution for the pension fund is \$6.62 million or almost 10% of the budget. Debt services is 3.3% of the budget. The remaining 28.3% of the budget is available to provide services to the residents. 16% of the total fiscal 2019 budget is salaries and related benefits; the remaining 12.3% is available for supplies, equipment, materials, and maintenance for Town buildings and facilities.

The Town may borrow for capital improvements. As of June 2017, Moody's general obligation bond rating was Baa2 for West Warwick. Moody's Investment Services noted that this rating is "well below the median rating of Aa3 for US cities."<sup>1</sup> In June 2017, FitchRatings affirmed an Issuer Default Rating (IDR) of BBB and a General Obligation Bond rating of A-.<sup>2</sup> The Town's limited resources are reflected in the operating and capital needs of all departments. As noted in the departmental discussions above, staffing levels are lower than optimal for police and fire; equipment in fire, police, and DPW requires replacement; and space needs are critical across multiple departments. Department heads report that Town Hall, the adjacent Police Department, and the buildings associated with the Fire Department need upgrades and expansions.

the actions identified in this plan is likely to be slow, and will be dependent on the ability to find funds from multiple sources, such as grants, fundraising campaigns, or other sources that are not dependent on the annual operating budget or municipal bonds. Department heads have been managing with varying levels of success with the resources available, but some problems, such as stormwater management, cannot be fully addressed without additional operating or capital funds. The capacity to manage certain services at a higher level is missing: the Town does not have a Director of Recreation or an Historic District Commission.

Residential access to services is thus limited by the financial resources of the Town. Implementation of

<sup>1</sup> *Moody's Investor Service, Annual Comment of West Warwick, June 25, 2017, p. 1.*

<sup>2</sup> *FitchRatings, Press Release, June 27, 2017, p. 1.*



## 8.4 Goals, Policies, and Actions

1. **West Warwick residents will have efficient curbside collection and other methods of solid waste disposal and to reduce the volume of waste thereby minimizing the overall costs of disposal.**
  - SF-1. *Develop a Town-wide information and education program to promote recycling and backyard composting.*
  - SF-2. *Investigate the feasibility of a community wide yard waste composting program.*
  - SF-3. *Purchase a chipper for the Department of Public Works recycling program to chip brush and limbs for mulch.*
2. **A Town-wide wastewater collection system and a regional wastewater treatment facility will meet the long-range goals of community development while fulfilling the State Department of Environmental Management water quality goals and objectives.**
  - Continue to reduce inflow and infiltration (1/1) into the municipal sewer system to reduce hydraulic loadings to the wastewater treatment facility.
  - Continue the use of development impact fees which are assessed to all new commercial and residential developments of four or more units to help defray the costs of 1/1 reduction.
    - SF-4. *Review the cost of the impact fee against other similar communities to determine if the fees are appropriate/adequate.*
    - SF-5. *Disconnect stormwater drainage connections to the municipal sewer system to reduce hydraulic loadings to the wastewater treatment facility.*
    - SF-6. *Work with the system's users, regional partners, RIDEM, and others as necessary to implement wastewater service and treatment programs in an expeditious and cost-effective manner.*
3. **Adequate water supply and pressure will be sufficient to meet demand for all residents, businesses and industry in the Town.**
  - Continue to work with the Kent County Water Authority to correct water pressure problems throughout the Town.
  - Recognize that the Kent County Water Authority (KCWA) has sole responsibility for water supply and distribution in the Town and work with the KCWA through the appropriate municipal officials to coordinate Town activities with the Water authority's efforts to maintain, improve and expand the water system throughout the Town.
4. **The Town will have a system of drainage structures which adequately carry stormwater flow to protect lives and property while meeting the State's stormwater management water quality goals and objectives.**
  - Require proper system analysis, design, and installation for new drainage systems, system retrofits, and expanded systems to meter stormwater runoff at predevelopment rates, address the two-year and 100-year storm, and be consistent with the State's water quality goals and objectives.
  - Consider requiring oil/water separators in closed drainage systems prior to the final discharge to surface water bodies from large impervious areas such as roadways and parking lots.
  - Continue to monitor site erosion, sedimentation controls, and drainage system construction through the Building Official's office and the Department of Public Works.
  - Require property owners to maintain drainage systems serving commercial and industrial development. Drainage approvals should require annual maintenance reports to be submitted to the Town.



- Consider implementing an impact fee system to pay for improvements to the stormwater drainage system.
  - Require the use of vegetated wet basins, detention ponds, vegetated swales, and vegetated buffer areas to mitigate potential adverse environmental impacts to ponds, streams, and rivers.
- SF-7. Update Development Review regulations to address Best Management Practices (BMPs).*
- SF-8. Collaborate with the Sewer Authority to identify and eliminate drainage system connections to the municipal sanitary sewer system.*
- SF-9. Establish a drainage system maintenance program.*
- SF-10. Respond to and correct problems reported with the stormwater drainage system on a timely basis.*
- SF-11. Investigate creating a Stormwater Management District.*
- SF-12. Prepare a Town-wide drainage system and stormwater management plan addressing the streams and brooks, including: (1) Baker Street Brook, (2) Cedar Brook-Hardig Brook, (3) Hawkinson Brook, (4) Natick Brook, and (5) Phoenix-Lippit Brook. This plan will identify existing system deficiencies caused by various uncoordinated development and activities; areas or locations appropriate for water quality retrofits; problem sites and areas, including drainage connection to the municipal sewer systems; and prioritize needs for improvements. Priorities will be based on factors such as: (1) threat to public health and safety, (2) threat to public and private property, (3) adverse aesthetic impacts and general nuisance, and (4) anticipated water quality improvements.*
- 5. Police services will maintain and improve existing quality while meeting the current and future needs of the Town's residents and businesses.**
- Maintain and improve the quality of the Town's police department through adequate staffing, raising qualifications for law enforcement officers, and improving facilities and equipment.
  - Maintain a suitable number of police personnel in accordance with population growth.
- SF-13. Develop and maintain a Capital Improvements Program for the replacement of Police cruisers on an annual basis.*
- SF-14. Provide additional space for records storage coordinated with other Town departments' storage space needs. Ensure that records are maintained in a secured area.*
- SF-15. Identify and secure an appropriate site for storage of felony vehicles.*
- SF-16. Study the needs and options for improvements and/or potential relocation of the police station.*
- 6. Fire and rescue services will maintain and improve existing quality while meeting the current and future needs of the Town's residents and businesses.**
- Maintain a suitable number of fire department personnel in accordance with population growth.
- SF-17. Renovate or replace the Phoenix Fire Station.*
- SF-18. Evaluate the potential relocation of fire headquarters from downtown Arctic.*
- SF-19. Review emergency rescue capabilities, and consider adding units and personnel if necessary.*

**7. The School Department will provide the best education for all school age residents of the Town.**

- Improve curricula, expand programs for exceptional students, institute additional experimental programs and endeavor to reduce student-classroom teacher ratios.
- Cultivate partnerships between local businesses and the schools.
- Improve the quality of education provided in the West Warwick public school system, particularly in the vocational-education program, reduce the drop-out rate, provide program options to non-college bound students, and support the English as a second language program and other activities.

*SF-20. Expand the use of modern teaching equipment and provide up-to-date school buildings and facilities.*

*SF-21. Review classroom space needs Town-wide on an annual basis.*

*SF-22. Schedule regular meetings between the Superintendent's office and the Town to exchange data regarding population projections, planned and potential residential development and other pertinent information.*

*SF-23. Provide additional off-street parking at Greenbush Elementary School, and replace existing parking area with a play area for students.*

*SF-24. Upgrade the Town's vocational education facilities and expand training into technology-related fields.*

**8. The citizens of West Warwick will receive social services to meet their diverse needs.**

*SF-25. Provide an adequate level of funding to the Senior Citizens Center to ensure its*

*continued operation as a vital resource for the Town's older residents.*

*SF-26. Work with the various human services providers of West Warwick and surrounding area to develop a list of services, service providers and other pertinent information to be made available to appropriate clientele.*

**9. The Town's library system will serve the largest number of residents possible.**

*SF-27. Provide support to the Champlin Library, including funding appropriate staffing and expanded hours of operation.*

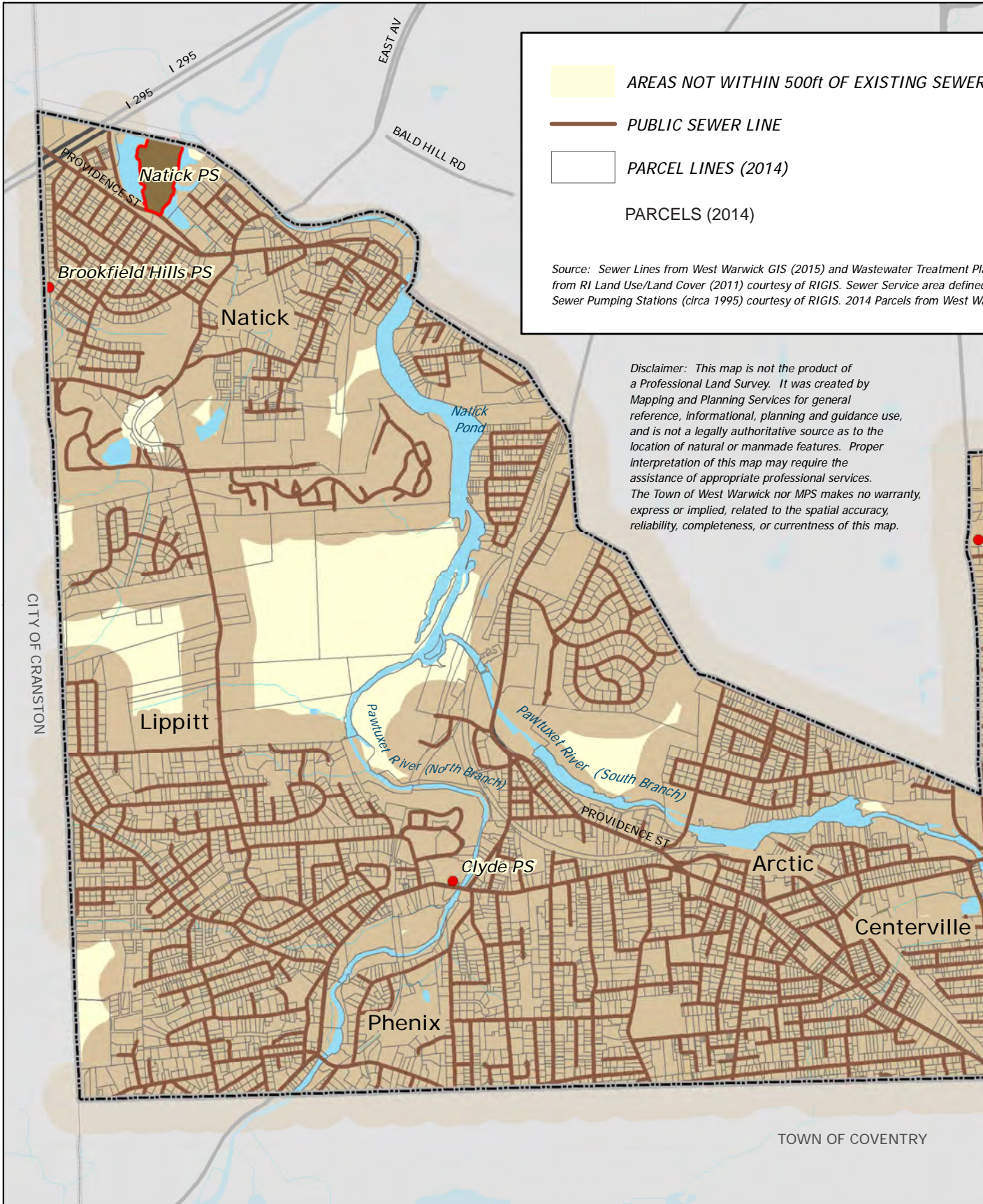
**10. Town buildings and facilities will be handicapped accessible, up-to-date, and well-maintained.**

- Explore options for possible expansion of the Town Hall at its current site, or at an alternative site in the Arctic Area.
- Continue to promote the Civic Center to its maximum current physical capabilities.
- Continue to maintain and improve the civic center complex, and increase its earning potential for the community.

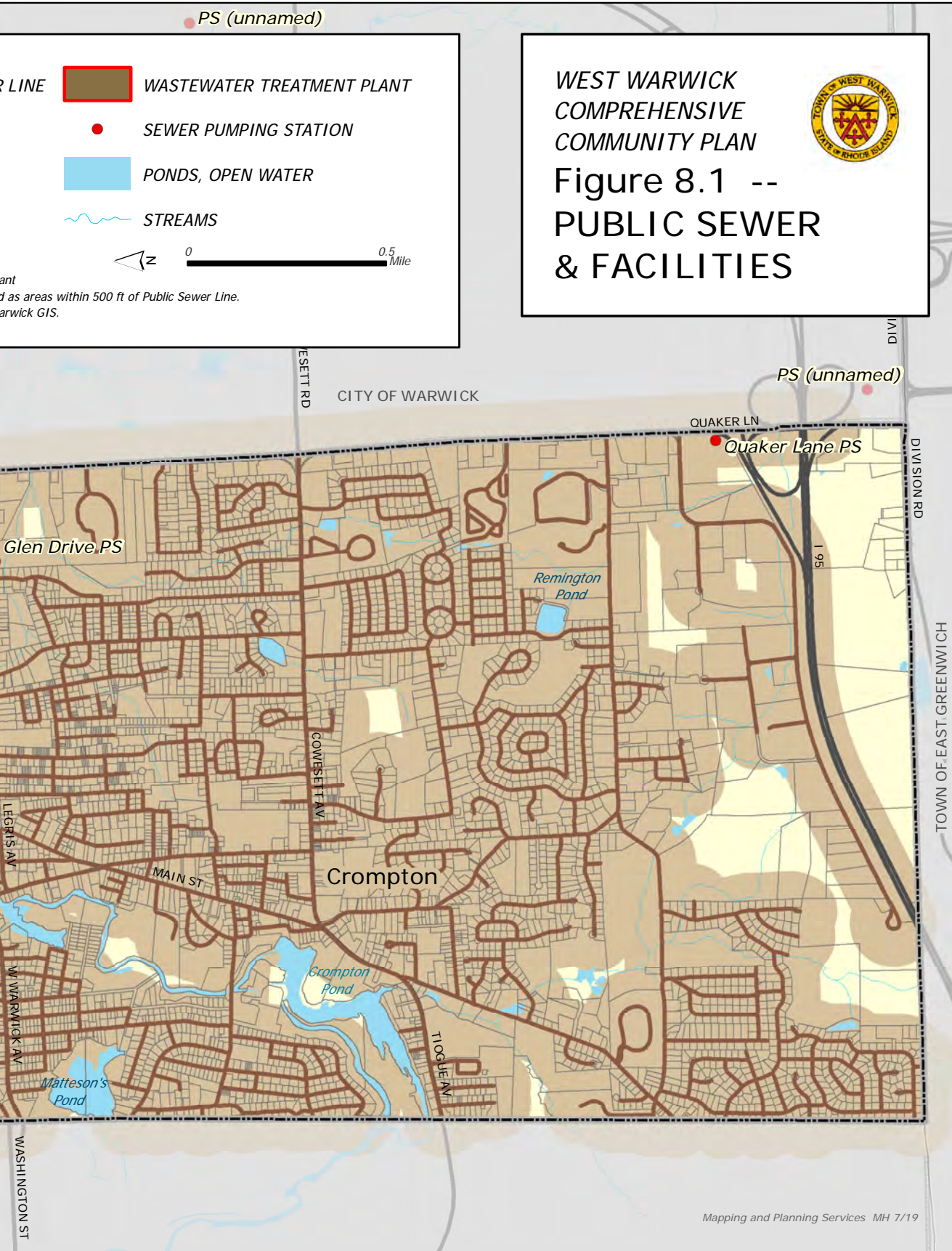
*SF-28. Evaluate how to provide additional space for more efficient operation of administrative functions.*

*SF-29. Identify and fund the needed capital improvements at the Civic Center.*

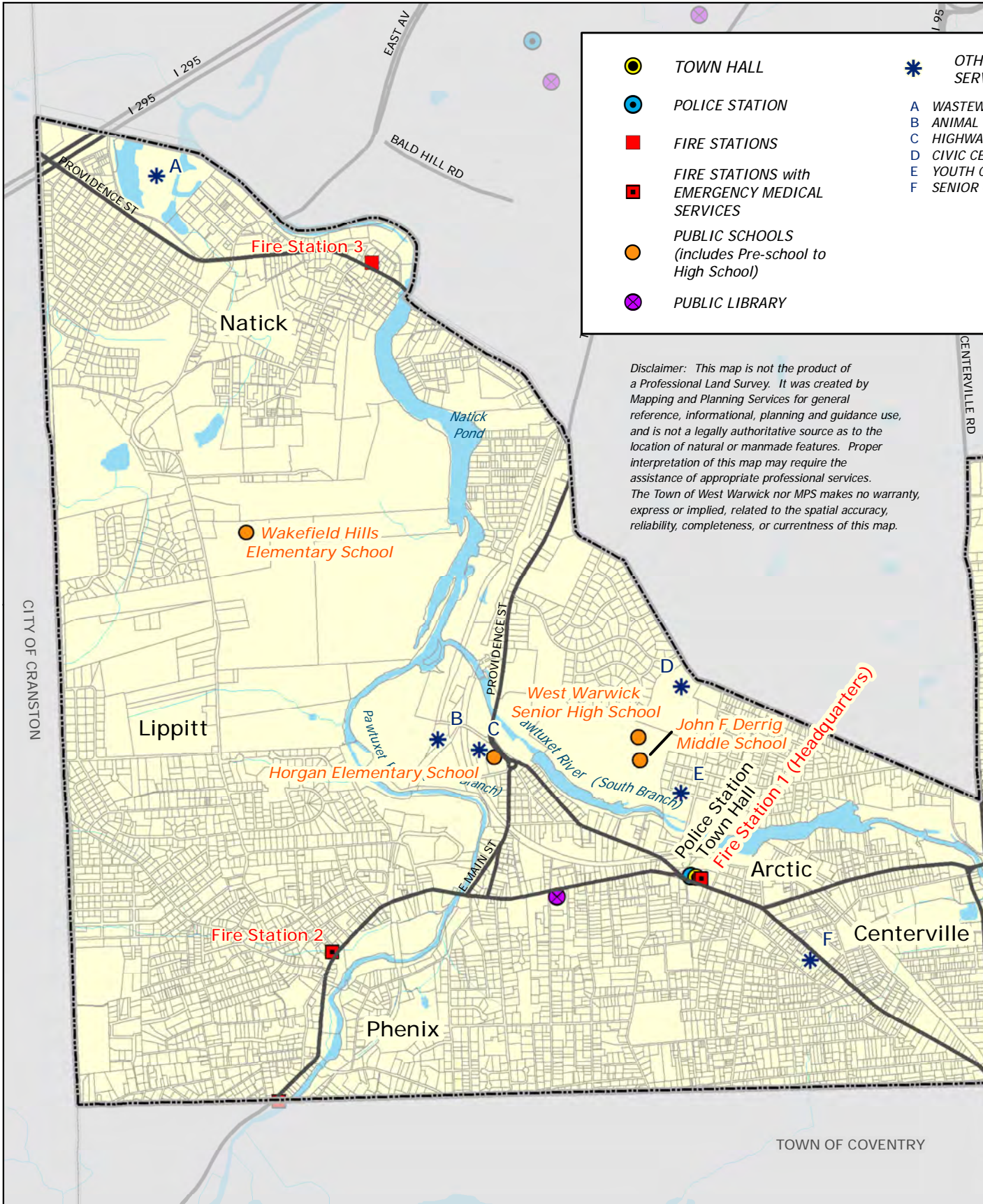
8. SERVICES AND FACILITIES












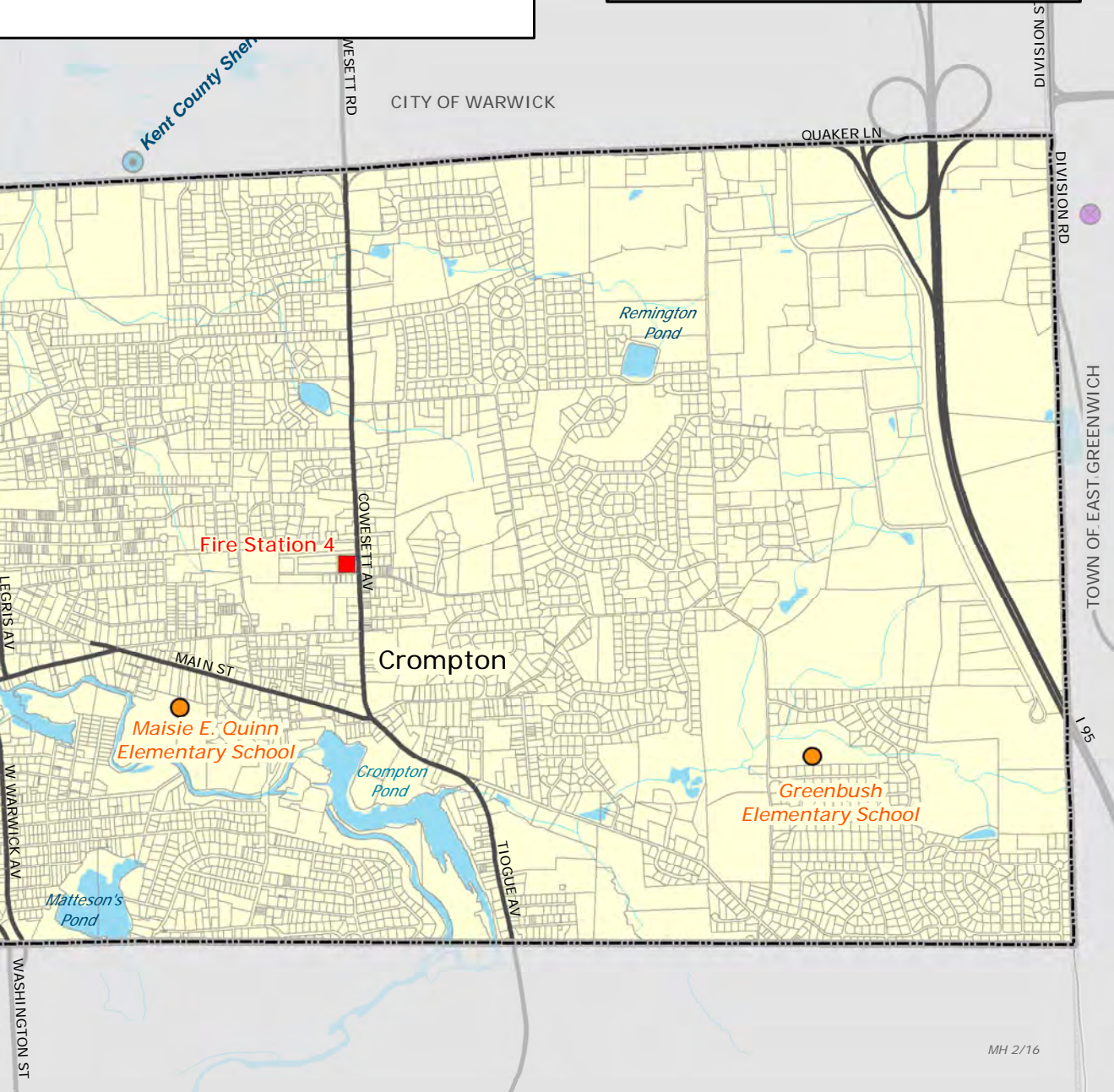


WATER TREATMENT FACILITY  
 CONTROL SHELTER  
 POLICE DEPARTMENT  
 FIRE STATION  
 SENIOR CENTER  
 COMMUNITY CENTER

PARCELS (2014)  
 MAJOR ROADS  
 PONDS, OPEN WATER  
 STREAMS

0 0.5 Mile  
 Source: RIGIS and West Warwick website.

WEST WARWICK  
 COMPREHENSIVE  
 COMMUNITY PLAN  
**Figure 8-2:**  
**PUBLIC SERVICES  
 & FACILITIES**





## 9. Energy

### **WHAT IS ENERGY?**

*In comprehensive planning, the term “energy” refers to three sectors - electricity, heating and cooling, and transportation - and the resources used to create the energy for those sectors. In some cases, energy resources are used directly by machinery, equipment and devices. For example, petroleum is used to fuel vehicles, and natural gas is often used to run heating systems. Other resources such as sunlight, water and wind, must be converted to electrical energy before being used.*

*“Planning for energy” means thinking and acting proactively to make sound energy consumption and production decisions in each of these three sectors. Through the comprehensive plan, municipalities can adopt policies and implement actions to conserve energy, to use energy more efficiently and to enable the use of renewable resources in energy production.*

*Statewide Planning Handbook 9: Planning for Energy*

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## 9.1 Current Conditions

### TOWN BUILDINGS

The Town of West Warwick is a leader in reducing greenhouse gases and increasing energy efficiency. In 2015, the residents voted to approve an \$18 million bond to erect three 1.5 megawatt wind turbines that were installed in the adjacent town of Coventry. The Town built the turbines in 2016 and will virtual net-meter the energy they produce. The amount of energy produced is projected to be greater than the total used for the Town Hall, fire and police stations, the library, public schools, and the sewer treatment plant. The Town has also installed solar panels on the Civic Center, ice rink, and high school, providing energy for the adjacent school buildings. In addition, the ice rink recently received delivery of a new 100% electric Zamboni that will be replacing the existing propane model. As of August 2016, all municipal electric use is being provided by renewable sources.

All Town buildings have recently been through or are scheduled for energy efficiency audits. The Civic Center buildings, Town Library, and the Department of Public Works (DPW) facility completed major efficiency renovations in 2016 through the Rhode Island Infrastructure Bank, Efficient Buildings Fund. Similar upgrades are scheduled for other Town buildings. The Town purchased all its streetlights from National Grid in 2006 and has just completed the conversion of those lights to more efficient LED lighting.

### RESIDENCES AND BUSINESSES

West Warwick has a Wind Energy Conversion System Ordinance to allow residential and non-residential uses of wind turbines by special use permit. The Town has a Green Project Ordinance that allows establishment of renewable energy facilities in Commercial industrial (CI) and Business park (BP) zon-

ing districts. West Warwick was also the first community to pass a resolution authorizing the Commercial Property Assessed Clean Energy Program (C-PACE) for Town businesses to also take advantage of efficiency and renewable projects. The Town also planned to install two electric vehicle charging stations and purchase electric vehicles for its inspection fleet.

### HYDROELECTRIC PROJECT

In 2014, the West Warwick Planning Board approved a hydroelectric project for the Natick Pond Dam located at the intersection of Providence Street and Water Street. The hydroelectric project is a private venture to be constructed on the site of two former mill buildings and their associated hydropower intake canals and trail races. The project will consist of two new Archimedes Screw Generators contained in a new concrete housing structure. The energy produced is to be sold to National Grid. The project has State and local approvals and recently received the approval of the Federal Energy Regulatory Commission. Construction was expected to begin in 2017-2018.

## 9.2 Goals, Policies, and Actions

### 1. Town buildings, vehicles, and equipment will conserve and efficiently use energy.

- Consider energy efficiency in all capital projects and purchases.
- Coordinate with the Rhode Island Office of Energy Resources to explore alternative energy solutions, including solar, wind and hydropower, and energy efficiency techniques for all municipal operations.

*E-1. Undertake a baseline assessment of the energy being used by municipal buildings, equipment and vehicles to determine where improvements can be made to conserve and efficiently use energy.*

*E-2. Replace end-of-life municipal-owned vehicles with high fuel efficiency and/or electric vehicles.*

*E-3. Purchase Energy Star certified equipment for new equipment or to replace older equipment.*

*E-4. Establish a program by which savings that result from energy efficiency and conservation measures are used to fund additional energy saving programs and upgrades.*

*E-5. Develop and maintain an up-to-date energy management plan for attaining ongoing energy savings.*

### 2. The Town will allow the establishment of various renewable energy production facilities (wind, solar, hydropower) in appropriate areas.

- Encourage the installation of on-site renewable energy production facilities for new developments.
- Encourage the installation of on-site renewable energy production facilities under the Wind Energy Conversion System Ordinance and the Green Project Ordinance.

*E-6. Hold community discussions on the types of renewable energy production facilities that may be appropriate for the municipality.*

### 3. Decrease dependence on non-renewable energy sources.

- Promote effective and efficient use of solar energy resources.
- Promote development of solar energy that minimizes impacts to land uses, properties, and the environment.
- Eliminate barriers to and incentivize small-scale, distributed solar energy systems such as roof-top solar.





# 10. Water Supply

## **WHAT IS WATER SUPPLY?**

*The term water supply refers to the ways in which drinking water is delivered to those who will use and/or consume it. Drinking water, also known as potable water, is water which is fit for consumption by humans. Rhode Island's residents and businesses use potable water for a variety of activities, including drinking, bathing, recreation and manufacturing. ... Fresh, potable water is not an unlimited resource, yet it is a critical resource, tied to survival, economic prosperity and quality of life. The State's water resources are vulnerable to over use, drought and pollution. To ensure the continued availability of potable water, water use must be carefully planned for and managed and water quality must be protected. The State and its municipalities have a responsibility to be stewards of the resource, providing for the continued availability of potable water. Whether or not the municipality is served by a public water system, each municipality must plan for the community's water use and the protection of water sources.*

*Statewide Planning Handbook 10: Planning for Water Supply*

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## 10.1 Current Conditions

### EXISTING AND PROPOSED WATER SERVICE AREAS

Most of West Warwick is served by a regional public water supplier, Kent County Water Authority (KCWA). Several residences along Gilcrest Drive and Valley Crest Drive do not have access to this public water supply, as a result, these residents rely on groundwater from private wells for drinking water. An expansion of the public water supply has not been proposed. **Figure 10-1: Water Service Areas** shows the existing water service areas.

### PUBLIC WATER SUPPLY SOURCE

None of KCWA's water sources are within West Warwick as the Town does not have any surface or subsurface potable water reservoirs.

### TOWN WATER SUPPLY RESOURCES

Groundwater, water located beneath the ground surface, is recharged by rain and snow melt that seeps beneath the ground surface. West Warwick does not contain any groundwater recharge areas for protected drinking water sources. Groundwater does supply the private wells of the residents along the Cranston border not served by KCWA. The Rhode Island Department of Environmental Management (RIDEM) classifies the state's groundwater resources; West Warwick's groundwater is primarily GA with the central portion of town classified as GB. Groundwater classified as GA is known or presumed to be suitable for potable water without treatment, whereas groundwater classified GB may not be suitable for potable water without treatment.

Aquifers, the saturated zone beneath the water table, contain a significant amount of groundwater. A por-

tion of the Hunt-Annaquatucket/Pettaquamscutt (HAP) aquifer is located in southeastern West Warwick (see **Figure 10-2**). The US Environmental Protection Agency has designated the HAP aquifer as a Sole Source Aquifer (SSA) as it is the only drinking water source, or supplies at least 50% of the drinking water, for its service area. **Figure 10-2: Water Supply Natural Features** identifies these resources.

The area where groundwater moves through a portion of an aquifer towards a well is considered a wellhead protection area (WHPA). There are no community WHPAs in West Warwick, however, there are two non-community WHPAs. **Figure 10-3: Water Supply Infrastructure and Features** identifies two WHPAs: one non-community WHPA is centered around a well located near the Midville Golf Club, the other around Crickett Circle in East Greenwich.

## 10.2 Public Water Service Capacity, Adequacy, Quality, and Hazard Assessment

### KCWA SERVICE CAPACITY

KCWA provides public water and fire service to customers in Coventry, East Greenwich, West Greenwich, western portions of Warwick, and West Warwick, as well as small isolated areas in Cranston, North Kingstown, and Scituate. Almost all of West Warwick's businesses, households, and government users receive their water from KCWA, with a small number of private wells providing water to homes along Gilcrest Drive and Valley Crest Drive. The KCWA's 2012 Water Supply System Management Plan (WSSMP) estimated total population served in 2011 was 28,947 (99% of the community).

The average monthly demand (assuming a 30-day month) in 2011 for all KCWA water users, including those from West Warwick, was about 244.5 million gallons (mg), and the maximum monthly demand was 467.1 mg. The peak hour demand in 2011 was 0.75 million gallons daily (mgd).

The Rhode Island Water Resources Board (WRB) adopted Water Use and Efficiency Rule for Major Public Water Suppliers in 2011. This Rule set a residential average annual water demand target of 65 gallons per person per day. In 2011, KCWA's system demand for residential users was about 57.7 gallons per capita daily. To continue to meet this target, KCWA has implemented demand management strategies, such as an outside water moratorium, as necessary.

The population within Kent County had grown moderately since 1995, but the average daily demand had remained fairly stable due in part to effective water conservation measures and an aggressive leak detection and repair program. The 2012 WSSMP estimated an average monthly demand for water

(assuming a 30-day month), within KCWA's service area, of 348 and 402 mg for 5- and 20- year planning periods, respectively. The projected maximum monthly demand was 672 and 768 mg for the same 5- and 20-year planning periods. These projections were developed from population projections for the service communities and hydraulic modeling reports.

### KCWA INFRASTRUCTURE

The full KCWA distribution/transmission system includes 471 miles of water main varying in diameter from two inches to 24 inches. Water flows from system tanks to customers using the gravity system for distribution. Primary transmission booster pump stations boost pressure from wholesale connections, and distribution system booster pump stations boost pressure to higher localized pressure zones within the service area. Transmission pumping is used to replenish the system tanks.

KCWA's Capital Improvement Program (CIP) identifies and prioritizes infrastructure needs and improvements, such as increasing pressure, flow rates, and system reliability, for a 5-year planning period. The planning document provides KCWA with a systematic approach for implementing short- and long-term needs. The 2016 CIP details and categorizes recommended capital improvement projects as necessary, discretionary, or essential, as well as provides an estimated cost for developing funding strategies and implementation.

The 2016 CIP described three upcoming capital improvement projects in West Warwick. The first project, Ball Hill Road Water Main Loop Connection, involves installing a new looped water main connection (rather than the existing dead end) along Pontiac Avenue. The project would create a distribu-

tion water main looping, improve water quality, and increase customer service. The CIP anticipated the project occurring in 2019, with an estimated cost of \$1,580,000.

The second project, Interstate 295 (I-295) Water Main Bridge Crossing at Providence Street, would install a parallel water main under the bridge overpass across I-295. This project would provide redundant supply infrastructure in a location that would have significant construction and service obstacles in the event of a leak or break. The project is planned for 2020, with an estimated cost of \$770,000.

The third project, Oaklawn Pressure Gradient-Emergency PRV Connection to Low Service Pressure Gradient, would construct an emergency Pressure Reducing Valve (PRV) supply facility to enable water transfer at appropriate pressures in the event of an emergency. The project is planned for 2020 and it is anticipated to cost \$710,000.

In addition to the CIP, KCWA conducts rehabilitation of existing infrastructure through the Infrastructure Renewal and Replacement (IFR) program. Funded through a fixed percentage rates applied to customer billings, the IFR projects include transmission and distribution water mains, mechanical equipment, and building facility components. KCWA has replaced water mains in West Warwick through IFR improvements in the last few years. These include the area around Lexington Avenue, Wakefield Street from Lombardi Lane to Wilson Street, the area around Earl Street, and Gough Avenue from Main Street to West Street. The 2016 CIP plans for several IFR projects in West Warwick in the upcoming years, including:

- Replacement of a water mains on Country Drive and Pepin Street, anticipated for 2019, with an estimated cost of \$1,260,000.
- Replacement of a water main on Quaker Lane, anticipated for 2019, with an estimated cost of \$1,170,000.
- Replacement of a water main on Cowesett Road, anticipated for 2021, with an estimated cost of \$870,000.
- Replacement of a water main on West Warwick Avenue, anticipated for 2021, with an estimated cost of \$1,590,000.
- Replacement of water main on New London Turnpike, anticipated for 2022, with an estimated cost of \$5,170,000.

## WATER SOURCE ADEQUACY

Water from the Scituate Reservoir, through wholesale interconnections with Providence Water and the City of Warwick, provides approximately 70% (about 2,800 mg of water per year) of KCWA's water. The remaining 30% of water comes from four wells in three wellfields located in Coventry; near the border of Coventry and West Greenwich and along the common borders of North Kingstown, East Greenwich, and Warwick.

The theoretical water supply from all sources, as stated in the 2012 WSSMP, was 31.79 mgd (953.7 mg monthly), 39.95 mgd (1,198.5 mg monthly) for the 5-year planning period, and 39.02 mgd (1,170.6 mg monthly) for the 20-year planning period. This assumes all pump stations operate at their maximum capacity, which may not be realized for extended periods due to operational system constraints. The value for the 20-year planning period accounts for an age-related reduction in well capacity. These theoretical water supplies are sufficient to meet the anticipated future demands for both 5- and 20-year planning periods.



## WATER QUALITY

A 2003 Source Water Assessment and Protection (SWAP) Program assessment of the Scituate Reservoir, and its 93-mile watershed, which provides the majority of the KCWA's water, noted the risk of pollution was generally low, but the quality of the surface water and groundwater were directly related to land use activities within the watershed.

The Scituate Reservoir watershed's water quality was assessed by the US Geological Society (USGS) in the 2015 report, *Water-Quality Trends in the Scituate Reservoir Drainage Area, Rhode Island, 1983–2012*. They found that the median values of some water quality properties, such as pH or turbidity, and constituent concentrations, such as nutrients or bacteria, that are affected by human activities correlated positively with the percentages of developed land and negatively with the percentage of forest cover. For example, increased median concentrations of chloride were associated with increased impervious area and developed area, and median nitrate, nitrite, and orthophosphate loads tended to be larger in developed areas.

The Providence Water Supply Board (PWSB), who owns and manages the Scituate Reservoir, noted continued efforts in their 2015 Annual Report to protect the water supply by working with communities within the Scituate Reservoir Watershed to close roads, limit access to PWSB property, and acquire additional property within the watershed to limit development.

Groundwater from the Mishnock Well is treated at the Mishnock Water Treatment Plant for removal of iron and manganese, which are aesthetic water quality concerns, and to meet Rhode Island Department

of Health and USEPA requirements for drinking water quality. Aesthetic water quality problems attributed to the levels of manganese and iron in the East Greenwich Well are being addressed through sequestering and a proactive flushing program; a manganese treatment facility has been proposed. The Spring Lake Well has also experienced aesthetic water quality concerns, but it is currently offline in anticipation of well field redevelopment and implementation of new treatment technology. KCWA expects any future well facility at the Spring Lake Well would require treatment for iron and manganese reduction/removal, radon removal, pH adjustment, and disinfection.

The Consumer Confidence Water Quality Annual Report 2015 noted the KCWA has installed well-head protection signs to increase visibility and public awareness of its three wellfields. The KCWA also encouraged residents and business owners to participate in their municipality's zoning decision making process to maintain or increase protections for the WHPAs.

## NATURAL HAZARD IMPACTS

As noted in KCWA's 2012 WSSMP, they have four emergency interconnections with the Quonset Development Corporation, the Town of North Kingstown, the Providence Water Emergency Interconnection on Hoover Street in West Warwick, and the City of Warwick (which is offline).

The West Warwick Hazard Mitigation Plan (HMP) adopted in 2005 included a risk assessment of vulnerabilities for the Town. Water supply was included as an area of vulnerability. The Plan called for the Town to ensure that KCWA maintains a mitigation plan that takes into account the public safety and health of West Warwick's citizens. The Town updated its HMP

in 2012. As a follow-up to the finding in the 2005, the 2012 HMP determined that KCWA had adopted a mitigation plan addressing the Town's water supply.

The Scituate Reservoir watershed will not be subject to inundation by salt water due to storm surge or sea level rise since it is not along the coast.

The waterbodies within West Warwick are vulnerable to pollutants such as motor oil, fertilizer, and garbage found in runoff from roads, rooftops, and other impervious surfaces. Groundwater can be impacted from pollutants infiltrating the soil or wastewater from malfunctioning septic systems.

## 10.3 Goals, Policies, and Actions

### 1. The use of natural water resources will be efficient and effective.

- Require that all expansions of water supply infrastructure meet municipal design requirements.

*W-1. Implement water reduction strategies that deal with dry summers and droughts in coordination with Kent County Water Authority.*

*W-2. Implement water efficient municipal practices, particularly in the summer.*

*W-3. Review current drought management procedures, identify problem areas and develop recommendations for more effective drought mitigation.*

*W-4. Develop a water emergency response plan, including roles and responsibilities of the various entities involved and communication with the public.*

### 2. Water quality in Town will be improved and protected.

- Encourage coordination between the Kent County Water Authority, RIDEM, and the Rhode Island Department of Health to ensure monitoring for pollutants that might contaminate water supplies.

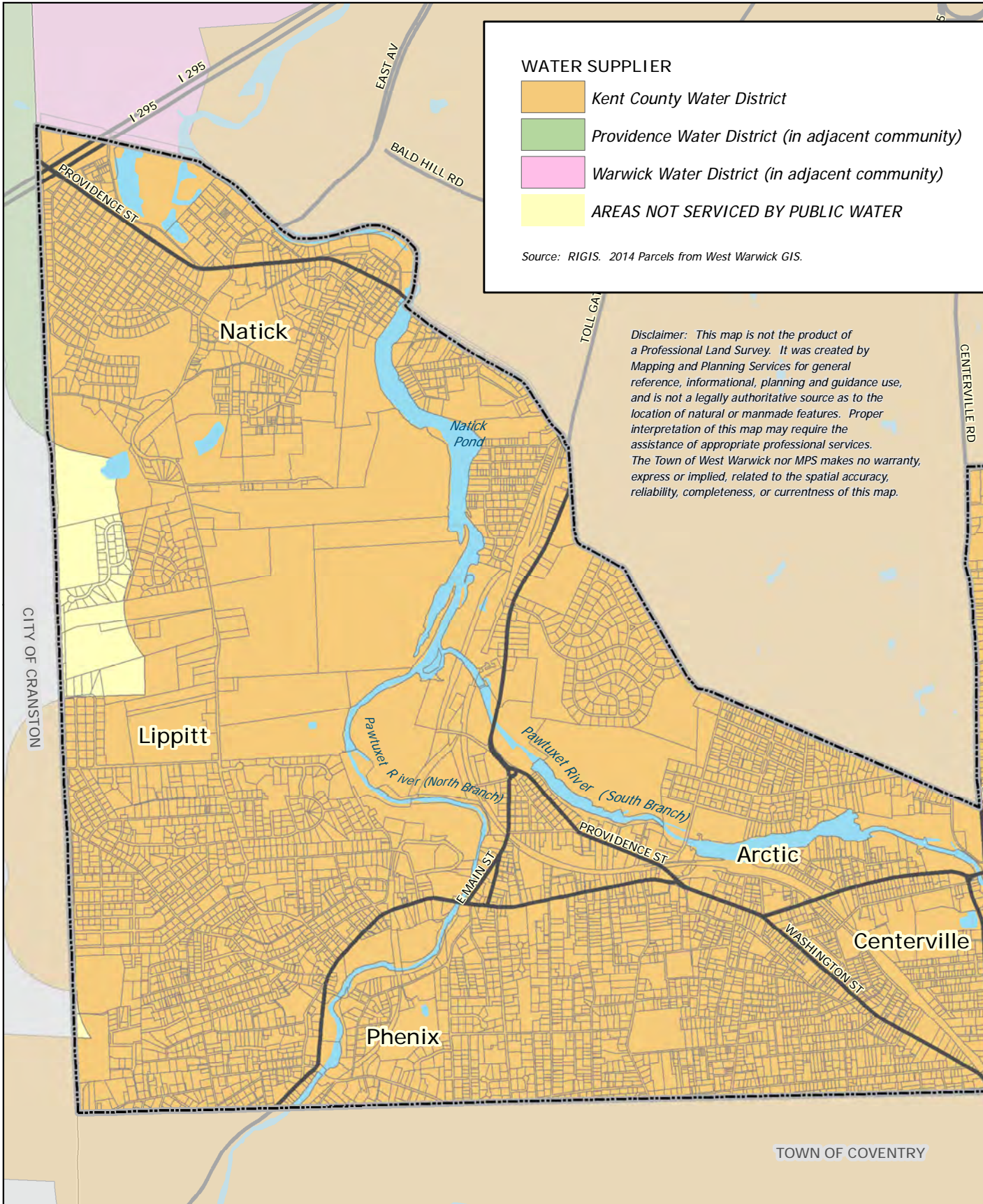
*W-5. Implement standards and strategies aimed at recharging groundwater and reducing runoff, such as reductions in impervious cover, better soil erosion protection, and low-impact development stormwater management.*

*W-6. Establish a stormwater management program.*

*W-7. Work with the Kent County Water Authority through the Planning Board, Town Planner, Town Engineer and other municipal officials as appropriate, to coordinate Town activities with the Water*

*authority's efforts to maintain, improve and expand the water system throughout the Town.*

### 3. Water supply and pressure will be adequate for all residents of West Warwick and to all businesses and industry sufficient to meet demand, for the protection and promotion of the public health, safety, and welfare.



**WATER SUPPLIER**

- Kent County Water District
- Providence Water District (in adjacent community)
- Warwick Water District (in adjacent community)
- AREAS NOT SERVICED BY PUBLIC WATER

Source: RIGIS. 2014 Parcels from West Warwick GIS.

*Disclaimer: This map is not the product of a Professional Land Survey. It was created by Mapping and Planning Services for general reference, informational, planning and guidance use, and is not a legally authoritative source as to the location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. The Town of West Warwick nor MPS makes no warranty, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.*



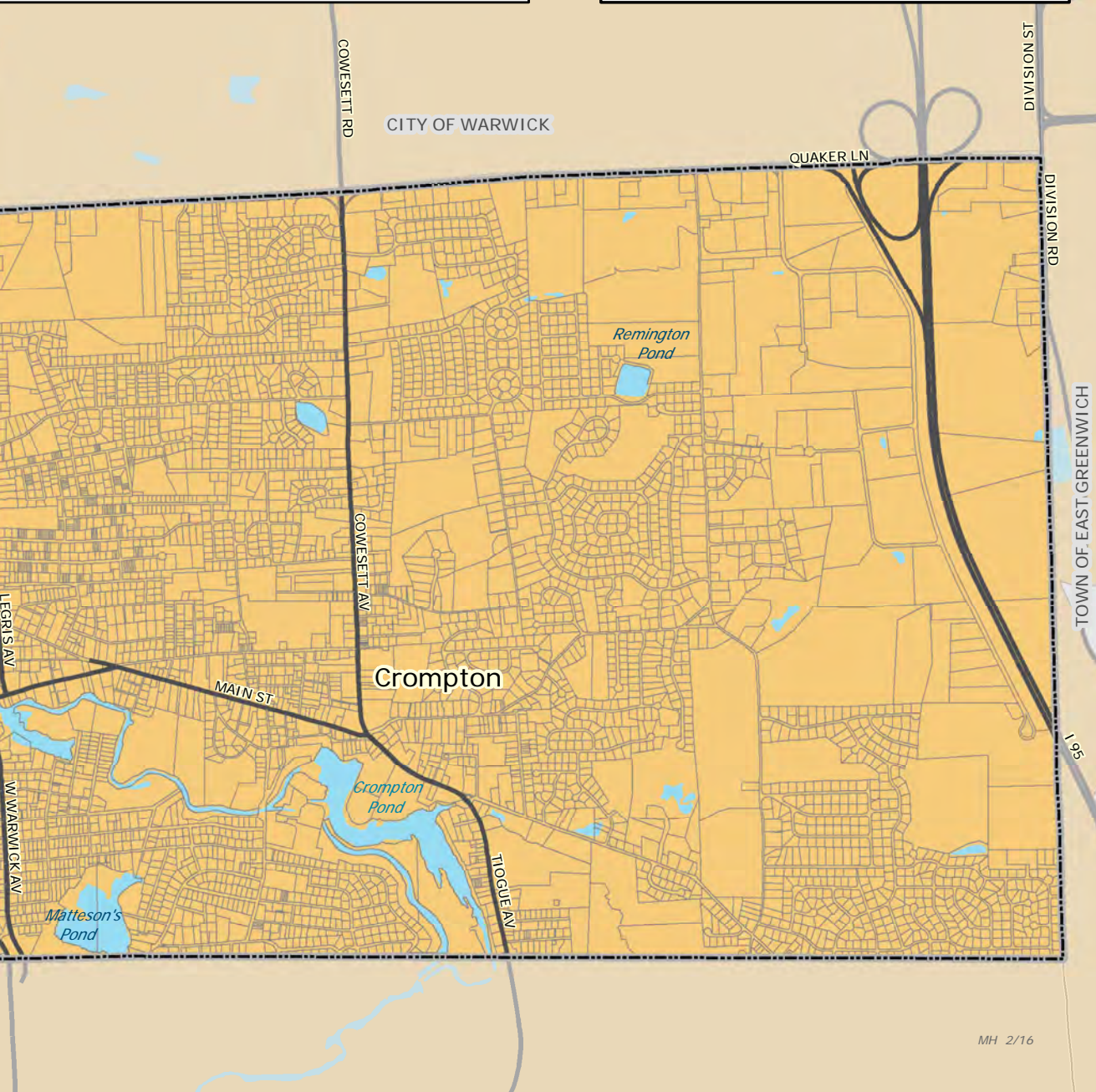
- MAJOR ROADS
- PARCELS (2014)
- PONDS, OPEN WATER



WEST WARWICK  
COMPREHENSIVE  
COMMUNITY PLAN

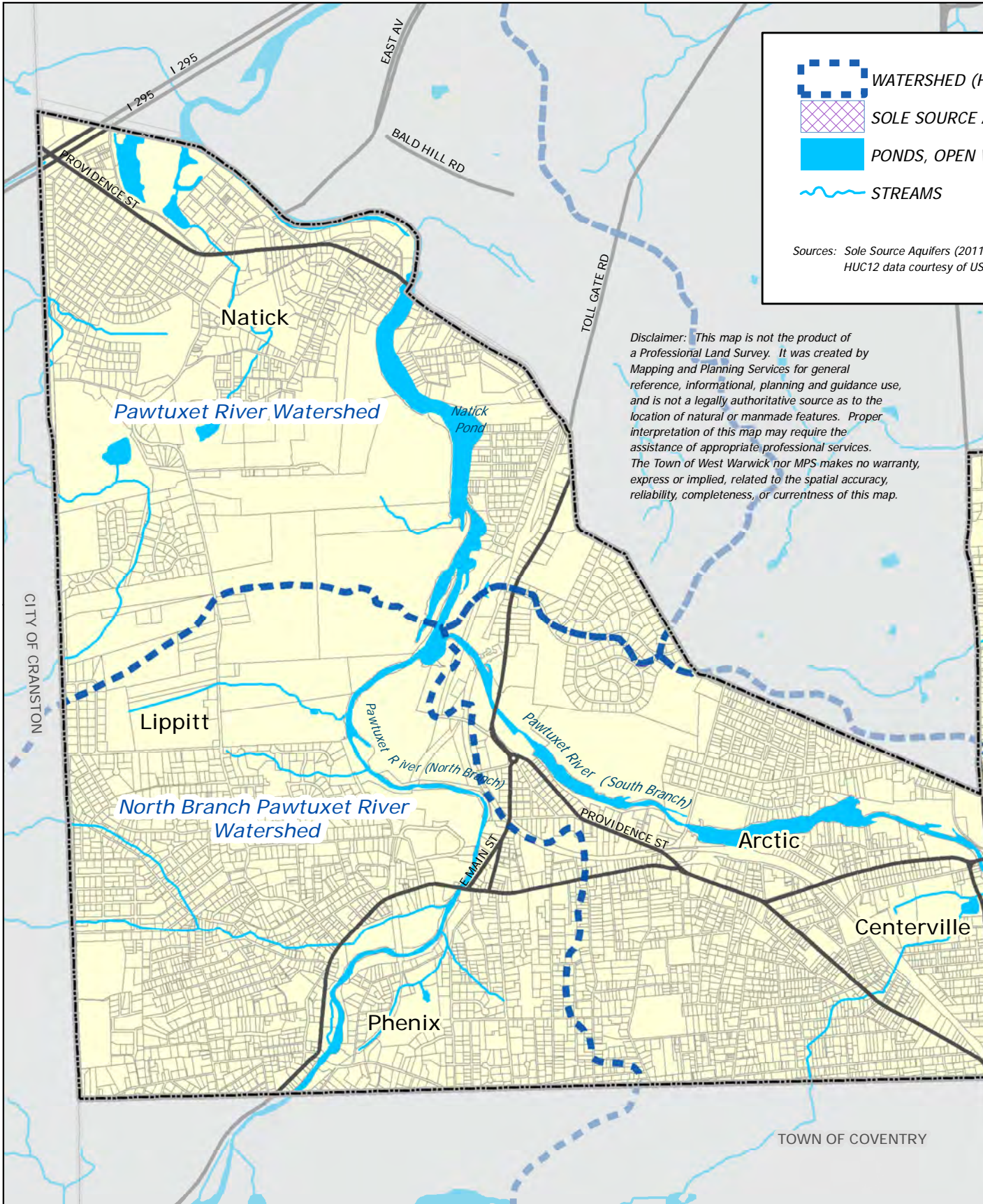


Figure 10-1:  
WATER SERVICE  
AREAS

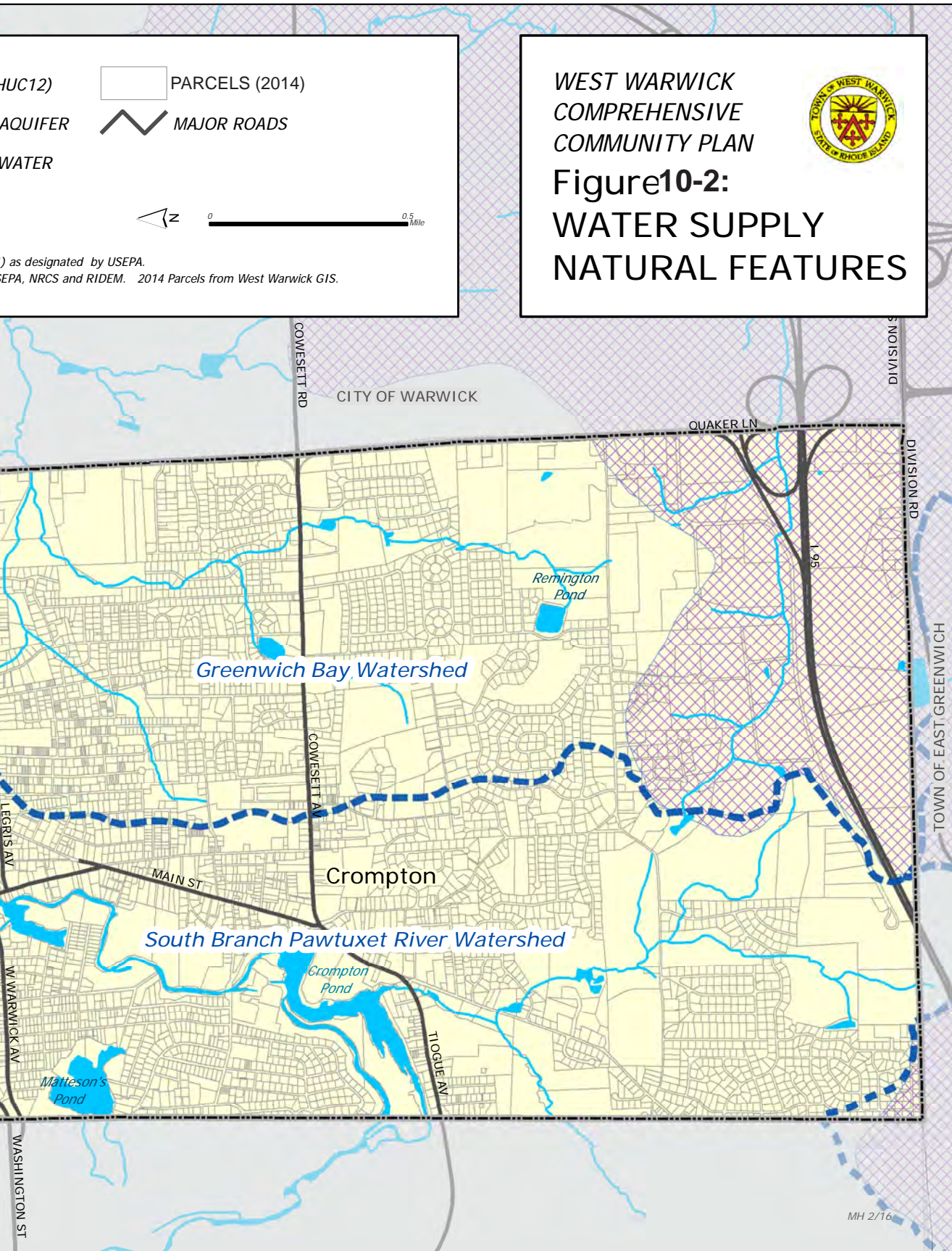


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**WEST WARWICK  
COMPREHENSIVE  
COMMUNITY PLAN**

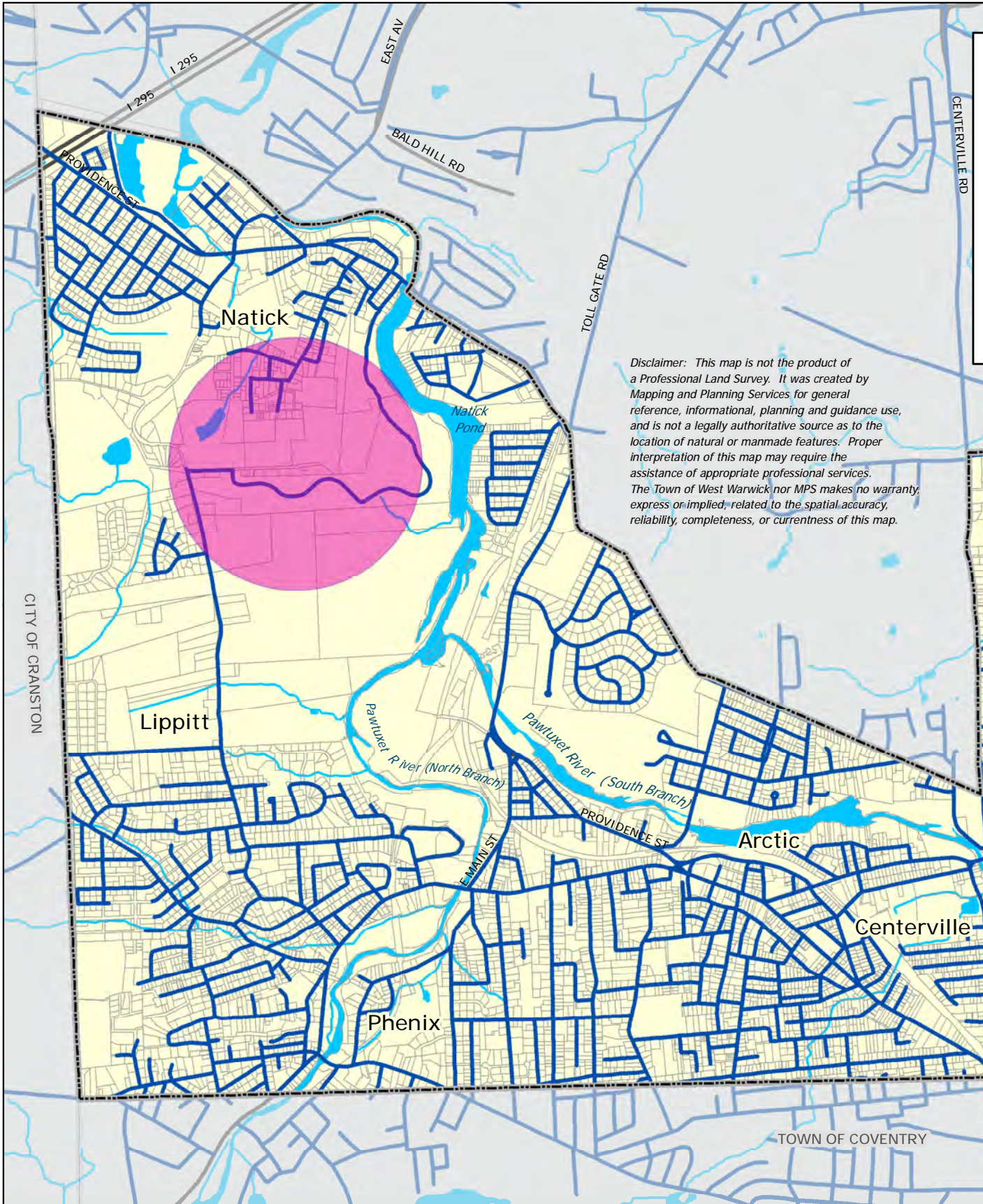
**Figure 10-2:  
WATER SUPPLY  
NATURAL FEATURES**



(HUC12)  
 (AQUIFIER)  
 (WATER)

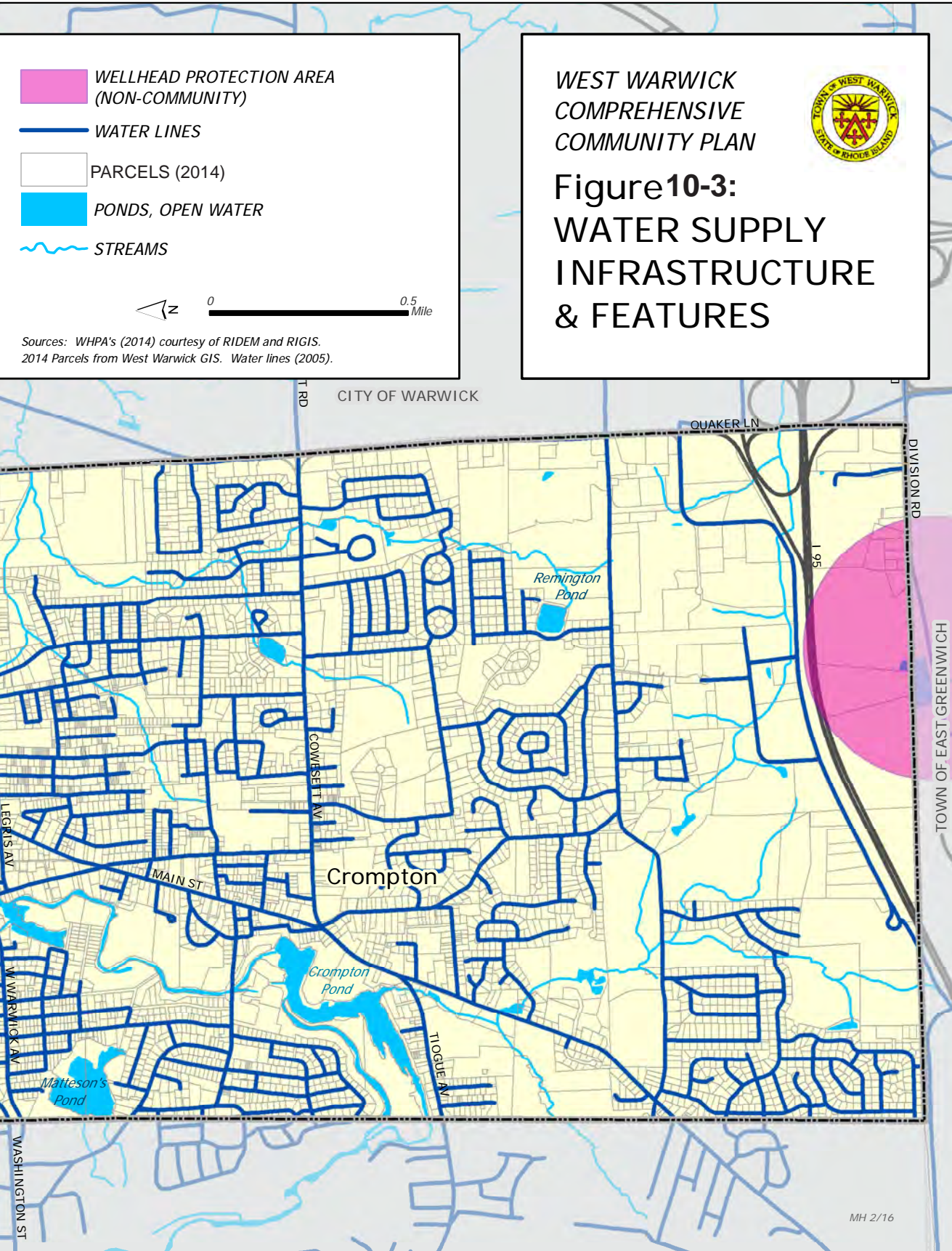
( ) as designated by USEPA.  
 ( ) as designated by USEPA, NRCS and RIDEM. 2014 Parcels from West Warwick GIS.





*Disclaimer: This map is not the product of a Professional Land Survey. It was created by Mapping and Planning Services for general reference, informational, planning and guidance use, and is not a legally authoritative source as to the location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. The Town of West Warwick nor MPS makes no warranty, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.*







# 11. Transportation

## WHAT IS TRANSPORTATION?

*The term transportation refers to the movement of people and goods from place to place. To accomplish this movement efficiently and safely, the State and its municipalities must develop and maintain a network of facilities and infrastructure that accommodates multiple modes of transportation. Rhode Island's transportation network is composed of streets, sidewalks, bike paths and lanes, bus stops and corridors, commuter rail and train stations, railway lines, freight distribution facilities, airports, ports and harbors. Each municipality, depending on location, size, density, and mix of uses, will have a combination of these network components. ...Including goals, policies and implementation actions for transportation within a comprehensive plan allows communities to take a long-range view of their transportation needs and to align transportation goals with goals for other aspects of the community, such as land use, economic development, and housing. Additionally, planning for transportation in a comprehensive plan provides an opportunity to consider the transportation needs of all community members, including those without access to vehicles and those with physical disabilities, and to consider the health impacts of the transportation options available in the community.*

*Statewide Planning Handbook 11: Planning for Transportation*

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## 11.1 Transportation Network

Several major road networks run throughout West Warwick, including I-95 and I-295 and state routes 2, 3, 33, 115, and 117. Route 2 is a north-south connector from Wickford Junction to the Warwick Mall. Route 3 runs parallel along I-95 south-west from Crompton to the border with Connecticut where it joins Route 78. Route 33 connects West Warwick to the Warwick Mall. Route 115 connects Hope to the west with Apponaug to the southeast. Route 117 is an east-west connector from Warwick to the border with Connecticut where it joins Route 14.

The Town is served by public transit operated by the Rhode Island Public Transit Authority (RIPTA). In addition, the West Warwick Greenway, a pedestrian and bicycle path, runs through the center of town and connects to other trails at either end.

**Figure 11-1: Transportation** illustrates the road network routes throughout town. **Figure 11-2: Public Transportation** shows public transportation and bicycle routes. **Figure 11-3: Walking Distance to Schools** provides the standard quarter-mile walking radius for each school.



## 11.2 Current Conditions

### REGIONAL ROAD NETWORK

The existing roadway network in the Town of West Warwick provides links between a variety of different land uses. Major land uses in West Warwick include residential, industrial, municipal, retail and commercial. A quaint community in the town center, called Arctic Village, is the central hub of all the transportation links in town. Primary routes connecting to the Town of West Warwick include:

- Interstate 95 from the east via Route 117 to Main Street
- New London Turnpike from the west via Route 117 to Providence Street
- Interstate 295 from the north via Route 2 and Route 115 to Providence Street

### ROADWAY CLASSIFICATIONS

The functional classification of a roadway provides the framework for identifying the particular role of a roadway in moving vehicles through a network of highways. Functional classification carries with it expectations about roadway design, including its

speed, capacity and relationship to existing and future land use development.

West Warwick Avenue and Coweswett Avenue are principal arterials that serve the Town of West Warwick and the region. These arterials provide east-west access to north-south routes into the Town. Roadways such as Main Street, Washington Street, Legion Way, Quaker Lane, and New London Avenue are classified as minor arterials and provide general mobility within the region.

As of 2016, there are approximately 35 miles of roadway within the Town of West Warwick, excluding local roads. This has increased by approximately five miles since the early 90's due to some local roads being reclassified to collectors over time. Currently, approximately 12% of the roadways are interstate, 10% are principal arterials, 39% are minor arterials, and 39% of the roadways are collectors. The percentage of interstate and principal arterial roadways has increased over time as a result of reclassification of roadways.

**Table 11-1: Roadways**

ROADWAY CLASSIFICATION	LENGTH (MILES)	PERCENT OF TOTAL ROADWAY (%)
Interstate	4.10	12%
Principal Arterials	3.50	10%
Minor Arterials	13.90	39%
Collectors	13.90	39%
<b>Total</b>	<b>35.40</b>	<b>100%</b>

*Note: Excludes local roads*

*Source: Rhode Island Geographic Information System (2016)*

## TRAFFIC VOLUMES

The most recent available traffic volumes were collected between 2012 and 2015. Based on historical traffic volume data, traffic volumes, in general, have been decreasing over the past 23 years. Traffic volumes on Route 33 and Route 117 range from 11,000 – 12,000 vehicles per day. Traffic volumes on Route 3 range from 14,000 to 16,000 vehicles per day. There has been a slight increase (approximately 6%) in traffic on Interstate 95 over the last 8 years.

**Table 11-2: Traffic Counts**

ROADWAY	LOCATION	AADT	
		2004-2008	2012-2015
I-95	Between Route 2 and New London Turnpike	72,800	77,500
Route 33 (Providence Street)	Between Route 115 and Ball Avenue	12,800	11,100
Route 117 (Legris Avenue)	Between Quaker Lane and Coit Avenue	12,600	11,800
Route 3 (Cowesett Avenue)	Just West of Quaker Lane	15,300	14,000
Route 3 (Tiogue Avenue)	At Coventry/West Warwick Town Line	17,500	16,500
Route 117 (West Warwick Avenue)	Between Bell Street and Carlton Place	13,800	11,000
Route 2 (Quaker Lane)	Between East Greenwich Avenue and Cowesett Avenue/Road	29,300	--

-- Data not available

Source: Rhode Island Department of Transportation

## MAJOR TRIP DESTINATIONS

The Town of West Warwick is home to small scale commercial and industrial uses which primarily serve the local Town and neighboring communities. The Town offers community activities and events such as parades and farmer's markets but, in general, does not have any major employers or developments that would be characterized as a destination that would draw a lot of traffic (a major trip generator).

## HIGH HAZARD LOCATIONS

A summary of crash data on roadways in West Warwick were obtained from the Town for a three-year period, from January 1, 2013 to December 31, 2015. A total of 2,504 crashes occurred on town roadways during this timeframe, with 613 (24%) of the crashes involving injuries. There was a total of 2 fatalities and 24 crashes involving pedestrians.

From review of the crash data, the majority of collisions in the study area were rear-end collisions, angled direction or sideswipe/same direction collisions. These types of crashes are generally caused by, but are not limited to, failure to grant right of way, drivers losing control of their vehicles and violating traffic commands. The location of crashes is most frequent on Main Street, New London Avenue, Wakefield Street, Providence Street, and Coweswett Avenue in the congested areas and places where there are unexpected stops.

**Table 11-3: Crash Summary 2013-2015**

	2013	2014	2015
Total Crashes	742	798	964
Crashes Involving Pedestrians	8	5	11
Crashes Involving Injuries	208	182	223
Crashing with Fatalities	1	1	0

Source: Town of West Warwick

## MUNICIPAL PARKING

The Town of West Warwick provides a total of 308 parking spaces among the four municipal parking lots that are located in Arctic Village, as indicated in **Table 11-4**. The largest in capacity of these lots is on Legion Way which is behind the town government complex. It provides a total of 150 parking spaces and is mostly utilized by town employees during the day. The existing condition of the lot is good; however, the parking space design and circulation could be improved. Since the last plan update, the parking facility at Legion Way has been expanded to the adjacent side of the roadway and provides additional capacity. This area is mostly utilized by police vehicles.

The parking facility at 145 Washington Street is located behind the West Warwick Senior Center and provides 72 parking spaces which includes 4 handicap spaces. The parking facility at 37 Washington Street is located adjacent to the Newberry Medical center. This parking facility provides a total of 50 parking spaces. The parking facility at the corner of Archambault and Jodoin Street is located near an apartment complex and provides a total of 36 parking spaces.

**Table 11-4: Municipal Parking**

MUNICIPAL PARKING FACILITIES	CAPACITY (SPACES)
Legion Way – Town Government Complex*	150
145 Washington Street – West Warwick Senior Center	72
37 Washington Street – Newberry Medical Center	50
Corner of Archambault and Jodoin Street	36
<b>Total</b>	<b>308</b>

\* Does not include additional expansion of parking adjacent to the lot used by police vehicles.

## TRANSIT – PUBLIC TRANSPORTATION

There are three RIPTA bus routes that serve West Warwick. These three bus routes are the 29 Kent County, the 13 Coventry/Arctic/Warwick Mall, and the 12X Arctic/Route 117 Express. The primary hours of service are between 5:00 am and 9:00 pm. The primary bus stop location for all three routes is Arctic Center. The 12X Arctic/Route 117 Express bus line also stops at the Phenix Hotel.

**Table 11-5: Transit Routes**

TRANSIT ROUTES	FREQUENCY	BUS STOP LOCATIONS
<b>29 Kent County</b>	Weekday – 90 minutes Saturday – 90 minutes Sunday – 90 minutes	Arctic Center Phenix Hotel
<b>13 Coventry/Arctic/Warwick Mall</b>	Weekday – varies Saturday – 100 minutes Sunday – 100 minutes	Arctic Center
<b>12X Arctic/Route 117 Express</b>	Weekday – 30 minutes Saturday – No Service Sunday – No Service	Arctic Center

Transit service is available for senior citizens through the West Warwick Senior Center and also through a private company called Logisticare. The Senior Center provides transportation for a daily lunch program, a meal program on Tuesday evenings and Saturday morning, weekday trips to local shops and restaurants, and bingo on Friday evenings. Logisticare provides a dial-a-ride service and operates weekdays from 10:00 am to 2:00 pm, and provides transportation to and from the Senior Center. Transportation to and from medical appointments can also be arranged through Logisticare.



## RAIL

The Town of West Warwick no longer has passenger or freight rail service. The former Washington Secondary Rail Line which served West Warwick is now Rhode Island's longest bike path at 19 miles from Cranston Street in Cranston to Log Bridge Road, just past Route 102, in western Coventry. The Massachusetts Bay Transportation Authority (MBTA) and Amtrak Commuter provide the closest passenger commuter rail and freight service. The nearest MBTA station to the Town of West Warwick is located at the TF Green Airport in Warwick, Rhode Island, approximately 10 miles east of the center of West Warwick. The MBTA commuter rail provides daily service from southern Rhode Island to Boston, Massachusetts. The nearest Amtrak Station to West Warwick is located in Providence, approximately 15 miles from the center of West Warwick.

Town. Most of the suburban residential areas lack sidewalk coverage. All sidewalks are maintained by the Town.

## AIR TRANSPORTATION

The Town of West Warwick does not have air transportation. The nearest airport is the Theodore Francis (T.F.) Green Memorial State Airport located in Warwick, RI. This airport is approximately 10 miles from the center of town.

## BICYCLE TRANSPORTATION

The West Warwick Greenway is one of five distinct paths that travel along the former Washington Secondary rail line. In 2002, the 3-mile segment in West Warwick was constructed and paved and is between the Coventry Greenway and the Warwick Greenway. The path runs between Main Street and Providence Street along a former rail right of way which has great views of mills and the Pawtuxet River and easy access to and from commercial areas.

## PEDESTRIAN TRANSPORTATION

Besides the Greenway mentioned above, there are a limited number of pedestrian walkways in the Town. Approximately 50% of the roadways in West Warwick have sidewalks. They are found mostly in the village business district and elsewhere throughout the

## 11.3 Future Needs

While traffic volumes have not increased significantly over the past ten years, delay experienced by travelers in the study areas are attributed to the roadway designs and travel demand. Travel delays occur at major intersections where there is high travel demand, particularly during morning and evening commute periods. Local roadways in neighborhoods where there are public schools experience heavy congestion and travel delays during drop-off and pick-up of students. Other traffic problems include circulation and access in Arctic Center because of one-way streets and closely-spaced intersections that create queuing issues (Main Street and Legion Way; Providence Street and Factory Street). Left-turning vehicles and vehicles using on-street parking also impede traffic flow.

There is a need to improve public transportation services in the town. The current transit service does not provide direct service to areas of interest such as the T.F. Green airport and connections to the southeast. There is a lack of efficient and reliable dial-a-ride services for medical appointments for seniors.

From a non-motorized perspective, bicycle and pedestrian travel in the corridor is limited. There are few existing sidewalks and a lack of connection to areas of interest throughout the town. There is limited access to the Greenway and Riverwalk. Additionally, in neighborhoods where there are public schools, there is a need to improve and increase sidewalk connections which would improve pedestrian safety for school-aged users. The Safe Routes to School program advocates that streets within a half-mile radius of elementary schools, a one-mile radius of middle schools, and a two-mile radius within high schools be walkable. Locations of the five schools in West Warwick are shown in **Figure 11-3**.

## 11.2 COMPLETE STREETS

Complete Streets are designed to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They allow buses to run on time and make it safe for people to walk to and from destinations.

There is no singular design for Complete Streets; each one is unique and responds to its community context. A complete street may include: sidewalks, bike lanes (or wide paved shoulders), special bus lanes, comfortable and accessible public transportation stops, frequent and safe crossing opportunities, median islands, accessible pedestrian signals, curb extensions, narrower travel lanes, roundabouts, and more.

By adopting a Complete Streets policy, communities direct their transportation planners and engineers to design the entire right of way to enable safe access for all users, regardless of age, ability, or mode of transportation. This means that every transportation

### WHAT ARE COMPLETE STREETS?

*A Complete Streets approach integrates people and place in the planning, design, construction, operation, and maintenance of our transportation networks. This helps to ensure streets are safe for people of all ages and abilities, balance the needs of different modes, and support local land uses, economies, cultures, and natural environments.*

*National Complete Streets Coalition  
[www.smartgrowthamerica.org](http://www.smartgrowthamerica.org)*

project will make the street network better and safer for drivers, transit users, pedestrians, and bicyclists, making the town a better place to live.

## ASSESSMENT OF COMMUNITY TRANSPORTATION SYSTEM

There is an increased need to improve pedestrian and bicycle facilities and public transportation services within the town, particularly in areas where there are desired travel paths and desired linkages to transportation modes. Per the stakeholder meetings, the general public perceives the following areas as being particular unsafe/unaccommodating for pedestrians and bicyclists:

- Roberts Street between the Cumberland Farms gas station and U.S. Post Office
- The immediate vicinity of the West Warwick High School and John F. Deering Middle School

The addition of sidewalks, widened shoulders, and/or traffic calming strategies as prescribed in the Complete Streets philosophy, would increase the safety of these desired walking and biking paths.

The current transit service provides limited service to the northeast areas in addition to no direct service to the airport and southeast. Approximately ten percent (10%) of the occupied households in West Warwick do not own vehicles. Two percent (2%) of the West Warwick working population uses public transit to travel to work. Another two percent (2%) of the West Warwick population either walks or bikes to work. Connectivity between various transportation modes is therefore an important consideration. Approximately 13,000 people from the West Warwick workforce travel to neighboring municipalities such as Warwick and Cranston for employment. Only 1,000 people work and live within West Warwick.

Thus, improving public transportation services and providing transit options to neighboring towns such as Cranston and Warwick would be beneficial to the town.

There is limited access to the Washington Secondary Bike Trail and Donald Roch River Walk. From the Arctic Center bus stop location (Weaver Street and McElroy Street), it is approximately a 0.5 mile walk to the Washington Secondary Bike Trail and 0.5 miles to the Donald Roch River Walk. Sidewalk and crosswalk conditions along Legion Way and Factory Street should be improved in order to increase the accessibility between the bus stop location and the recreational/commuting paths.

## 11.4 Goals, Policies, and Actions

1. **Access to municipal offices and commercial businesses in the Arctic Business District will include a system of strategically located and well-maintained parking lots.**
  - Maintain and improve the municipal parking facilities including the following; repaving and/or restriping as necessary, installing improved landscaping and drainage and adding signage.
    - T-1. *Develop and install directory signage along the streets and at municipal parking lots to assist pedestrians, locate activities, points of destination and significant landmarks.*
    - T-2. *Create a parking management plan for Arctic Village and identify funding sources and potential parcels for the development of public parking.*
    - T-3. *Study local traffic patterns in Arctic Village and consider alternatives to the one-way streets.*
  - *Identify and prioritize maintenance and capital improvements for local roads and drainage structures, and to coordinate roadway maintenance and improvement projects with other infrastructure improvements.*
  - T-6. *Work with the Rhode Island Department of Transportation to expedite the Transportation Improvement Program (TIP) projects programmed for West Warwick.*
  - T-7. *Improve local streetscapes through the use of curbing, street tree planting, vegetated buffer strips, repaired and new sidewalks, and drainage improvements.*
  - T-8. *Provide greater emphasis on the design and construction of sidewalks for all new and rehabilitated roadways.*
  - T-9. *Track and implement regular maintenance and sweeping of pedestrian walkways, sidewalks, and streets.*
2. **Safe and efficient pedestrian access and safe road design will be implemented in neighborhoods, suburban developments and in village centers.**
  - Require that new developments, redevelopment and the expansion of existing development projects connect to existing sidewalks and neighborhood walking trails.
  - Require the inclusion of sidewalks in all new residential subdivisions and land development projects.
  - Encourage the design and construction of paved sidewalks on Wakefield Street and East Greenwich Avenue.
    - T-4. *Adopt and implement a Complete Streets policy for all new and reconstructed streets and roadways within the Town.*
    - T-5. *Develop and implement a computerized pavement management system to*
3. **The bicycle transportation network, with regional connections where practical, will help reduce traffic congestion, improve air quality and public health, reduce transportation energy consumption, and provide a viable alternative for local trips.**
  - Support the design of bicycle facilities and bike routes, including exclusive bikeways, where feasible in all public and private road construction projects and new land development projects.
    - T-10. *Prepare a bicycle path master plan for the Town of West Warwick connecting recreational, commercial, historical, and natural resource attributes of the Town.*
4. **A safe, convenient, fully integrated transportation system will meet the daily travel needs of the Town's residents. Public transportation will be a viable alternative for residents without automobiles, and will reduce traffic con-**

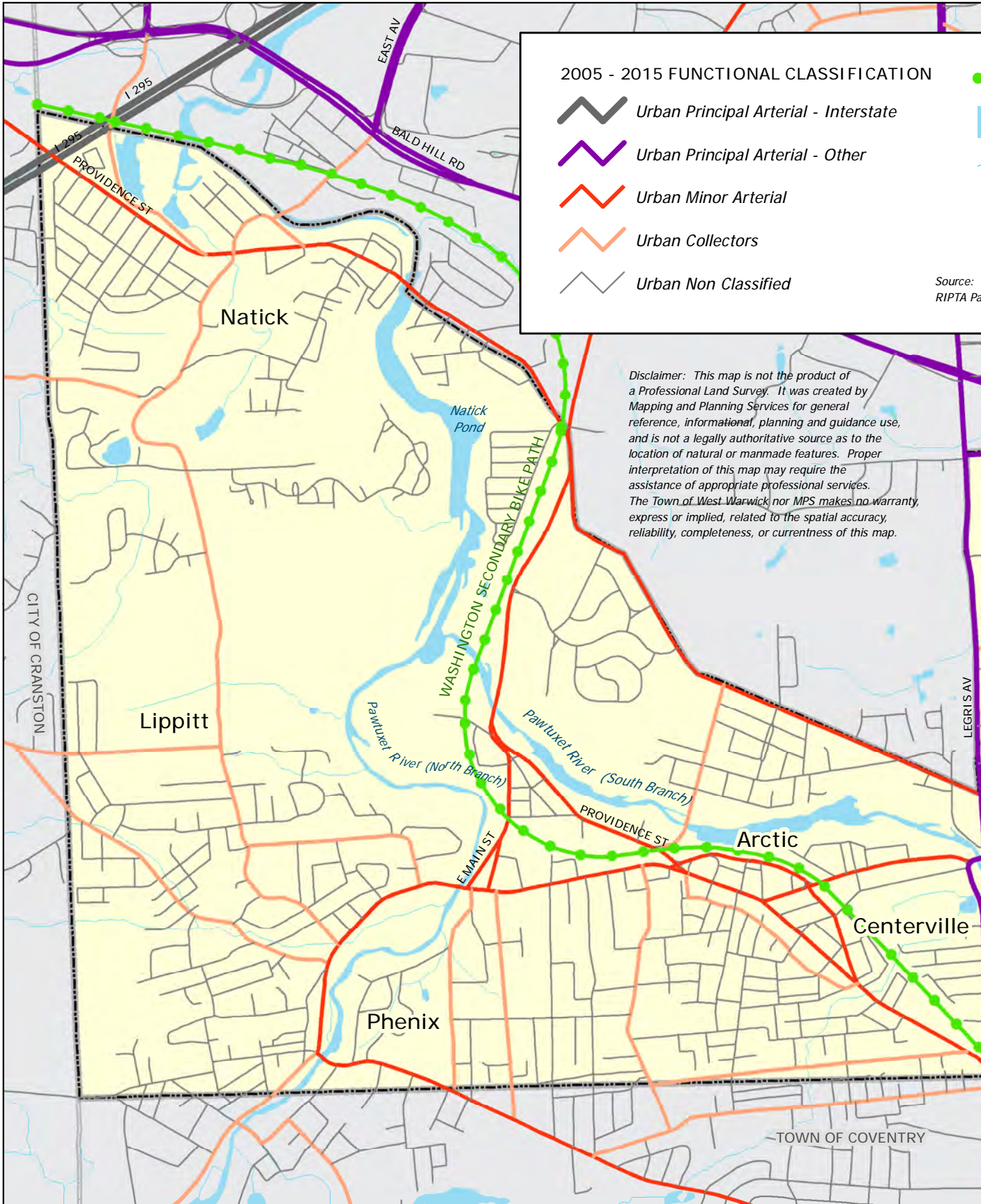


**gestion, transportation energy consumption, and air pollution impacts.**

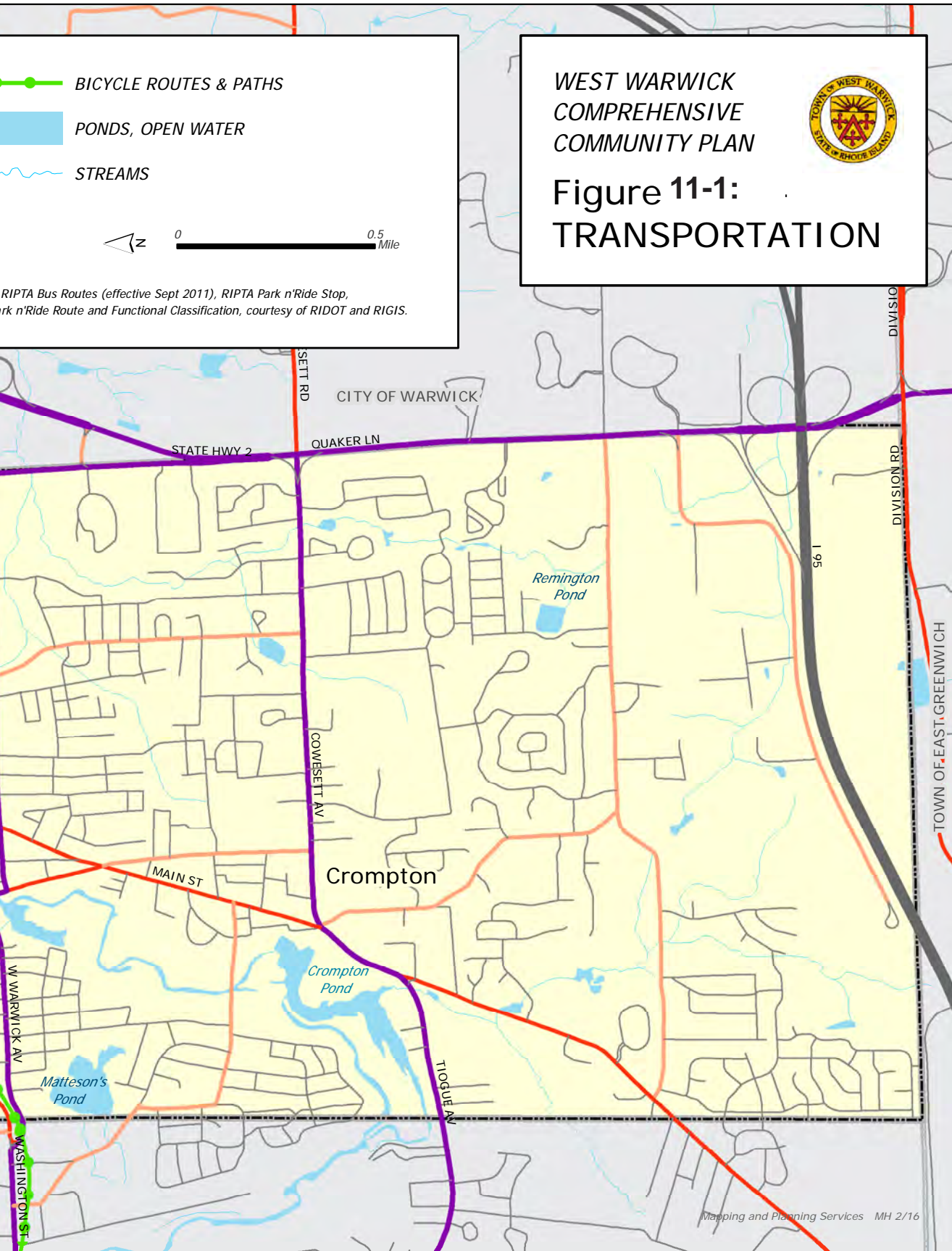
*T-11. Review and evaluate the needs of the service population and the levels of service obtained through provider organizations to assure that needs and requirements are met.*

*T-12. Expand the availability of transportation service to people in need who currently do not meet eligibility requirements.*

5. **The network of state and local streets and roadways will be well-maintained, safe, convenient, and uncongested.**
  
6. **Transportation services will assist the elderly and the handicapped for whom the use of the automobiles and fixed route public transportation is not feasible for trips relating to meals, health care, and other necessary services.**
  - Continue to furnish and potentially expand demand-response mini-bus transportation services to eligible elderly and handicapped citizens through the West Warwick Senior Center.
  - Continue to coordinate the service delivery between vendors at the West Warwick Senior Center, RSVP and SCRITS to prevent duplication of service.
  
7. **Rail rights-of-way will be reused as walking and/or biking trails for the public good.**
  - Improve pedestrian access to and along the Pawtuxet River and investigate the potential for developing a network of walkways using town streets, the Phenix-Harris River Walk, the Donald Roch River Walk, and the Washington Secondary rail right-of-way.

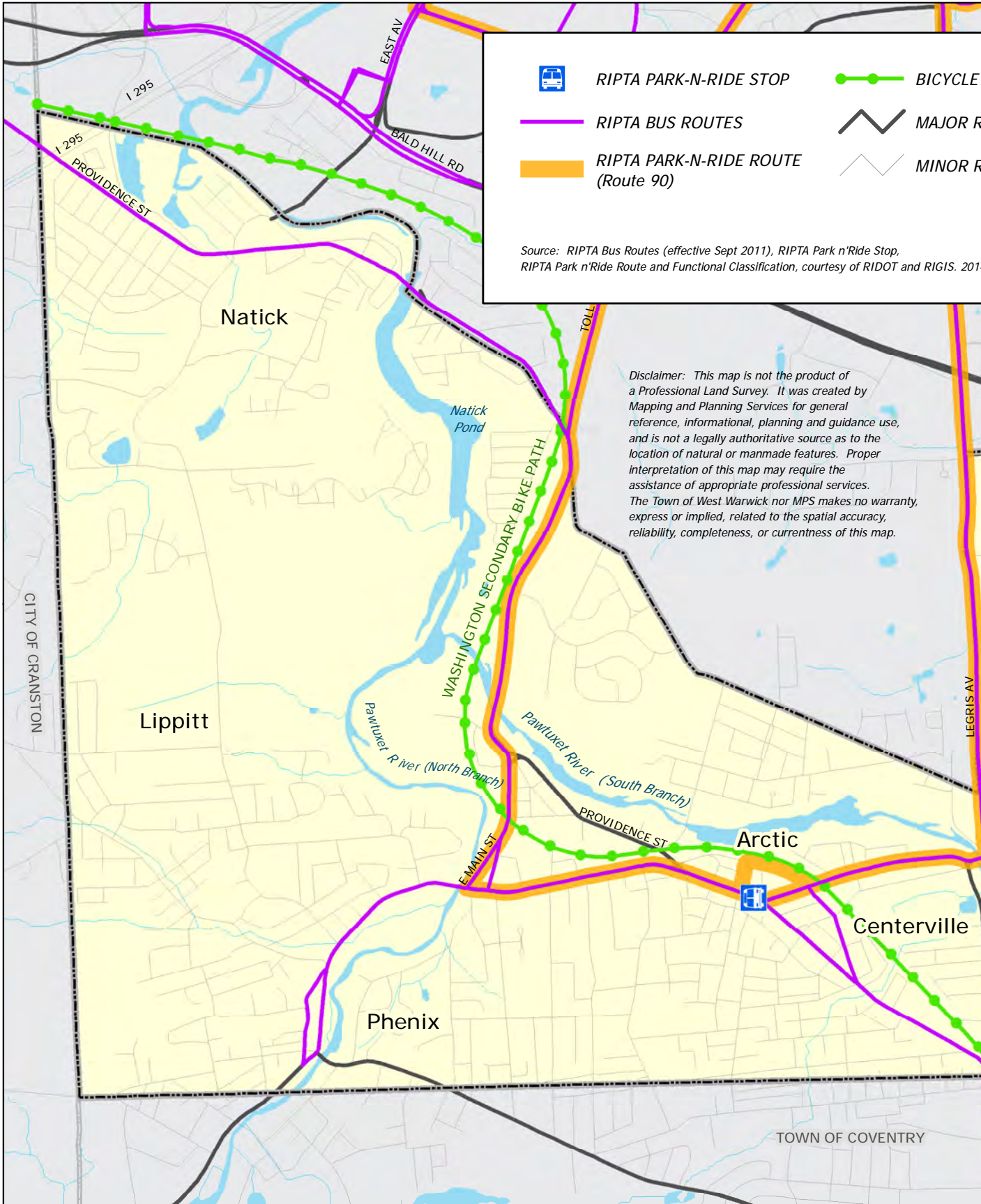




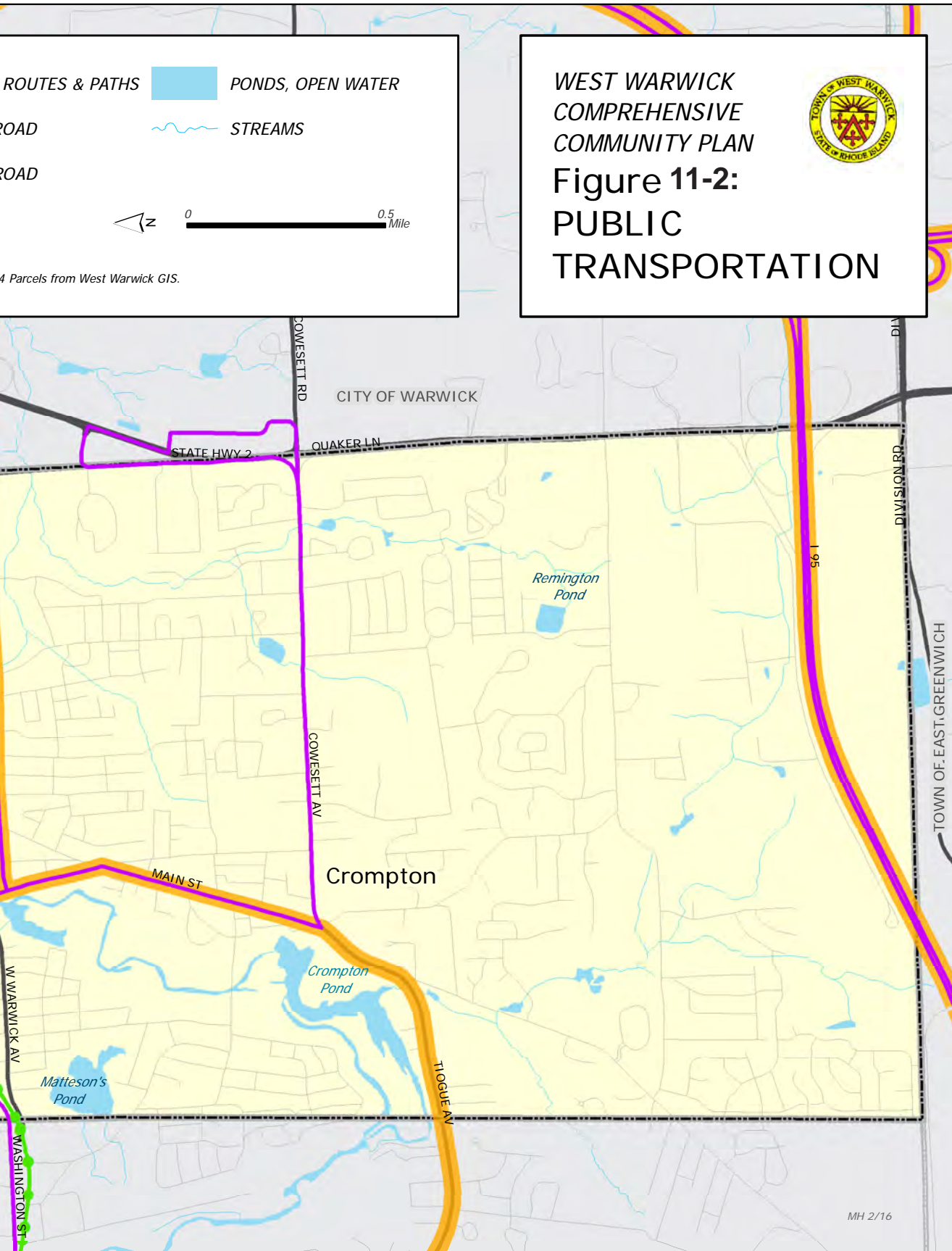


RIPTA Bus Routes (effective Sept 2011), RIPTA Park n'Ride Stop, Park n'Ride Route and Functional Classification, courtesy of RIDOT and RIGIS.

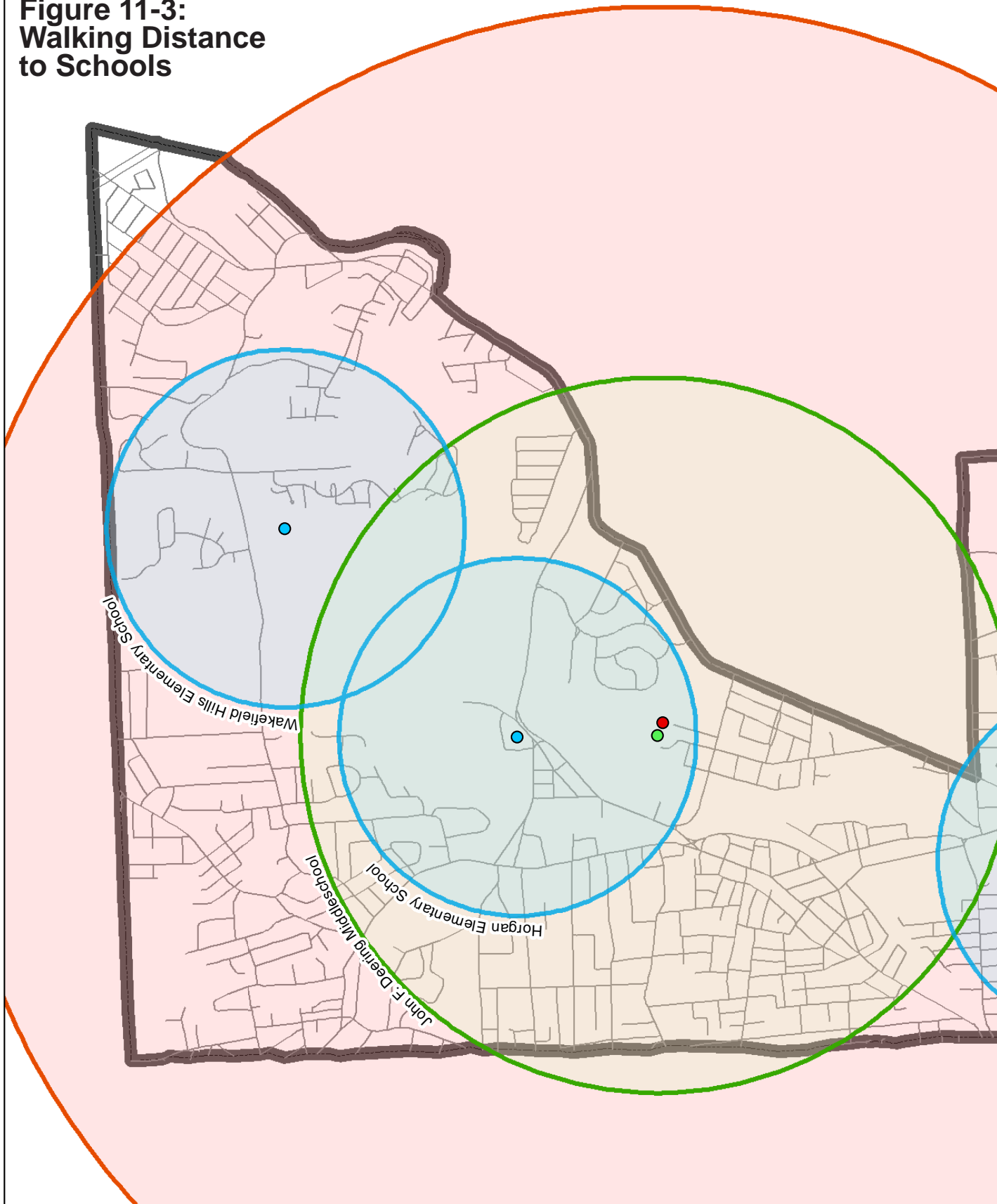
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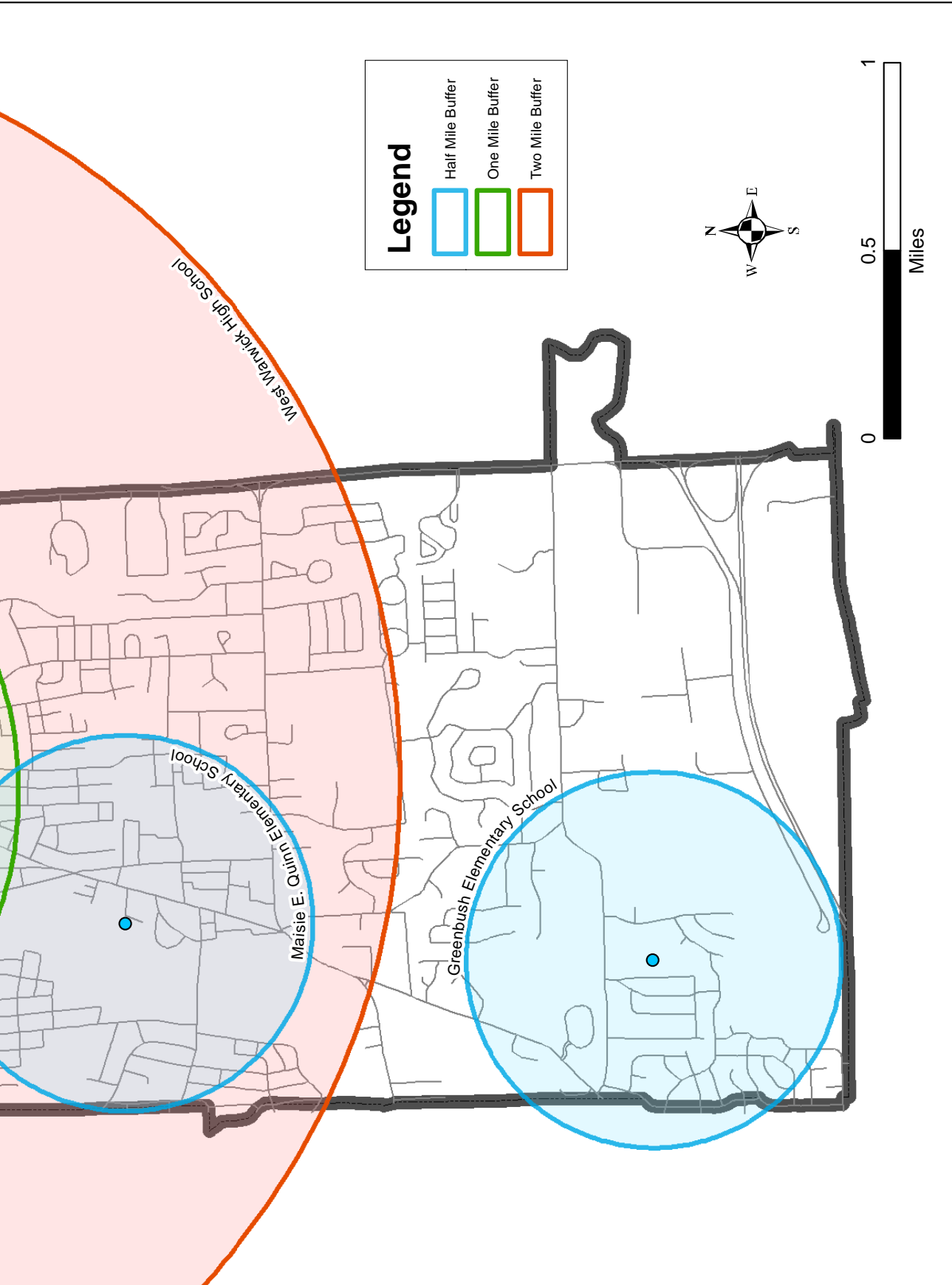






**Figure 11-3:  
Walking Distance  
to Schools**









## 12. Natural Hazards

### WHAT ARE NATURAL HAZARDS?

*A “natural hazard” is an event or series of events caused by forces of nature that has a negative impact on people, infrastructure or the environment. Natural hazards cannot be prevented but must be planned for in order to avoid or minimize impacts to lives, infrastructure and property. ...It is projected that current natural hazards will be worsened by the effects of climate change and that, in some areas, new hazards may arise due to the changing climate. ... Natural hazards and climate change impact many aspects of communities and their built environments, threatening public health, safety and welfare. The comprehensive planning process is an effective way to assess and plan for natural hazards, especially in considering the increasing risks resulting from climate change, because it encompasses many of the areas likely to be impacted. Looking at natural hazards in the realm of the comprehensive plan allows communities to develop goals, policies and implementation actions that stretch across the breadth of the topics covered within a comprehensive plan.*

*Statewide Planning Handbook 12: Planning for Natural Hazards*

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## 12.1 Introduction

Natural hazards cannot be prevented, but proper planning can help mitigate the impacts. For example, poor air quality can impair the ability to breathe, flooded areas stress the capacity of infrastructure, and wind can damage private and public structures and facilities. Climate change will increase the severity of the impact from natural hazards, such as more frequent and stronger storms, and longer periods of drought. Preparatory actions which consider the impact of climate change on potential natural hazards are necessary to avoid or minimize the hazards' effects.

West Warwick's climate is composed of a variety of weather patterns, including severe weather. Previous natural hazards that have affected the Town include blizzards, flooding, windstorms, and tornadoes. Future events will likely increase in severity, such as expanded flood areas, due to climate change. These events can vary in duration from a few hours to a few days and affect all areas of the community. Planning can help the Town respond to these changes by building on the Town's *2011 Hazard Mitigation Plan* to avoid or mitigate the effects of extreme weather events.

The Town is expected to begin the update process for the current Hazard Mitigation Plan in 2019.

## 12.2 Potential Natural Hazards

In the *2011 Hazard Mitigation Plan*, the Town conducted a risk assessment to update hazards identified and detailed in a *2005 Hazard Mitigation Plan*. The updated Plan analyzed the various hazards and their associated magnitude, duration, distribution, area affected, frequency, and probability of an event. The natural hazards posing the greatest threat to West Warwick are presented in **Table 12-1**. Many of these hazards will increase in occurrence and frequency due to climate change.

**Table 12-1: Hazards Posing the Greatest Threat to West Warwick**

HAZARD	PROBABILITY OF EVENT
Severe Weather*	High
Hurricanes	Low
Flooding and Dam Failure	High
Earthquake	Low
Conflagration	Low
Pandemic	Low

\*Severe weather includes winter storms, severe thunderstorms, and tornadoes

### SEVERE WEATHER

#### Heavy Snow

The National Weather Service (NWS) defines heavy snow as snowfall accumulation of four inches or more within twelve hours, or six inches within 24 hours. The trend due to climate change is for increased heavy snow and intensity of precipitation in colder seasons within West Warwick and the region. Heavy snow can create hazards from accumulation on roads, isolating people from goods, services, and public safety that they may need. In addition, heavy snow accumulation has the potential to collapse roofs – especially flat commercial roofs that are not designed for a heavy buildup of snow.

#### Ice Storms

Ice storms are a type of winter storm with freezing rain. A NWS ice storm warning is issued when an accumulation of quarter of an inch or more of ice is forecasted. The trend is for increased storm frequency in West Warwick, including potential ice storms. Ice will accumulate when rain freezes on contact with various surfaces including powerlines, trees, and roads. This can lead to extremely hazardous conditions including downed powerlines, tree damage, and icy roads.

#### Blizzards

The NWS issues a blizzard warning when there is heavy snow and winds are sustained at 35 mph or higher. Expected trends in climate change are likely to increase the frequency and duration of blizzards in West Warwick and the region. These storms reduce visibility to less than quarter of a mile. Blizzards can be severe when winds are sustained at 45 mph or higher, with snow and temperatures are less than 10-degrees Fahrenheit.

#### Extreme Cold

Extreme cold is typically considered any temperature fewer than zero degrees Fahrenheit in northern states. The climate change trend will result in wider temperature swings, meaning future episodes of extreme cold in West Warwick and the region are more likely. During conditions with extreme cold, hypothermia and the potential loss of extremities due to frostbite is a serious concern. A temperature of zero degrees Fahrenheit, combined with 15 mph winds, creates a wind chill of -19-degrees Fahrenheit, which can cause frostbite in as little as 30 minutes.

## High Heat Days

High heat days increase the risk for various health problems, including heat rash, heat exhaustion, and stroke, for the vulnerable young and elderly populations. As the trend is increasing ambient temperatures, heat advisory warnings will become more common – especially during the summer season in West Warwick. The NWS issues a heat advisory warning when the temperature remains at a heat index, determined by the ambient temperature and humidity, of 100-degrees Fahrenheit or higher for at least two hours. For example, a 90-degrees Fahrenheit day with 60% humidity has a heat index of 100-degrees Fahrenheit.

## Extreme Heat Waves

In New England, heat waves are defined as a period of at least three consecutive days with temperatures of 90-degrees Fahrenheit or higher. Extreme heat waves will continue to increase with the acceleration of climate change in West Warwick. Extreme heat waves create similar health hazard problems as high heat days. In addition, they can lead to crop failures and power outages caused by excessive loads on the power grid from air conditioner use.

## Air Quality

The quality of air is related to the topography of the region, climate, and the physical and chemical properties of pollutants. Increased ambient temperatures due to climate change trends will increase the number of days West Warwick experiences poor air quality. In urban areas like West Warwick, polluting air emissions come from a mixture of sources, including automobiles and the variety of industries in the

region that may be releasing toxic chemicals into the air. While particulate pollution can be elevated any time of the year, ozone pollution is more prevalent in warmer temperatures as heat and sunlight increase ozone formation. Similar to weather forecasting, the daily air quality forecast issued by the Rhode Island Department of Environmental Management (RIDEM) assesses the breathing hazard level posed by particulate and ozone pollutants. Poor air quality has the greatest effect on people with asthma or respiratory diseases, who may experience increased asthma attacks or require more health care treatment, as well as reduced lung capacity in healthy adults.

## Thunderstorms/Wind Storms

Thunderstorms are caused by quick rising humid warm air and frequently accompanied by lightning, strong wind, rain, and hail. The trend is for more frequent and intense thunderstorms for West Warwick. In West Warwick and the surrounding region, storms are most severe in the spring and summer. Storm hazards include loss of power from damaged electrical lines, flooding, and damage to major infrastructure. In addition, hail formed from thunderstorms produces additional hazards.

## Hail

Hail is solid precipitation that forms in strong thunderstorm clouds. The impacts of climate change will increase storm intensity in West Warwick, increasing the likelihood of damaging hail. In the right conditions, precipitation turns to ice that does not fully melt before it hits the ground. Hail can cause physical damage to cars and buildings, as well as injuries to people and animals.



## Lightning

Lightning is an electrical discharge between a thundercloud and the ground. The trend in the region and West Warwick is an increase in intensity and occurrences of lightning from thunderstorms. Lightning strikes can cause severe damage to buildings, infrastructure, and the environment.

## Tornadoes

Tornadoes are funnel-shaped rotating clouds that connect from storm clouds to the ground. Although the conditions for their possible creation can be predicted, the rotating funnel cloud typically forms without much warning. Tornadoes are not typical in West Warwick, but the damage to buildings and infrastructure can be significant. The tornado winds can range anywhere from 40 mph to over 300 mph, the diameter of the funnel can be anywhere from 300 feet to over a mile, and the path on the ground can run for several miles. The Fujita scale (F-scale) rates tornado intensity based on the damage to buildings and vegetation. Tornadoes can damage property and inflict injury, both directly due to the extreme winds, as well as indirectly due to hazards from flying debris.

## Drought

A drought is a period of time in a particular geographic location that is experiencing less precipitation than usual. The trend is for more precipitation in the warmer months, but less in the colder months. The reduced water entering the ecological system affects waterbodies, natural wildlife habitats, agriculture, public water supplies, and businesses dependent on water. Droughts in West Warwick do occur, but are typically not severe and may only require reduc-

tions to the irrigation of lawns during the summer months. Some residents in West Warwick depend on wells for water, however, they would be affected only in extreme droughts.

## HURRICANES

Hurricanes, low-pressure, rapidly rotating, closed storm systems, have winds of at least 74 mph and can exceed 157 mph. Climate change trends will increase the frequency and intensity of severe storms; hurricanes are expected to increase, as well. The average diameter of these storms is about 100 miles, but can be as large as 400 to 500 miles. Hurricanes usually originate between August and October as tropical storms over large bodies of warm water. Hurricanes are rated on a five-point Saffir-Simpson scale based on their wind speed; storms with higher numbers cause more damage when hitting landfall. Rhode Island has never experienced a hurricane greater than a three on the Saffir-Simpson scale. Any hurricane hitting West Warwick could cause a lot of damage due to hazards associated with strong rainfall and wind. If category 1 to 4 hurricanes were to land near West Warwick, the areas of potential flooding are the same as the areas shown in the flood zones depicted in **Map 12-1: Natural Hazards**.

## FLOOD-RELATED HAZARDS

Flooding occurs when water submerges areas of land that usually remain dry. Floods can be caused by severe weather, such as rain, snow, or ice melt, as well as infrastructure failures such as a failed dam or levee.

**Map 12-1** shows the areas with 1% and 0.2% chance of flooding as they appear on Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs).

## Riverine Flooding

Riverine flooding is due to water overflowing river banks. The spillover of the embankment can be caused by an exceptional rainfall, snow or ice melt, or a levee or dam break. As the water enters the river at such a rapid pace, it cannot be absorbed and flows out from the river's edge. The hazard arises when development occurs in the floodplain. When the riverbed floods, so do these buildings, roads, and infrastructure.

West Warwick suffers frequent riverine flooding of the Pawtuxet River and its branches, which is expected to increase due to the trend of climate change. The Town was hit with excessive flooding in the March 2010 when the Pawtuxet River crested at 20.79 feet, over six feet higher than the preceding record peak. Cleanup efforts to the river banks and flooded areas continued for a year following the flood.

## Flash, Urban, and Stormwater-based Flooding

Flash, urban, and stormwater-based flooding occurs when streets and storm drains overflow in densely populated areas. The trend is for greater, and more frequent, periods of intense precipitation which will bring an increased risk of flooding. These floods are usually caused by the large percentage of impervious surfaces which prevent water from infiltrating into the soil, or blockages in storm drains, so that water accumulates faster than it can be removed. West Warwick's urbanized areas are prone to experience street, basement, and storm drain flooding due to this hazard.

Low-impact development techniques can assist in mitigating these types of flood hazards. See *Chapter 2: Natural Resources*.

## Dam Failure

Dams, artificial barriers that divert or impound water, fail when they no longer control impounded water. Dam failure can happen over an extended period of time, or in a matter of moments, and its severity is determined by the amount of water controlled by the dam. The Town's *2011 Hazard Mitigation Plan* noted that the Town's 12 dams are privately owned, and the Arctic, Natick, and Centerville Pond dams pose a significant hazard.

## COASTAL HAZARDS

Storm surge, coastal flooding, coastal erosion and shoreline change, and sea level rise are all hazards associated with coastal environments. West Warwick does not have a coastline, and these hazards will not directly impact West Warwick.

## EARTHQUAKES

Earthquakes are caused by the sudden movement of the earth's tectonic plates. Damage varies greatly based on the strength of the earthquake. Although rare in West Warwick, mild earthquakes do occasionally occur. Earthquakes are expected to continue at their current frequency. Earthquake damage can range from minor damage to buildings and infrastructure, to total destruction, with significant injuries to people, including loss of life.

## CONFLAGRATION

Conflagration, a large destructive fire, can be triggered by a variety of sources, such as lightning, electrical faults, and arson. The fires can become a significant hazard to property and public safety when they are near buildings, or when winds increase the strength and location of the fire. Conflagration can happen anywhere in West Warwick; densely populated areas or older buildings are especially vulnerable. Wildfires are not as likely due to the level of urbanization, however, those locations in town that are near forested areas have a greater risk. In drought conditions, vegetation becomes drier and is more susceptible to wildfires.

## PANDEMICS

A pandemic is the rapid spread of an infectious disease across an area or population. The trend is for pandemics to increase in frequency and severity. Urban areas are more easily affected by pandemics as infectious diseases such as influenza, insect-transmitted diseases, and tuberculosis, can be transmitted quickly within densely populated areas. Depending of the seriousness of the symptoms of the illness and rate of transmission, the severity and impact of the pandemic could vary. The capacity of numerous Town services and facilities, such as emergency services and the Senior and Community Center, would be affected in a pandemic event.

## 12.3 Impacts from Priority Natural Hazards

In the *2011 Hazard Mitigation Plan*, the Town conducted a risk assessment to update hazards identified and detailed in the earlier *2005 Hazard Mitigation Plan*. The updated Plan provided a preliminary vulnerability assessment of people, structures, and critical facilities to hazards identified in the 2005 Plan, examined the capability to mitigate the hazards, and revised the goals and mitigation actions. When analyzing the various hazards, consideration was given to the associated magnitude, duration, distribution, area affected, frequency, and probability of an event.

- **SEVERE WEATHER** – All areas of West Warwick are equally vulnerable due to the relatively small size of the Town. Different types of storms, such as winter storms or thunderstorms, have a similar effect throughout the Town.
- **HURRICANES** – All areas of West Warwick are vulnerable to property and infrastructure damage from high-speed wind. The Pawtuxet River and low lying areas in Natick are vulnerable to flooding from heavy rain. The elevation of the sewer plant provides some flood protection despite its location in a flood zone.
- **FLOODING AND DAM FAILURE** – Most of the length of the Pawtuxet River in West Warwick is categorized by FEMA as Zone A (areas subject to inundation by the 1% annual chance flood event), including Canna Street, Aster Street, and Baker Street, and are vulnerable to flooding. Some businesses within these areas have hazardous materials that could cause contamination, if flooded. Baker Street, Phenix Avenue, low lying areas in Natick, and a portion of Main Street are also prone to flooding.
- **EARTHQUAKE** – Town Hall, several commercial buildings, churches, schools, and old textile mills constructed of masonry, cinder block, un-reinforced concrete, or built on filled/made soils are vulnerable to damage. Significant damage to

a variety of infrastructure could occur following a moderate earthquake.

- **CONFLAGRATION** – The close proximity of West Warwick’s mill buildings and houses to each other makes them vulnerable to a fast spreading fire. The Town has little open space or large forested areas that would be vulnerable to wildfire.
- **PANDEMIC** – Young children and the elderly are vulnerable, as are populations that live or are in close proximity to one another. For example, school-age children near one another in school are very vulnerable.

**Table 12-2** presents nine vulnerable areas of Town and associated locations, in order of priority, as identified in the *2011 Hazard Mitigation Plan*.



Table 12-2: Currently Vulnerable Areas in West Warwick

VULNERABLE AREA	LOCATION	NATURAL HAZARD	PRIMARY PROBLEM/EFFECT	MITIGATION OBJECTIVE
Non-Residential and Residential Properties	J. P. Murphy, Bascues Park, Brookside Avenue, Main Street, Phenix and Natick areas	Flooding	<ul style="list-style-type: none"> <li>Property loss</li> <li>Public safety</li> <li>Economic loss</li> </ul>	<ul style="list-style-type: none"> <li>Protection of property and public safety</li> <li>Prevention of economic loss</li> </ul>
Sewer System (Including Lift Stations)	Town-wide	Flooding, Severe Weather, Wind, Hurricane	<ul style="list-style-type: none"> <li>Structural damage</li> <li>Disruption of services</li> <li>Public health risk</li> <li>Environmental risk</li> </ul>	<ul style="list-style-type: none"> <li>Prevent structural damage</li> <li>Prevent disruption of services</li> <li>Protect public health</li> <li>Prevent pollution</li> </ul>
River, Streams, and Creeks	Baker Street Brook, North and South Branches of the Pawtuxet River, and the Creek in the Janet Drive area	Flooding	<ul style="list-style-type: none"> <li>Loss/damage of property</li> </ul>	<ul style="list-style-type: none"> <li>Prevent loss/damage of property</li> </ul>
Dams	Arctic, Natick, Centerville, and Upper and Lower Riverpoint, Riverpoint Mill, Bouchar Farm, Clyde, Crompton Lower, Di Martino Farm, Phenix Mill, and Lombardi Farm Ponds	Flooding, Earthquakes	<ul style="list-style-type: none"> <li>Incomplete dam ownership and inspection information</li> <li>Dam failure causing flooding of low lying areas</li> </ul>	<ul style="list-style-type: none"> <li>Update ownership information</li> <li>Review inspection reports</li> <li>Protection of low lying areas</li> </ul>
Roads and Adjacent Property Subject to Drainage Problems	Canna, Baker, Main, Aster, Begonia, and Daisy Streets and Janet Drive	Flooding, Severe Weather, Hurricane	<ul style="list-style-type: none"> <li>Debris-blocked roads</li> <li>Poor drainage</li> <li>Damage to private property</li> </ul>	<ul style="list-style-type: none"> <li>Identify evacuation and alternative routes</li> <li>Decrease financial impacts on residents</li> <li>Alleviate poor drainage</li> </ul>
Essential Public Services	Town-Wide	Flooding, Severe Weather, Wind, Fire	<ul style="list-style-type: none"> <li>Public safety and health risk</li> <li>Disruption of essential public services</li> </ul>	<ul style="list-style-type: none"> <li>Protect public safety and health</li> <li>Prevent disruption of essential public services</li> </ul>
Public Buildings	Mass Care Facilities, Fire and Police Stations, Town Hall, Department of Public Works Garage and Senior Center	Severe Weather, Wind, Fire, Earthquake	<ul style="list-style-type: none"> <li>Structural integrity of buildings</li> <li>Essential services functionality</li> </ul>	<ul style="list-style-type: none"> <li>Maintain structurally sound building to protect public safety and essential services</li> </ul>
Bridges	Main, Natick, Providence, Factory, and Pulaski Streets	Flooding, Severe Weather, Earthquake	<ul style="list-style-type: none"> <li>Structural damage</li> <li>Disruption of traffic flow</li> </ul>	<ul style="list-style-type: none"> <li>Protection of infrastructure</li> <li>Maintain traffic flow</li> </ul>
Water Supply	Town-Wide	Earthquake, Flooding	<ul style="list-style-type: none"> <li>Interruption of water supply</li> <li>Public health and safety risk</li> </ul>	<ul style="list-style-type: none"> <li>Public safety</li> </ul>

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## 12.4 Addressing Priority Hazard Impacts

West Warwick has made hazard mitigation a routine part of municipal government by incorporating it into the site plan review process, as well as conducting structural (building code enforcement, repair and retrofit of existing structures, and removal of vulnerable structures) and non-structural initiatives (educational programs, preventing construction in high-hazard areas, enforcing regulations).

To protect the property and safety of residents, and prevent economic loss associated with flood events, the Town encourages property owners to flood proof any structures located in a flood zone. The Town also educates property owners vulnerable to flooding on flood protection and the National Flood Insurance Program (NFIP). Although very little new development is occurring in West Warwick, the Town discourages variances from flood regulations for new construction located within a flood zone. As noted in the *2011 Hazard Mitigation Plan*, redevelopment is subject to current zoning regulations, building and fire codes, and floodplain standards.

West Warwick was one of the first communities in Rhode Island to receive structural acquisition project approval from FEMA's Hazard Mitigation Assistance Grant Programs (HMGP) following the flooding in 2010. Funding was used to acquire properties and demolish structures that had experienced repeated losses due to flood events. In addition, the HMGP funding enabled the Town to create more flood storage capacity. West Warwick has also utilized Rhode Island Community Development Block Grant (CDBG) funding for a variety of hazard mitigation activities, including code enforcement, infrastructure, and housing rehabilitation.

West Warwick has collaborated with state agencies and nearby communities to address flooding haz-

ards. The Town has worked with RIDEM, Rhode Island Emergency Management Agency, and surrounding communities to identify the private owners of the dams and notify them of their responsibility for inspection, maintenance and repair of their dams. In addition, the Town works with Cranston to ensure the creek near Janet Drive is free from debris that could cause flooding.

The West Warwick Department of Public Works (DPW) annually trims and removes any hazardous trees to prevent damage from severe weather and high winds. The Town has also established evacuation routes and worked with the Rhode Island Department of Transportation, the Rhode Island Emergency Management Agency, and nearby towns to identify alternative routes.

To ensure West Warwick remains vigilant regarding the impacts of natural hazards, the Town plans to review and update the natural hazard priorities previously identified. In this updated *Hazard Mitigation Plan*, there will be a detailed vulnerability assessment of the assets discussed in **Table 12-2**.

## 12.5 Goals, Policies, and Actions

### 1. The Town will implement strategies to increase resiliency to natural hazards and climate change.

- Require municipal departments to incorporate climate change in all long-range planning and critical public infrastructure projects.
- Ensure that the local Hazard Mitigation Plan is up-to-date and utilizes the most recent available technical data for natural hazards and climate change.
- Ensure consistency between the Hazard Mitigation Plan, the Comprehensive Plan, and the Town's land use regulations.
- Encourage reduction of carbon emissions in the municipality through support of bicycle and pedestrian transportation options.

*NH-1. Amend the Zoning Ordinance to respond to impacts from hazards and climate change on infrastructure, land use, and development.*

*NH-2. Evaluate the access and connections to parks and recreation areas to ensure safety.*

*NH-3. Plant additional vegetation in green spaces and throughout Town to filter air and stormwater runoff.*

*NH-4. Expand the tree canopy in parks and natural spaces to reduce the heat impacts of buildings and pavement.*

### 2. The Town will minimize impacts from natural hazards in vulnerable areas.

- Encourage stormwater drainage improvements that reduce runoff and increase the permeability of the built environment.
- Ensure new and redeveloped properties include stormwater BMPs.
- Ensure that new facilities are sited in areas that are not prone to flooding or other hazards.

- Prioritize land for open space acquisition and protection to protect the community's and ecosystem's health and preventing storm-related damage to property within the Town.

*NH-5. Educate business owners and residents about stormwater management techniques, such as swales, detention basins, rain gardens and Other Best Management Practices (BMPs).*

*NH-6. Acquire properties and demolish structures that have experienced repeated losses due to flood events.*

*NH-7. Educate property owners about flood hazards and resources available for adaptation and mitigation, and information on the evacuation routes and emergency shelters.*

*NH-8. Review land uses and development in areas potentially affected by the failure of dams to determine whether restrictions are necessary to prevent potential losses.*

*NH-9. Create public awareness of potential flood hazard areas and conditions.*

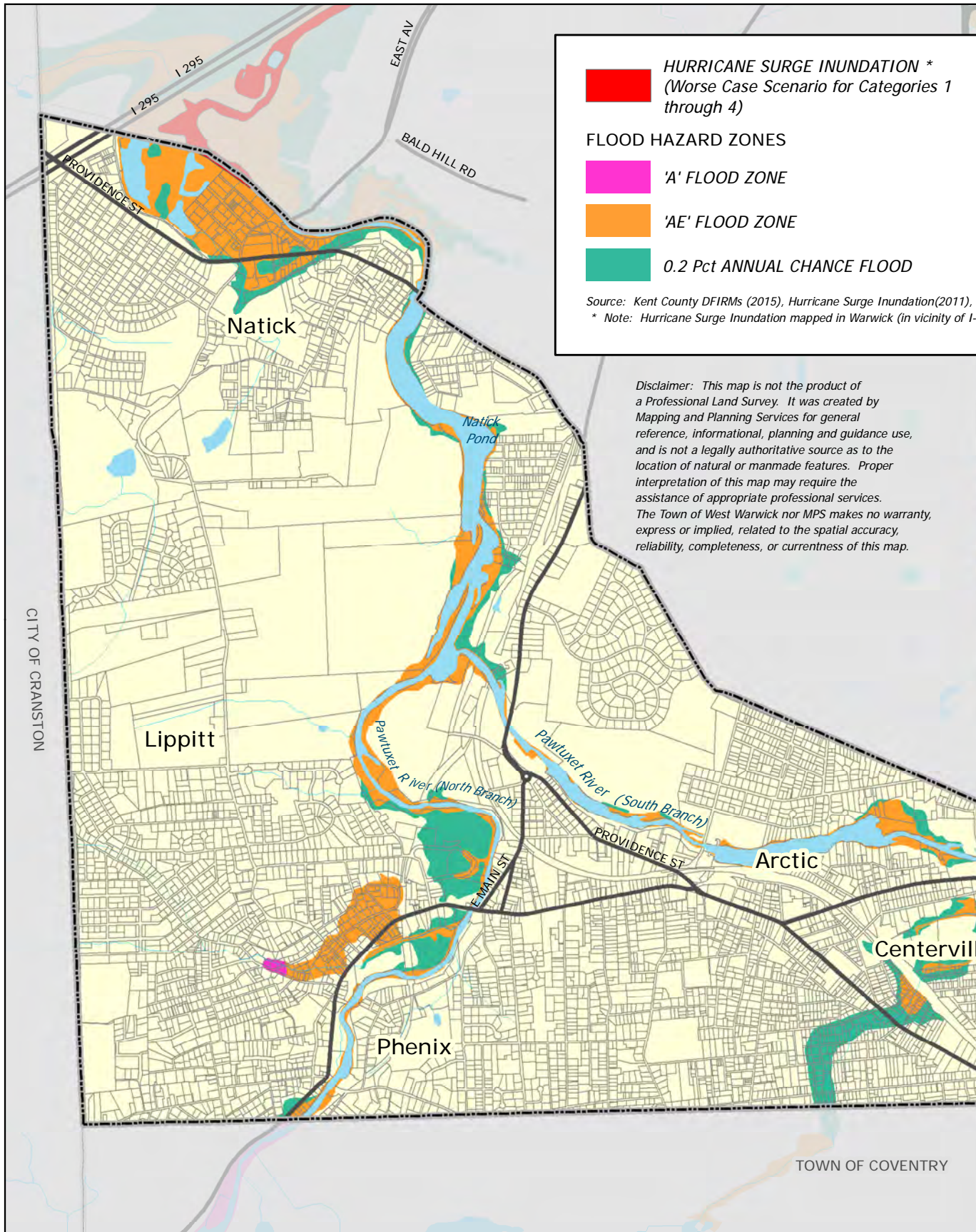
### 3. The Town will provide adequate services and facilities when responding to natural hazards.

- Ensure all critical public facilities such as police and fire stations, hospitals, emergency shelters, and other services are adequate for hazard and disaster events.

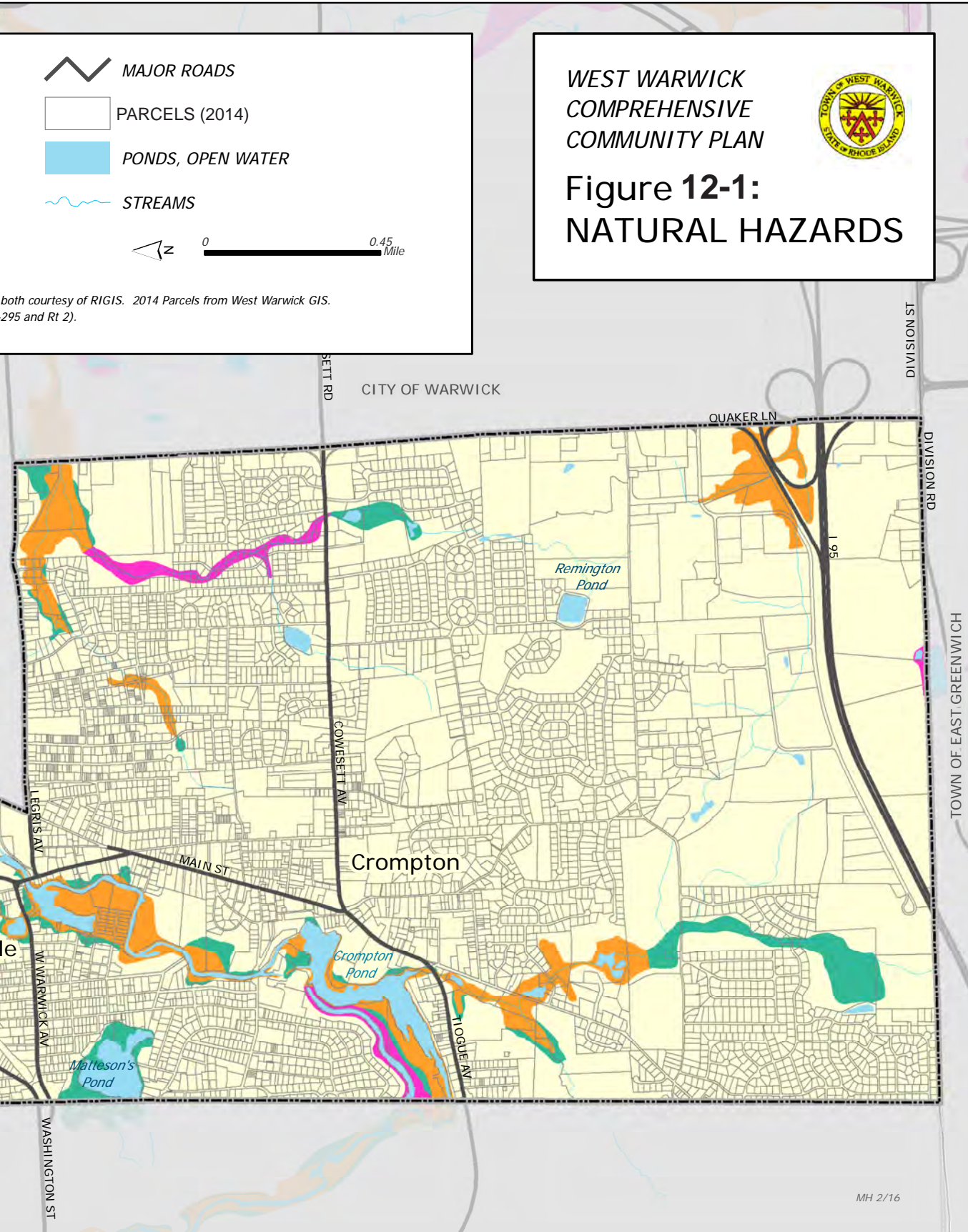
*NH-10. Conduct vulnerability assessments of all municipal infrastructure to determine priorities for adaptation and mitigation.*

*NH-11. Develop and distribute public educational flyers or pamphlets regarding hurricane preparedness, safety tips, emergency shelter location, and emergency service contacts.*









both courtesy of RIGIS. 2014 Parcels from West Warwick GIS. (295 and Rt 2).

**WEST WARWICK  
COMPREHENSIVE  
COMMUNITY PLAN**



**Figure 12-1:  
NATURAL HAZARDS**



# 13. Land Use

## WHAT IS LAND USE?

*The term land use signifies the physical ways in which we use, or develop, land. There are a wide variety of land uses, including residential, commercial, industrial, conservation, recreation and agricultural. Land use can require the physical alteration of land, the preservation of land in its natural state, or a combination of both. For comprehensive plans, planning for land use implies creating a balance of land uses that is appropriate for achieving the community's goals and is reflective of the natural characteristics of the land, its suitability for use, and the availability of existing and proposed public and/or private services and facilities. Land use planning must also be consistent with available resources and the need to protect public health, safety and welfare. ... Comprehensive planning, and specifically planning for appropriate land uses, is necessary to provide for the protection, development, use and management of our land and natural resources.*

*Statewide Planning Handbook 13: Planning for Land Use*

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## 13.1 Current Land Use and Development Patterns

The majority of West Warwick's land use is residential development. A considerable amount of the development is medium-high-density residential, which is defined as one dwelling per quarter- to eighth-acre lot. There are other areas of substantial high-density residential located along the arterial roads in town. Residential land use also includes sparse pockets of medium low- or low-density. There are also sizable areas of commercial and industrial land uses along the main transportation arteries. See **Figure 13-1: Existing Land Use**.

These land uses are also identifiable within the Town's physical development patterns, forming distinct neighborhoods, districts, and places. Development patterns within West Warwick include mills (such as Centerville Mill, Lippit Mill, and Royal Mill), mill villages (including Natick, Phenix, Arctic, and

Crompton), suburban sprawl, and commercial strip development.

Industrial land uses generally occupy low lying land adjacent to the Pawtuxet River. Commercial use, primarily minor retail, is found in strip-style development along the Town's major arterials, Quaker Lane (Route 2), as well as the Business Park near Interstate 95.

Residential uses developed into a pattern with distinct northern, central, and southern areas. The northern and southern residential areas developed primarily as single-family residential with larger lot sizes in traditional subdivision patterns. The central residential area of town is primarily older, high-density multi-family development related to the advent of the industrial revolution and the establishment of the mills.

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## 13.2 Zoning

The Town of West Warwick has seven main zoning districts. There are four different residential districts and three non-residential districts. **Figure 13-3: Zoning** illustrates the various zones throughout the Town.

The residential districts are Residence 10 (R-10), Residence 8 (R-8), Residence 7.5 (R-7.5), and Residence 6 (R-6).

- R-10 is primarily for medium-density residential use; single-family homes are permitted by right and two-family and multifamily are only allowed by special permit. The minimum lot area for R-10 is 10,000-square feet and minimum frontage is 80-feet; the front, side, and rear setbacks are 30-, 10-, and 30-feet, respectively.
- R-8 is mainly for medium-high-density residential use; single-family homes are permitted by right and two-family or multiple-family are only allowed by special permit. The minimum lot area for R-8 is 8,000-square feet and minimum frontage is 70-feet; the front, side, and rear setbacks are 25-, 10-, and 25-feet, respectively.
- R-7.5 is also mostly for medium-high-density residential use; single-family and two-family homes are permitted by right and multiple-family is only allowed by special permit. The minimum lot area for R-7.5 is 7,500-square feet and minimum frontage is 70-feet; the front, side, and rear setbacks are 20-, 7-, and 20-feet, respectively.
- R-6 is principally for medium-high-density residential use; single-family, two-family, and multiple-family homes are all permitted by right. The minimum lot area for R-6 is 6,000-square feet and minimum frontage is 55-feet; the front,



side, and rear setbacks are 20-, 6-, and 20-feet, respectively.

The three non-residential zoning districts are Business (B), Commercial/Industrial (CI), and Business Park (BP).

- B is primarily for retail commercial uses. The minimum lot area for B is 10,000-square feet; the front, side, and rear setbacks are five-, 15-, and 30-feet, respectively. There is a building height maximum of 90-feet with a maximum lot coverage of 50%.
- CI is mainly for commercial warehouse and manufacturing uses. The minimum lot area for CI is 40,000-square feet; the front, side, and rear setbacks are 50-, 20-, and 50-feet, respectively. There is a building height maximum of 90-feet with a maximum lot coverage of 30%.
- BP is mostly for congruous uses in the West Warwick Business Park. The minimum lot area for BP is 40,000-square feet; the front, side, and rear setbacks are 50-, 20-, and 50-feet, respectively. There is a building height maximum of 90-feet with a maximum lot coverage of 50%.

The 2011 Zoning Ordinance and the Zoning Map derived from the Town's GIS and shown in **Figure 13-3** describe two other types of districts: Design Control Districts and Overlay Districts. The nomenclature in the Zoning Ordinance and whether the boundary of these districts is provided on the Zoning Map is not always consistent.

Design Control Districts include the Section 5.13 Village Design Control District (VDCD) and Section 5.15 Arctic Village Design Control District (ADCD). These districts are mixed-use districts with an additional layer of development controls related to design.

- The VDCD is principally for traditional village growth and to encourage vitality in the various village areas of the Town. This district has architectural review, does not have a minimum lot size, and has a front setback of five-feet. There is a building height maximum of 90-feet with a maximum lot coverage of 80%.

- The ADCD is also principally for traditional village growth, specifically in the Arctic area. This area is zoned for small retail commercial uses to serve the local residents in the community. There are no yard setbacks, lot sizes, height, or frontage requirements. There is Development Plan review required by the Arctic Village Redevelopment Agency (AVRA). Note: The Planning Board, in a resolution dated November 2, 2015 and pursuant to RIGL 45-32-5, granted its consent and approval to the AVRA to carry out and perform its duties on behalf of the Board.

The Table of Uses and Section 5.17.4.2 refer to a Natick Design Control District, and it is identified in the Town's GIS under the code VC, but it does not have a separate section in the Zoning Ordinance. It appears to be governed by Section 5.13, but that is not explicit in the text of the Zoning Ordinance.

The three overlay districts are as follows:

- The Hotel/Motel and Office Business Overlay within the Commercial Industrial Zone. This district is parcel-specific (defined in the 2011 Zoning Ordinance) and is not shown in **Figure 13-3**.
- The Floodplain Overlay District applies to all areas designated as Zone A, AE, and AO on the Kent County Flood Insurance Rate Map. The approximate areas is shown on **Figure 13-2**.
- The Mill Reuse Overlay District is shown in **Figure 13-3**. In the 2011 Zoning Ordinance, it is referred to as Section 5.14 Vacant Historical Mill Structures, but is not defined as an overlay district.

As the Town reviews its zoning ordinance, it should consider updating the nomenclature for the zones to be consistent between the Zoning Map and the Zoning Ordinance.

## 13.3 Land Capacities for Development

The consultant team completed a build out analysis to determine the maximum increase in the amount of new single-family homes and commercial space that could be added to the Town’s supply, as allowed under current zoning regulations.

The Town has over 9,700 parcels identified in the public records. Using Town Assessors data, Zoning Regulations, and geographic information systems (GIS) data, the build-out analysis sorted the information and identified the number of parcels currently categorized vacant (land use code 12, 13, 14, and 15) and the maximum potential residential and commercial build-out within every vacant parcel’s usable lot area.

The Assessors’ database, linked to the Town’s GIS database, was used in this build-out calculation. The Assessors’ records were sorted in an Excel file to list the following criteria:

- Assessors’ and GIS parcel identification numbers
- Street address
- Land use code
- Zoning
- Parcel area
- Unusable lot area
- Planned or permitted multifamily development
- Usable lot area
- Existing building areas greater than 50-square feet
- Capability for single-family residential development
- Maximum building footprint square footage

Parcels with currently residential land uses were assumed to be fully built-out. Only those parcels identified in the land use categories as vacant (see **Table 13-1**) were used in the build-out analysis. The build-

out analysis explored two scenarios: one in which all vacant properties were used for residential purposes, and one in which all vacant properties were used for commercial purposes.

**Table 13-1: Land Use Codes for Build-out Analysis**

LAND USE CODE	DESCRIPTION
12	Vacant Auxiliary Residential
13	Residential Vacant
14	Commercial/Industrial Vacant
15	Vacant Auxiliary Commercial

The Zoning Regulations note that usable lot area excludes wetlands; land areas with slopes greater than 20%; and land within special flood hazard areas A, AE, and AO, as defined by the Federal Emergency Management Agency (FEMA).

A review of the GIS database and aerial imagery identified usable and unsuitable portions of parcels within West Warwick. Wetland areas were classified using data from the U.S. Fish and Wildlife Service’s National Wetlands Inventory. Land areas with slopes greater than 20% were categorized using detailed elevation data for West Warwick from Rhode Island GIS’s 2011 Statewide LiDAR data. The Digital Flood Insurance Rate Map (DFIRM) database for Rhode Island, issued by the Federal Emergency Management Agency, delineates the A, AE, and AO special flood hazard areas within the Town.

### RESIDENTIAL BUILD-OUT

Land that is currently residential was assumed to be built-out to its maximum extent and any potential future redevelopment would maintain the fully-built condition. Additional potential residential capacity

was calculated based upon the Zoning Regulations' minimum square footage permissible for a single-family residential lot for each parcel's respective zone (**Table 13-2**). Single-family residences are permissible within residential zones (R10, R8, R7.5, and R6). The build-out analysis focused on single-family residential use, rather than mixed-use or multifamily residential uses, as single-family land use is the most common land use in West Warwick (59.8% of all parcels); vacant residential is a distant second-most common (13% of all parcels) land use.

**Table 13-2: Minimum Permissible Lot Size for Single-family Residences**

ZONE	ZONE DESCRIPTION	MINIMUM SQUARE FOOT LOT (SINGLE-FAMILY)
R10	Residential	10,000
R6	Residential	6,000
R7.5	Residential	7,500
R8	Residential	8,000

Land with currently approved residential development permits (parcels 13-658 and 13-659, 1-529, 38-134, and 38-34) was removed from the listing of vacant parcels.

## COMMERCIAL BUILD-OUT

The build-out of vacant land for commercial uses was calculated using the maximum percent permissible for building lot coverage by zone as set by the Zoning Regulations (**Table 13-3**). A retail business use that is permissible in all non-residential districts (B, BP, CI) is a stand-alone restaurant and associated parking, with an average building footprint of 3,000-square feet and 12,960-square feet for parking, was used to estimate the build-out of commercial space. This footprint could also be used for a small office or other retail use as defined by the respective zoning district.

**Table 13-3: Maximum Permissible Building Lot Coverage**

ZONE	ZONE DESCRIPTION	MAXIMUM BUILDING LOT COVERAGE
B	Business	50%
BP	Business Park	50%
CI	Commercial Industrial	30%

## BUILD-OUT RESULTS

West Warwick currently has 1,312 vacant parcels within residential zones (R10, R8, R7.5, and R6). Only 271 of the vacant parcels have a sufficient amount of usable land for development of a single-family home. The **Table 13-4** displays the vacant parcels and potential parcels for residential development by zone. Applying the 2015 estimated average household size of owner-occupied units of 2.4 residents, a purely residential build-out of the vacant parcels in West Warwick may increase the population by an estimated 650 people.

**Table 13-4: Vacant Parcels and Potential Residential Development by Zone**

ZONE	VACANT PARCELS	POTENTIAL PARCELS FOR RESIDENTIAL DEVELOPMENT
ADCD	91	38
DCD	18	3
R10	174	65
R6	70	20
R7.5	416	54
R8	652	132
Total	1,421	312

West Warwick currently has 196 vacant parcels within non-residential zones (B, BP, and CI) which could be developed for retail use. The usable area of these parcels could be built-out to accommodate 181 retail (stand-alone restaurant) facilities with an estimated 2.9 million square feet of commercial space (see **Table 13-5**).

**Table 13-5: Vacant Parcels and Potential Retail Development by Zone**

ZONE	VACANT PARCELS	POTENTIAL RETAIL FACILITIES	POTENTIAL RETAIL SPACE (SF)
ADCD	91	1	19,437
B	93	16	249,230
BP	12	65	1,034,362
CI	91	100	1,594,762
DCD	18	14	231,323
Total	305	196	3,129,115



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## 13.4 Residential and Commercial Trends

Residential demand is decreasing within West Warwick. *Section 1. Introduction* states that the population trend of West Warwick shows a slightly declining population. Projections of future population to 2040 show continued slight losses. These projected losses, as well as losses in the number of households, are reflected in *Section 5. Housing's* forecasts of future demand for new housing in West Warwick.

Commercial trends are decreasing within West Warwick. Despite recent minor increases in total employment across all industry sectors, as noted in *Section 6. Economic Development*, the overall trend is declining. *Section 6. Economic Development* observes that the past performance of office sectors in the town's economic center in Arctic Village did not show a positive trend. Likewise, the retail sector, which responds to population size, may not succeed due to the town's decreasing population trend and projections.

Given the declining trends and projected decreases in both residential and commercial development, the build-out scenario depicted is not likely to occur.

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## 13.5 Future Land Use Map

Please see **Figure 13-5** at the end of this section for the Future Land Use Map.

## 13.6 Descriptions of Future Land Uses

Key	Land Use	Definitions
	<b>Potential Flood Fringe Overlay District/ Approximate Flood Zones</b>	Approximate area subject to Floodplain Overlay District.
	<b>Cemetery</b>	Area set apart for graves, tombs, columbaria, and accessory buildings.
	<b>Protected Open Space</b>	Existing protected open space and passive and active recreation space.
	<b>Proposed Conservation Development</b>	Cluster development of 4 units per acre; consider transfer of development rights and/or conservation easements.
	<b>Medium-Density Residential (4 units per acre or less)</b>	Residential neighborhoods in which the maximum allowable density is four units per acre.
	<b>High-Density Residential (5 units per acre or more)</b>	Residential neighborhoods in which the allowable density ranges from four units per acre to seven units per acre.
	<b>Multifamily Residential</b>	Existing multifamily development or multifamily development that has received permitting approvals as of the date of this updated Comprehensive Plan.
	<b>Mixed-use (Multifamily and commercial)</b>	Primary focus of new development. Land uses should include multifamily residential, retail, restaurant, neighborhood services and office and buildings that combine multifamily with retail, restaurant, and/or office uses. Existing industrial uses should remain; new light industrial may be added. Multifamily residential density will vary by development type (reuse of existing buildings or new development). Ground floor uses should be active commercial uses along main roads; residential uses can be on the ground floor along secondary streets or within large existing buildings.
	<b>Commercial/industrial (no residential)</b>	Business district areas including industrial and highway retail.
	<b>Municipal</b>	Municipal uses.
	<b>Potential Growth Center</b>	Centers connected to existing villages and transit routes which may be eligible to become state-designated growth center.

In 2006, the State of Rhode Island developed the planning document *Land Use 2025: Rhode Island's State Land Use Policies and Plan (Land Use 2025)*. This document is a comprehensive view of planning in the state, and encourages municipalities to view their planning efforts as part of a regional whole. In particular, *Land Use 2025* identifies the division between further development of urban areas and the preservation of rural and undeveloped areas.

While West Warwick is fully within the Urban Services Boundary, as shown in *Land Use 2025's Figure 121-02(1) Future Land Use 2025*, the community needs to look more specifically at opportunities to rationalize its land use policies to ensure that future development is appropriate for its needs.

The story of West Warwick's land use is not the division of urban from rural that discussed by *Land Use 2025*. West Warwick's long-term story is about the increased urbanization of its village centers and the connecting major corridors which would allow the preservation of its few remaining open spaces. The Town should seek to cluster residential uses with jobs, goods, and services along existing transit lines.

Multifamily development is allowed either as of right or by special permit in all the residential districts and the Village Center districts. Recent permitted developments have been located in greenfield areas rather than concentrated in the existing village centers and along the main corridors, which also provide public transit. The impact of these scattered developments has been to increase the number of car-dependent residential units in areas that are not within walking distance of jobs, goods, or services.

West Warwick should refocus its future development of multifamily housing on the existing village centers

and the linking corridors. By doing so, future residents will increase the demand for certain goods and services within the village centers and will have access to existing public transit networks. The increased demand for goods and services may also increase the available jobs for current and future residents.

The change to a system of mixed-use corridors that connect the village centers could have an impact on two existing types of land use. The status of the mills in West Warwick vary. For example, Royal Mills has been converted to apartments, Centreville Mill is only partially used and Phenix Mill is in the process of conversion to apartments.

The mixed-use areas in the FLUM anticipate changes to existing mill buildings over time by including them within the mixed-use boundary. This reinforces their proximity to the village centers and envisions the further redevelopment, over time, of currently underutilized mills to a mix of residential and commercial uses.

Existing mill and other large commercial buildings which are fully occupied are also integrated into the mixed-use areas to encourage the location of residential units and supporting retail, restaurant, and other services to create additional economic activity around existing job centers. The NatCo Headquarters, the Bradford Soap Company, and Imondi Foods are examples of future job, residential, and services clusters.

In the existing residential areas, the Town's development strategy should change. Much of the building stock is older; some is in disrepair. While recreational activities are clustered around the schools and the Town operates the Civic Center for all residents, many of the neighborhoods do not have access to

open space. The Town should consider three land use strategies to address this need:

- Purchase older single-family and two-family homes in poor repair that have central locations within neighborhoods, remove the housing, and turn the lots into smaller pocket parks for playgrounds, dog parks, or other smaller uses
- Reinforce the Washington Rail Trail (??) and open connections between it and the surrounding neighborhoods so it is easier to move on and off the shared path.
- Add additional trails, open to neighborhood access, at appropriate points along the Pawtuxet River.
- Preserve future open space by purchase, transfer of development rights, conservation easements, or other strategies. The priority for preservation should be both large undeveloped parcels, such as a golf course, or smaller parcels that provide links between the trails and/or other recreational areas.

In the short-term, this vision will be difficult to implement. Several multifamily developments have already received permits, but construction was delayed by the Great Recession. Those developments are beginning to come online now. Other factors that will delay implementation include the availability of funding for municipal purchases (see *Section 8. Services and Facilities*) and the projected decrease in population (see *Section 1. Introduction and Community Profile* and *Section 4. Housing*).

The Town has several possible strategies. Its focus on Arctic Village as the center of revitalization is important to the future of a premier mixed-use district. The Town should partner with future developers to encourage the reuse of existing historic buildings for mixed-use projects, consider the use of transfer of development rights to shift density from the few remaining open space areas to the proposed mixed-

use centers and corridors and work to protect and preserve remaining open space from future development use a combination of conservation easements and transfer of development rights.

The strategy for the West Warwick Business Park and the Route 2 corridor is to keep both available for commercial and industrial development at a larger scale than is appropriate for the rest of the Town. The Town should monitor changing trends in highway retail and industrial development and consider specific planning to address those trends as resources permit.

The FLUM identifies two types of areas in which further development should be restricted: unprotected open space, such as the West Warwick Country Club and other unprotected open and/or recreational areas and those areas within the flood plain.

The Town could control development in unprotected open space with a zoning overlay for cluster development, a program for transferring development rights, or by purchasing conservation easements on the properties either by the Town itself or by establishing or working with an existing land trust.

The FLUM shows the approximate area of the flood plains (See *Chapter 12 Natural Hazards* for additional detail) and significant wetlands. Many buildings, including houses, are already located within the flood plains. In addition to the Floodplain Overlay District, the Town may want to consider a Flood Fringe Overlay District to control development in areas adjacent to the flood plain.



## 13.7 Inconsistencies between Current Zoning and Future Land Use and Proposed Resolution

West Warwick allows multifamily development, either as of right or by special permit, throughout the residential districts and by special permit in the village centers.

The Town should consider removing multifamily developments of more than four dwelling units per parcel from all residential zones. The Town should restrict multifamily development (above four dwelling units per parcel) in the identified mixed-use districts as shown in *Figure 13.3 Future Mixed-Use Districts and Current Zoning*. The Town should consider one of the following options:

- Creating a new zoning district to allow the mix of uses proposed in *Section 13.6* for these areas
- Creating an overlay district tied to these boundaries
- Transforming the existing Village Districts into zoning districts, expanding them to include the

connecting corridors shown on **Figure 13-3**, and revising the design guidelines to be consistent across all Village Districts.

In each of these cases, the Town should consider adding design guidelines to areas not already covered by the Village Districts to ensure consistency in the physical development of these village centers and corridors.

The remainder of the existing zoning districts appear to be consistent with the anticipated future land uses. However, the Town should consider revising its zoning ordinance and zoning map so that the names of design control districts and overlay districts are internally consistent.

## 13.8 Conflicts between Future Land Uses and Contiguous Municipalities

*Figure 121-02(1) Future Land Use 2025* from *Land Use 2025* identifies the anticipated future land uses of all municipalities in Rhode Island as of 2006. A review of the communities surrounding West Warwick shows no inconsistencies between the future land uses for West Warwick and those of its neighbors. Since 2006, the comprehensive plans of several neighboring communities have been updated: East Greenwich (2012), Cranston (2012), and Warwick (2013). The future land uses identified in the respective plans do not demonstrate any inconsistencies with West Warwick's future land uses.

## 13.9 Goals, Policies, and Actions

**1. Small-scale residential neighborhoods will be protected from inappropriate development, including the intrusion of large-scale multifamily and commercial/industrial uses. Mixed-use development, including multifamily, will be encouraged in the village centers, particularly the Arctic Village Redevelopment District.**

*LU-1. Revise the Zoning Ordinance to create more defined standards for large-scale multifamily development and to direct them to the appropriate areas of the town, close to the village centers, as buffers between commercial and residential development, in areas where public water and sewer are available, with direct access to major roadways, and away from established residential neighborhoods and areas of sensitive natural resources, such as wetlands and steep slopes.*

*LU-2. Enforce the minimum requirements for two-family and multifamily developments as defined in the Zoning Ordinance.*

**2. The zoning ordinance will prioritize preferred development strategies, including protecting natural, historic and cultural resources, targeting density in and around the village centers and existing town services.**

- Continue to require that a percentage of a residential subdivision be deeded to the Town for open space and/or recreational facilities and in the alternative allow the Planning Board to implement a fee in lieu of the land donation. Prohibit nonresidential uses in residential zones except as authorized under home occupations as defined in the Zoning Ordinance.

- Consider redefining and reclassifying the Mill Reuse Zones as a Planned Unit Developments which permits a parcel of land to be planned and developed as one unit, containing a mix of residential and commercial uses and common open space. Rename Section 5.14 Vacant Historical Mill Structures as Mill Reuse Overlay to be consistent with the Zoning Map.
- Preserve commercial industrial zoned land for industrial uses, and limit intrusion of commercial or other uses, unless such uses are directly linked to industrial use.
- Consider rezoning underutilized mill properties for Commercial Industrial (CI) zoning when and where appropriate.
- Limit strip development and excessive curb cuts by encouraging shared parking lots, access driveways, and other similar mechanisms.

*LU-3. Update the Zoning Ordinance Use Tables to eliminate outdated commercial use categories and to include newer more contemporary commercial uses.*

*LU-4. Evaluate the establishment of the Village Commercial districts for their effectiveness and consider amendments to the existing standards or alternative zoning, if necessary.*

*LU-5. Review and amend the sign regulations, as necessary, to conform to current standards and practices.*

*LU-6. Identify state and national register historic properties and districts.*

*LU-7. Work with a new local Historic District Commission to review historic district zoning regulations of other communities, designate those areas of the community which will be targeted for such preservation efforts, and consider establishing historic district zoning.*

*LU-8. Research and create a Planned Unit Development (PUD) section in the Zon-*

*ing Ordinance which permits a parcel of land to be planned and developed as one unit and contains a mix of residential and commercial uses and common open space.*

*LU-9. Establish a new or develop a relationship with an existing Land Trust to preserve high-priority open space.*

*LU-10. Investigate the use of Conservation Development or Cluster Development zoning strategies to protect large areas of open space while still allowing some development.*

*LU-12. Eliminate nonconforming uses through enforcement of the Town's zoning regulations.*

*LU-13. Enforce off-street parking and loading requirements contained in the Zoning Ordinance, particularly when there is a change of use that requires an increase in the number of spaces provided.*

*LU-14. Enforce Rhode Island Department of Environmental Management (RIDEM) regulations for developments in proximity to wetlands and the Pawtuxet River.*

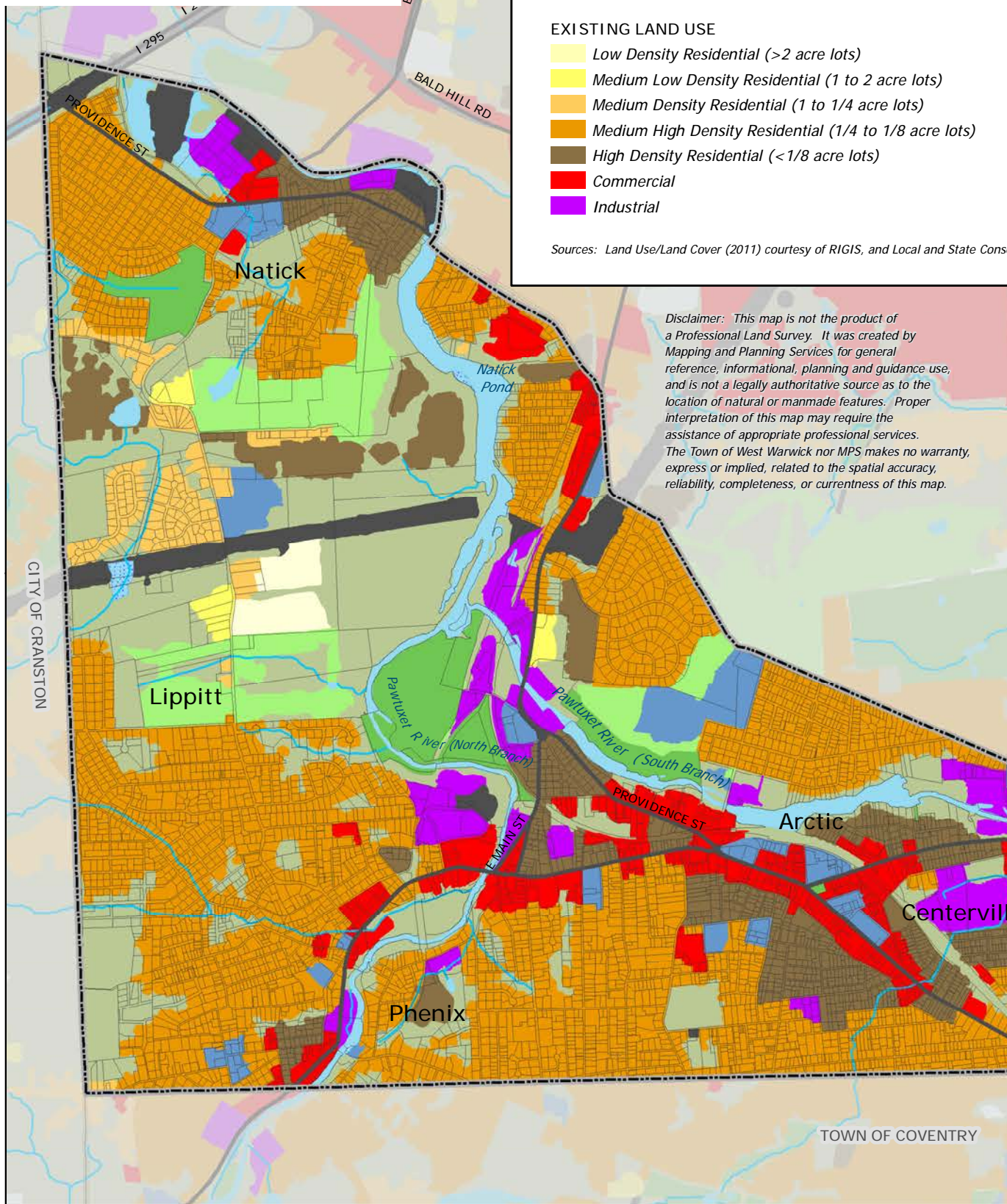
### **3. The Town will enforce existing regulations and improve the development review processes.**

- Consider additional building inspection staff, should municipal finances improve, to ensure consistent implementation and enforcement of the Town's building, zoning, and development regulations.
- Encourage Planning Board, Zoning Board of Review, and other board or commission members with development-related responsibilities to attend training session when available.
- Support the efforts of the Pawtuxet River Authority in providing access points, riverwalks and other preservation activities on the Pawtuxet River.
- Protect state and national register historic properties and districts as an integral part of preserving West Warwick's cultural landscape.

*LU-11. Update, revise, and amend existing Zoning Ordinance to conform to the State approved Comprehensive Plan as required in Rhode Island Comprehensive Planning and Land Use Act RIGL 45-22.2-13.*



# Maps





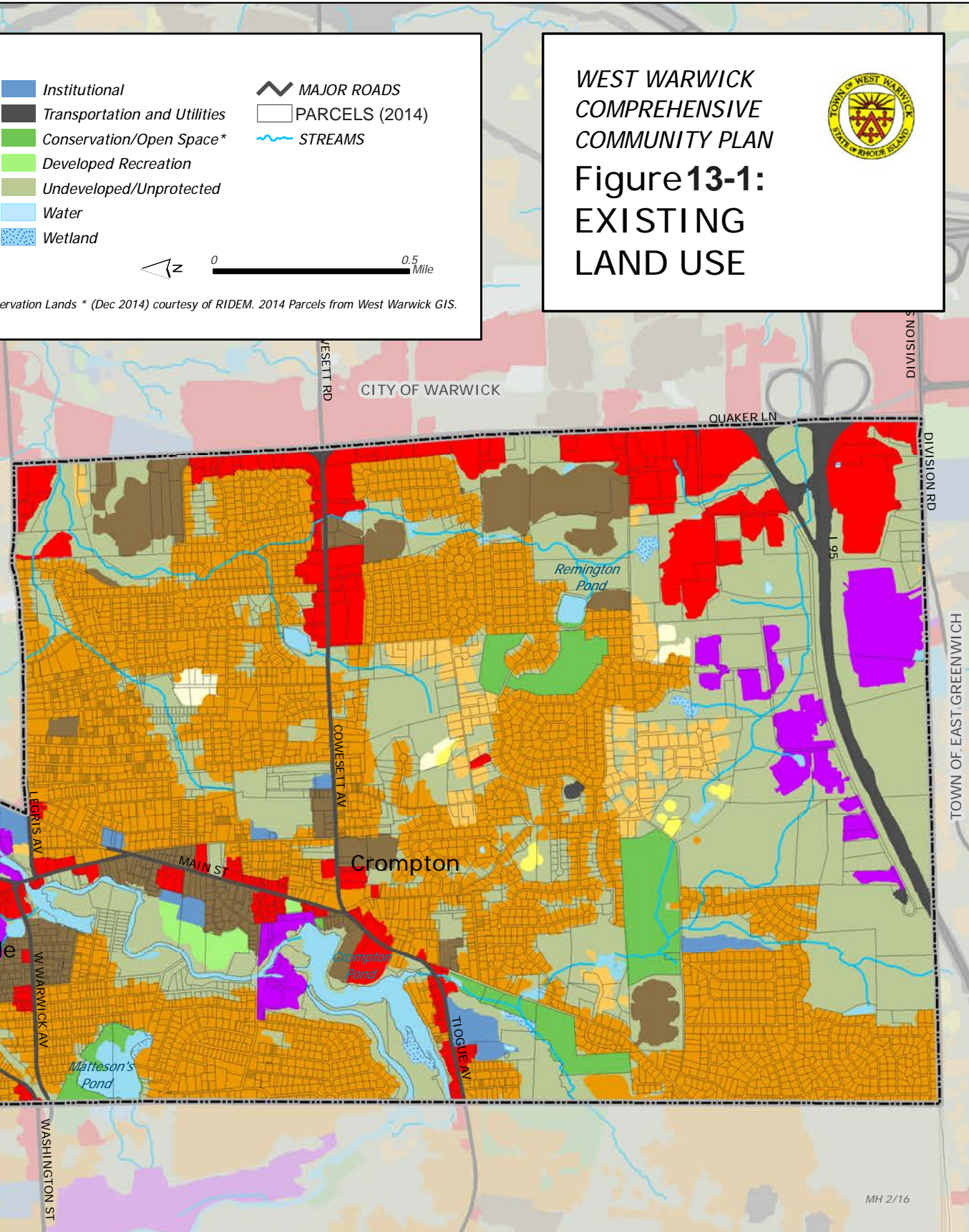
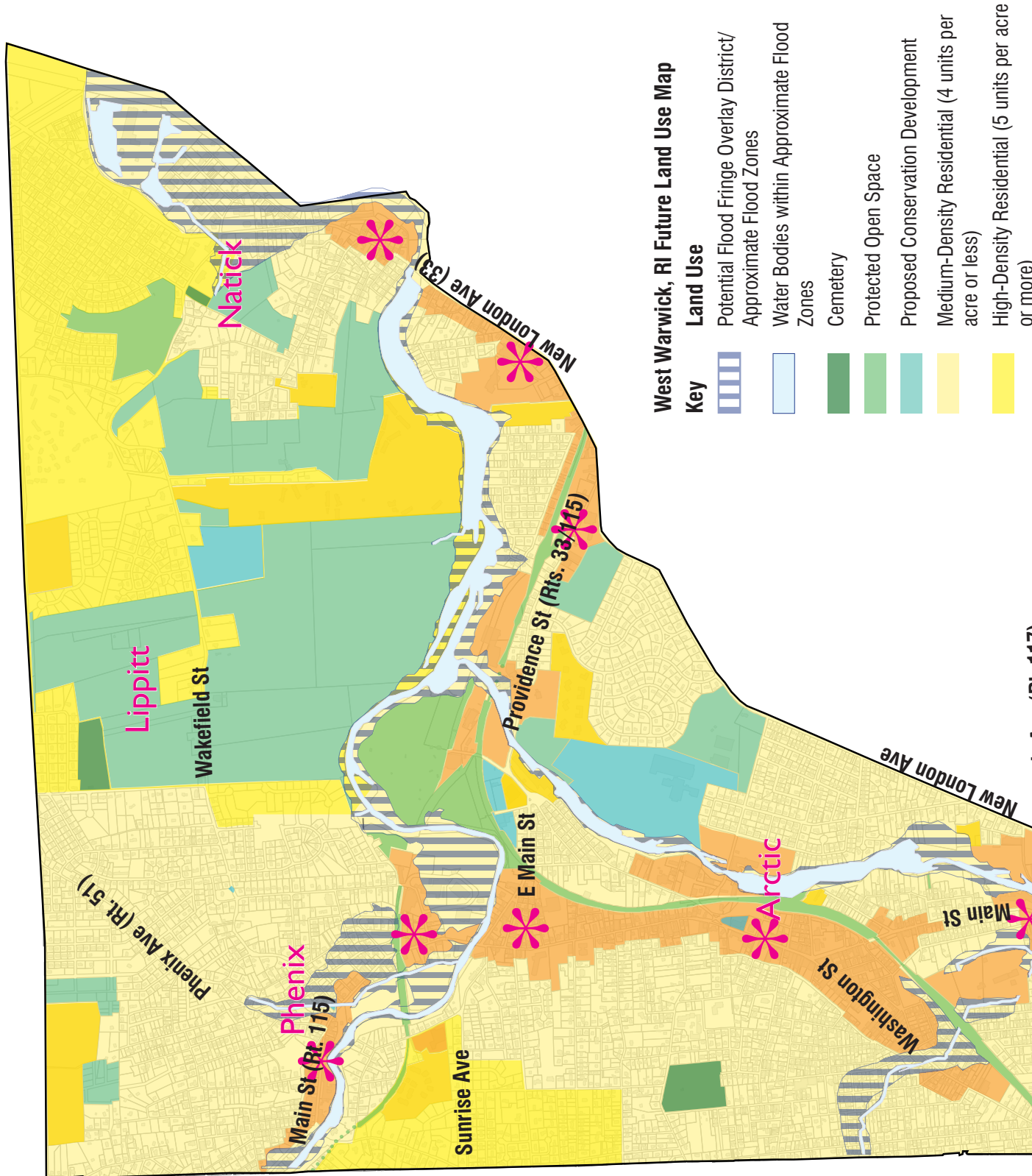


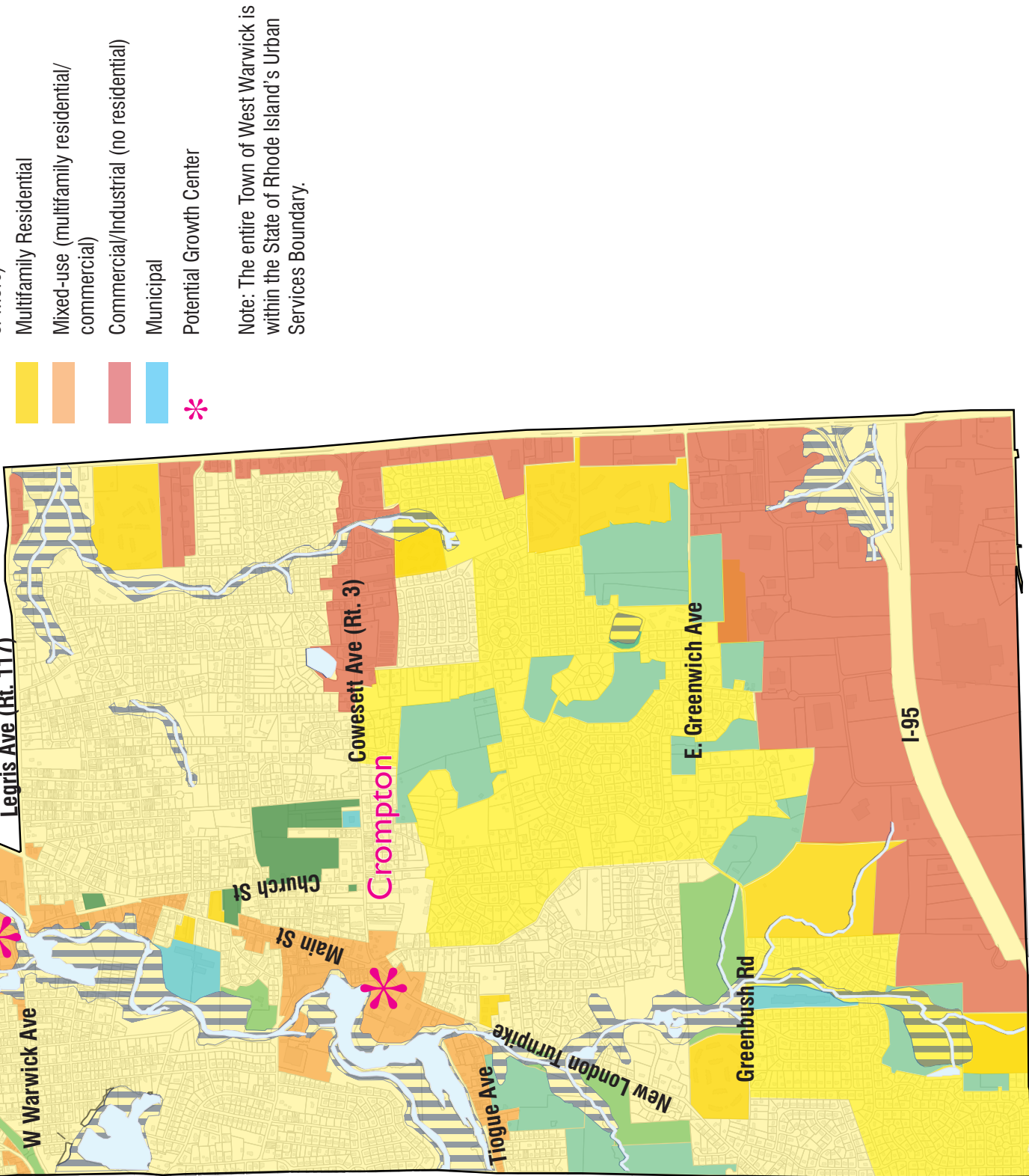
Figure 13-2: Future Land Use Map



**West Warwick, RI Future Land Use Map**

Key	Land Use
	Potential Flood Fringe Overlay District/ Approximate Flood Zones
	Water Bodies within Approximate Flood Zones
	Cemetery
	Protected Open Space
	Proposed Conservation Development
	Medium-Density Residential (4 units per acre or less)
	High-Density Residential (5 units per acre or more)



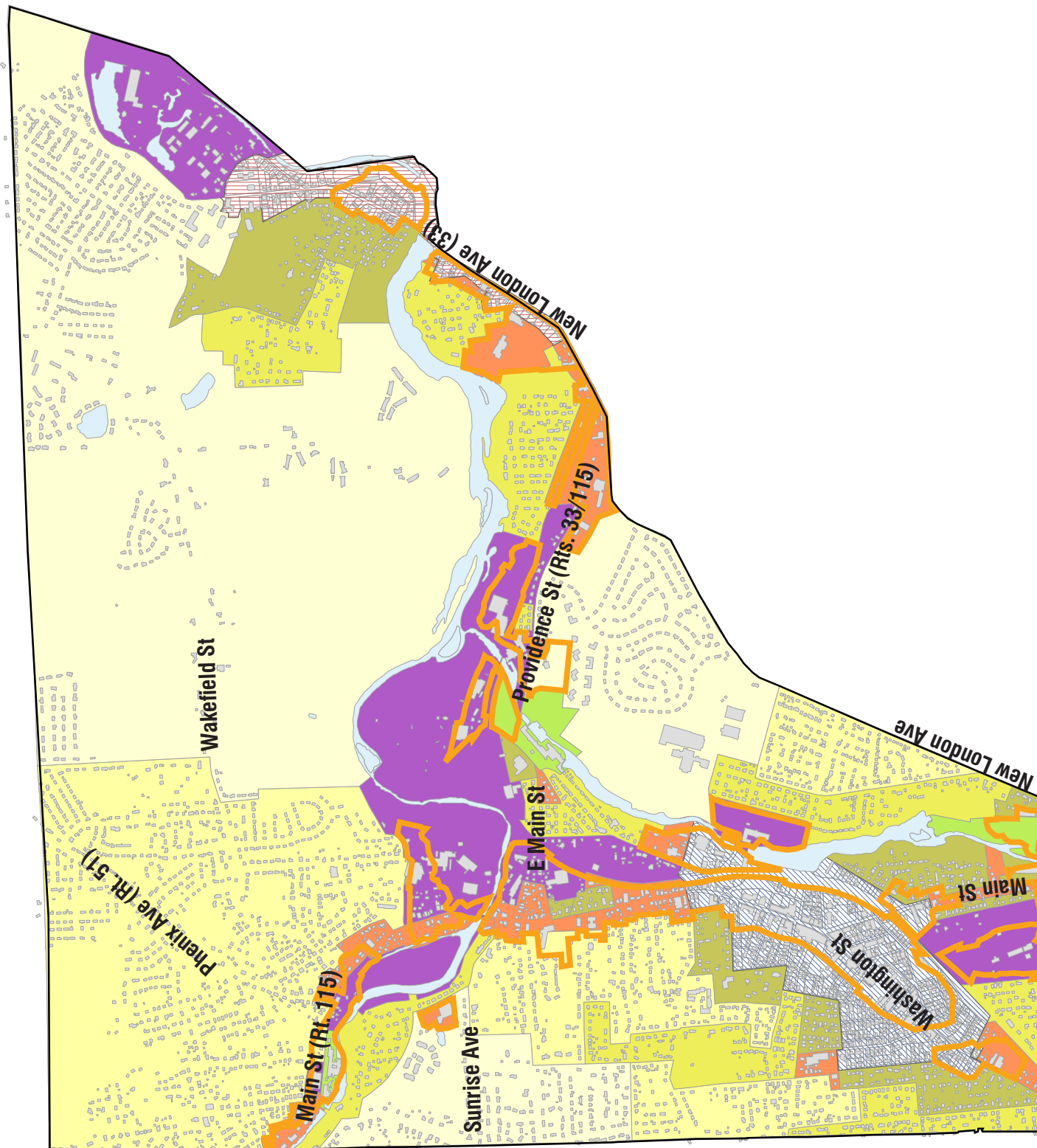


Note: The entire Town of West Warwick is within the State of Rhode Island's Urban Services Boundary.

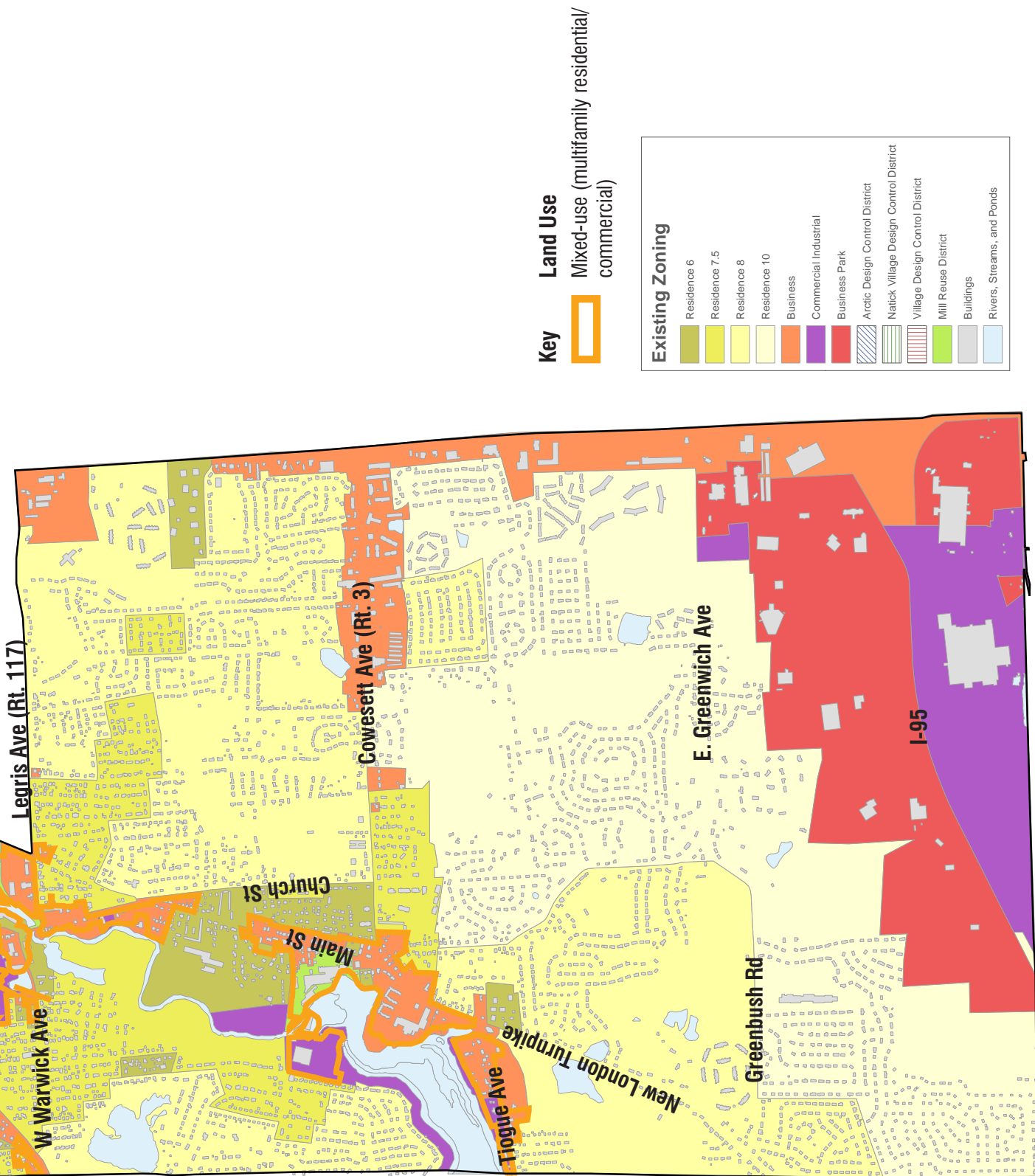
- Multifamily Residential
- Mixed-use (multifamily residential/commercial)
- Commercial/Industrial (no residential)
- Municipal
- Potential Growth Center



Figure 13-3: Future Mixed-Use Districts and Current Zoning









# 14. Implementation Program

## **WHAT IS AN IMPLEMENTATION PROGRAM?**

*The Implementation Program is the work program for achieving the comprehensive plan's goals. The Implementation Program is a single section of the comprehensive plan, containing the public actions that will be undertaken to make progress towards achieving the goals, and the process by which the zoning ordinance and map will be amended to align, if necessary, with the comprehensive plan. When crafted well, the Implementation Program provides a step-by-step list of the public actions that are necessary to achieve the community's goals. ... In 5 years, when the municipality is required to submit an Implementation Report to the Division of Planning, the Implementation Program will provide the basis for measuring the municipality's progress on achieving the goals. The municipality should be able to assess all of the public actions listed within the Implementation Program and determine whether or not they have been accomplished.*

*Statewide Planning Handbook 14: The Implementation Program*

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## 14.1 Introduction

The relevant implementation actions from the 2005 Comprehensive Plan, updated based on this comprehensive plan process, are summarized in **Table 14-1**. The table also provides the responsible parties within the Town and a timeframe for the action. Priority actions are recommended to occur within one to two years of comprehensive plan adoption, intermediate actions are recommended to occur within two to five years of Plan adoption, and long-term actions are recommended to occur within five to 20 years of Plan adoption. Ongoing actions are currently underway and are recommended to continue. Costs are estimated as shown, to be determined (TBD), or not applicable (NA). Implementation actions already reflected in the Town's Capital Improvement Program are also denoted within the Cost column.



14. IMPLEMENTATION PROGRAM

**Table 14-1: Table of Implementation Actions**

SECTION	REFERENCE	ACTION
<b>2</b>		<b>NATURAL RESOURCES</b>
2	NR-1	Investigate the use of easements to expand recreational opportunities, for the preservation of scenic resources, environmentally sensitive land and/or to provide access to recreational facilities, areas and natural resources.
2	NR-2	Investigate grant funding opportunities for the purchase of development rights to preserve the Town's golf courses as open space.
2	NR-3	Establish an open space acquisition and development program intended to preserve remaining desirable land and water resources for parks, picnicking, fishing, and other passive and active recreational activities.
2	NR-4	Include acquisition/protection of Pawtuxet River shoreline in the Town's land protection program.
<b>3</b>		<b>RECREATION</b>
3	R-1	Establish balanced recreational facilities and programs for Town residents of all ages, interests, and abilities.
3	R-2	Establish an open space acquisition and development program intended to preserve remaining desirable land and water resources for parks, picnicking, fishing, and other passive and active recreational activities.
3	R-3	Expand amenities and recreational opportunities at Riverpoint Park.
3	R-4	Examine parks and recreation facilities for accessibility to handicapped persons.
3	R-5	Establish tot lots and playgrounds in existing park/playground areas where desirable.
3	R-6	Investigate the demand for nontraditional recreational activities within the Town.
3	R-7	Create access points to the Pawtuxet River for boaters, canoes, and kayakers to maximize use and enjoyment of the river for all.
3	R-8	Increase the Town's recreation maintenance budget on a phased basis as necessary to improve operation and maintenance of existing recreational facilities.
3	R-9	Develop a formal maintenance schedule to insure ongoing maintenance activities for all facilities on a year-round basis.
3	R-10	Include short and long term recommendations for recreational facilities, land protection, and recreational programming in the Recreation Department's Capital Improvement Program.
3	R-11	Allocate sufficient funding for acquisition and development of recreational facilities and open space resources.
3	R-12	Identify and pursue Federal and State financial and technical assistance, grants and funding for recreation and open space conservation projects.
3	R-13	Investigate non-profit funding for field maintenance.

14. IMPLEMENTATION PROGRAM

	RESPONSIBILITY				CURRENT STATUS	TIMING			COST
	TOWN COUNCIL	PLANNING BOARD	ZONING BOARD OF REVIEW	DEPARTMENT		PRIORITY	INTERMEDIATE	LONG-TERM	
	●	●	●	Planning/ Recreation		●	●		NA
	●			Planning			●		NA
	●	●		Planning				●	NA
	●			Planning/ Recreation			●		TBD
	●			Recreation			●		NA
	●	●		Planning			●		NA
	●			Recreation			●		NA
	●			Recreation			●		NA
	●			Recreation			●		NA
	●			Recreation			●		NA
	●			Recreation			●		TBD
	●							●	TBD
				Recreation		●			TBD
	●			Recreation		●			NA
	●							●	TBD
	●			Planning/ Recreation		●			NA
	●			Recreation			●		NA

SECTION	REFERENCE	ACTION
3	R-14	Increase the level of communication on recreation matters between the Planning Department and Recreation Department.
3	R-15	Cooperate with the neighboring communities identify joint recreational and open space opportunities as joint ventures (i.e. the Riverwalk).
3	R-16	Work with RIDEM and the Pawtuxet River Authority to secure passage via rights-of-way, easements and other avenues to provide for portages around local mill dams and other obstacles along the Pawtuxet River waterway.
3	R-17	Work with ExploreRI and the East Coast Greenway Alliance to list and link the West Warwick Greenway with other trails.
3	R-18	Enhance neighborhood playgrounds with better lighting and facilities, demarcated paths and signage for children who walk or bicycle to the neighborhood facility.
3	R-19	Create pocket parks in vacant lots in areas that are not served by nearby recreational facilities.
3	R-20	Connect neighborhoods and open spaces through a network of bicycle and pedestrian friendly streets and trails, especially in underserved neighborhoods.
3	R-21	Establish links between the West Warwick Gateway and state and national trails.
<b>4</b>		<b>HISTORIC AND CULTURAL RESOURCES</b>
4	HC-1	Re-establish a West Warwick Historic District Commission (HDC) by Ordinance.
4	HC-2	Provide the HDC with suitable operating budget to carry out its functions as expressed in the Town Charter.
4	HC-3	Provide the HDC with meeting and storage space at the Town Hall or other appropriate Town-owned facility.
4	HC-4	Provide support through the HDC and Historical Society for public education on historic and cultural resources.
4	HC-5	Apply for Certified Local Government (CLG) status through the HDC which would allow the Town to secure preservation grants and loans to carry out the preservation activities necessary to protect historical resources.
4	HC-6	Form a coalition of local preservation interests, with the HDC as the core, to promote a public/private partnership in preservation.
4	HC-7	Establish a listing of known archaeological sites as a resource for the Planning Department to identify locations which may have archaeological sensitivity.
4	HC-8	Establish a cemetery commission as a subcommittee of the HDC which would assess general conditions and oversee maintenance of historic cemeteries, and provide information for people seeking genealogical information.
4	HC-9	Expand the Town's knowledge and documentation of historical and archaeological sites and structures.
4	HC-10	Prepare legislation creating local historic district zoning and designate those areas of the community to be targeted for preservation.
4	HC-11	Prepare and adopt design guidelines as part of the historic district regulations.



14. IMPLEMENTATION PROGRAM

	RESPONSIBILITY				CURRENT STATUS	TIMING			COST
	TOWN COUNCIL	PLANNING BOARD	ZONING BOARD OF REVIEW	DEPARTMENT		PRIORITY	INTERMEDIATE	LONG-TERM	
				Planning/ Recreation		●			NA
	●			Recreation			●		NA
	●			Planning/ Recreation		●			NA
				Planning				●	NA
	●			Recreation			●		TBD
	●			Planning			●		TBD
				Planning			●		TBD
	●			Recreation		●			TBD
	●					●			NA
	●						●		TBD
	●			HDC/ Town Clerk		●			NA
				HDC				●	\$2,000-\$3,000
	●			HDC			●		NA
				HDC				●	NA
				Building and Zoning/ Planning		●			NA
	●			HDC				●	NA
		●	●	HDC/ Planning			●		NA
	●	●	●	Building and Zoning/ HDC/ Planning				●	NA
	●	●		Community Development Block Grants/ HDC/ Planning			●		NA

SECTION	REFERENCE	ACTION
4	HC-12	Review and modify land use regulations for consistency and to encourage preservation and reuse of historic mill structures.
4	HC-13	Amend the Subdivision and Land Development Review Regulations to allow the Planning Board to request an on-site archaeological investigation if the State Archaeologist indicates there is potential for an archaeological site on the premises.
4	HC-14	Work with the Pawtuxet River Valley Authority to expand its river walk network in the Phenix area and include an interpretive program on the textile production industry in West Warwick.
<b>5</b>		<b>HOUSING</b>
5	H-1	Emphasize and preserve the identity of historic neighborhoods through historic district zoning.
5	H-2	Replace the Multifamily dwellings section of the zoning ordinance with a Planned Residential Overlay District to accommodate multifamily developments, and establish appropriate design and site planning standards.
5	H-3	Establish a Planned Unit Development section in the Zoning Ordinance which permits a parcel of land to be planned and developed as one unit containing a mix of residential uses, commercial uses and common open space.
5	H-4	Provide incentives for combining open space preservation efforts with new housing construction, such as through cluster development.
5	H-5	Strictly enforce the Zoning Ordinance minimum area requirements for two-family and multifamily dwellings.
5	H-6	Work with the Housing Authority to ensure that existing units are maintained and modernized as necessary.
5	H-7	Cooperate with Rhode Island Housing to identify expiring Section 8 subsidized housing projects and work to establish new replacements or maintain existing Section 8 units.
5	H-8	Work with the Senior Citizen Center, local houses of worship and other social service agencies to provide adequate shelter for the homeless.
<b>6</b>		<b>ECONOMIC DEVELOPMENT</b>
6	ED-1	Develop an inventory of available space in mill buildings to be regularly maintained and updated by the Town Planner.
6	ED-2	Evaluate the use of tax incentives to attract and encourage economic development.
6	ED-3	Develop and implement a long-range plan to retain existing businesses and attract new investment in West Warwick.
6	ED-4	Prepare revised zoning guidelines for signage including size, location, illumination, elevation, etc.
6	ED-5	Provide site improvements to enhance the visual quality of Arctic, Phenix, and Natick Villages, including standards for street lights, furniture, street trees, paving materials, and signage.
6	ED-6	Prepare and implement a program of regular clean-up and maintenance of public areas in Arctic, Phenix, and Natick Villages.

14. IMPLEMENTATION PROGRAM

	RESPONSIBILITY				CURRENT STATUS	TIMING			COST
	TOWN COUNCIL	PLANNING BOARD	ZONING BOARD OF REVIEW	DEPARTMENT		PRIORITY	INTERMEDIATE	LONG-TERM	
	●	●		Building and Zoning/ HDC/ Planning		●			NA
	●	●		Building and Zoning/ Planning		●			NA
				HDC/ Recreation				●	NA
	●	●	●	Building and Zoning/ HDC			●		NA
	●	●	●	Building and Zoning/ Planning		●			NA
	●	●		Planning		●			NA
	●	●		Planning		●			NA
	●	●		Building and Zoning/ Planning		●			NA
	●			Housing Authority/ Planning		●			NA
	●	●		Housing Authority/ Planning		●			NA
	●					●			NA
				Economic Development/ Planning			●		NA
				Economic Development			●		NA
				Economic Development				●	NA
	●	●		Planning		●			NA
	●			Community Development Block Grants/ Economic Development				●	NA
	●			Public Works			●		TBD

SECTION	REFERENCE	ACTION
6	ED-7	Investigate and promote establishment of small business incubators, particularly in association with the reuse of mill buildings.
6	ED-8	Work with local volunteer groups to conduct community pride campaigns and regular clean-ups in Arctic, Phenix, and Natick Village.
6	ED-9	Explore the acquisition of properties and relocation of businesses subject to repetitive flooding along the Pawtuxet River.
<b>7</b>		<b>AGRICULTURE</b>
7	A-1	Work with Farm Fresh Rhode Island and/or other local community organizations to host a weekly Farmer's Market event located near other local businesses and to provide opportunities for local residents to obtain local produce.
7	A-2	Work with the Senior Center, the Youth Center, the School Department, and local nonprofits and property owners to create community gardens on Town-owned spaces such as school property, recreation areas and vacant lots.
<b>8</b>		<b>SERVICES AND FACILITIES</b>
Solid Waste		
8	SF-1	Develop a Town-wide information and education program to promote recycling and backyard composting.
8	SF-2	Investigate the feasibility of a community wide yard waste composting program.
8	SF-3	Purchase a chipper for the Department of Public Works recycling program to chip brush and limbs for mulch.
Wastewater and Sewer		
8	SF-4	Review the cost of the impact fee against other similar communities to determine if the fees are appropriate/adequate.
8	SF-5	Disconnect stormwater drainage connections to the municipal sewer system to reduce hydraulic loadings to the wastewater treatment facility.
8	SF-6	Work with the system's users, regional partners, the RIDEM, and others as necessary to implement wastewater service and treatment programs in an expeditious and cost effective manner.
Stormwater		
8	SF-7	Update Development Review regulations to address Best Management Practices (BMPs).
8	SF-8	Collaborate with the Sewer Authority to identify and eliminate drainage system connections to the municipal sanitary sewer system.
8	SF-9	Establish a drainage system maintenance program.
8	SF-10	Respond to and correct problems reported with the stormwater drainage system on a timely basis.
8	SF-11	Investigate creating a Stormwater Management District.



14. IMPLEMENTATION PROGRAM

	RESPONSIBILITY				CURRENT STATUS	TIMING			COST
	TOWN COUNCIL	PLANNING BOARD	ZONING BOARD OF REVIEW	DEPARTMENT		PRIORITY	INTERMEDIATE	LONG-TERM	
				Economic Development		●		NA	
	●					●		NA	
	●			Planning/ Finance		●		NA	
				Economic Development/ Planning		●		NA	
				Recreation/ Planning/ Senior and Community Center/ School			●	NA	
				Planning/ Public Works			●	TBD	
				Planning/ Public Works			●	TBD	
	●			Planning/ Public Works			●	TBD	
	●			West Warwick Wastewater		●		NA	
	●			Public Works/ West Warwick Wastewater			●	TBD	
	●			West Warwick Wastewater				●	NA
		●		Planning		●		NA	
				Public Works/ West Warwick Wastewater		●		TBD	
	●			Public Works		●		NA	
	●			Public Works		●		TBD	
	●			Town Engineer/ Public Works/ Planning			●	NA	

SECTION	REFERENCE	ACTION
8	SF-12	Prepare a Town-wide drainage system and stormwater management plan addressing the streams. Identify existing system deficiencies caused by various uncoordinated development and activities; areas or locations appropriate for water quality retrofits; problem sites and areas, including drainage connection to the municipal sewer systems; and prioritize needs for improvements.
Police Department		
8	SF-13	Develop an appropriate bidding system and schedule for replacement of cruisers on an annual basis.
8	SF-14	Provide additional space for records storage coordinated with other Town departments' storage space needs. Ensure that records are maintained in a secured area.
8	SF-15	Identify and secure an appropriate site for storage of felony vehicles.
8	SF-16	Study the needs and options for improvements and/or relocation of the police station.
Fire Department		
8	SF-17	Renovate or replace the Phenix Fire Station.
8	SF-18	Evaluate the potential relocation of fire headquarters from downtown Arctic.
8	SF-19	Review emergency rescue capabilities and consider adding rescue vehicles and personnel where necessary.
School Department		
8	SF-20	Expand the use of modern teaching equipment and provide up-to-date school buildings and facilities.
8	SF-21	Review classroom space needs Town-wide on an annual basis.
8	SF-22	Schedule regular meetings between the Superintendent's office and the Town to exchange data regarding population projections, planned and potential residential development and other pertinent information.
8	SF-23	Provide additional off-street parking at Greenbush Elementary School and replace existing parking area with a play area for students.
8	SF-24	Upgrade the Town's vocational education facilities and expand training into technology-related fields.
Senior Center		
8	SF-25	Provide an adequate level of funding to the Senior Citizens Center to ensure its continued operation as a vital resource for the Town's older residents.
8	SF-26	Work with the various human services providers of West Warwick and surrounding area to develop a list of services, service providers and other pertinent information to be made available to appropriate clientele.
Public Library		

14. IMPLEMENTATION PROGRAM

	RESPONSIBILITY				CURRENT STATUS	TIMING			COST
	TOWN COUNCIL	PLANNING BOARD	ZONING BOARD OF REVIEW	DEPARTMENT		PRIORITY	INTERMEDIATE	LONG-TERM	
	●			Town Engineer			●		\$15,000-25,000
	●			Police			●		NA
	●			Police			●		NA
	●			Police		●			NA
	●			Police				●	\$10,000-20,000
	●			Fire				●	FY18 Budget: \$109,676 to be used for capital items incl. building improvements.
	●			Fire				●	
	●			Fire				●	TBD
				School			●		NA
	●			School			●		NA
							●		NA
	●			School			●		\$100,000-150,000
				School		●			TBD
						●			TBD
				Planning			●		TBD

SECTION	REFERENCE	ACTION
8	SF-27	Provide support to the Champlin Library, including adequate funding for library positions.
Town Hall		
8	SF-28	Evaluate how to provide additional space for more efficient operation of administrative functions.
Civic Center		
8	SF-29	Identify and fund the needed capital improvements at the Civic Center.
<b>9</b>		<b>ENERGY</b>
9	E-1	Undertake a baseline assessment of the energy being used by municipal buildings, equipment and vehicles to determine where improvements can be made to conserve and efficiently use energy.
9	E-2	Replace end-of-life municipal-owned vehicles with high fuel efficiency and/or electric vehicles.
9	E-3	Purchase Energy Star certified equipment for new equipment or to replace older equipment.
9	E-4	Establish a program by which savings that result from energy efficiency and conservation measures are used to fund additional energy saving programs and upgrades.
9	E-5	Develop and maintain an up-to-date energy management plan for attaining ongoing energy savings.
9	E-6	Hold community discussions on the types of renewable energy production facilities that may be appropriate for the municipality.
<b>10</b>		<b>WATER SUPPLY</b>
10	W-1	Implement water reduction strategies that deal with dry summers and droughts in coordination with Kent County Water Authority.
10	W-2	Implement water efficient municipal practices, particularly in the summer.
10	W-3	Review current drought management procedures, identify problem areas and develop recommendations for more effective drought mitigation.
10	W-4	Develop a water emergency response plan, including roles and responsibilities of the various entities involved and communication with the public.
10	W-5	Implement standards and strategies aimed at recharging groundwater and reducing runoff, such as reductions in impervious cover, better soil erosion protection, and low-impact development stormwater management.
10	W-6	Establish a stormwater management program.
10	W-7	Work with the Kent County Water Authority through the Planning Board, Town Planner, Town Engineer and other municipal officials as appropriate, to coordinate Town activities with the Water authority's efforts to maintain, improve and expand the water system throughout the Town.
<b>11</b>		<b>TRANSPORTATION</b>
11	T-1	Develop and install directory signage along the streets and at municipal parking lots to assist pedestrians, locate activities, points of destination and significant landmarks.
11	T-2	Create a parking management plan for Arctic Village and identify funding sources and potential parcels for the development of public parking.



14. IMPLEMENTATION PROGRAM

	RESPONSIBILITY				CURRENT STATUS	TIMING			COST
	TOWN COUNCIL	PLANNING BOARD	ZONING BOARD OF REVIEW	DEPARTMENT		PRIORITY	INTERMEDIATE	LONG-TERM	
	●			Library	Ongoing		●		TBD
	●			Town Manager				●	NA
	●			Recreation			●		\$250,000
				Public Works			●		NA
	●			Public Works			●		NA
	●			Public Works			●		NA
				Town Engineer			●		NA
				Town Engineer			●		NA
		●					●		NA
	●			Public Works/ Town Engineer			●		NA
	●			Public Works/ Town Engineer		●			NA
				Public Works/ Town Engineer			●		NA
	●			Public Works/ Town Engineer			●		NA
		●		Planning		●			NA
	●			Planning/ Public Works		●			NA
	●	●		Planning/ Public Works/ Town Engineer		●			NA
	●			Planning/ Public Works				●	\$5,000-10,000
	●			Planning				●	NA

SECTION	REFERENCE	ACTION
11	T-3	Study local traffic patterns in Arctic Village and consider alternatives to the one-way streets.
11	T-4	Adopt and implement a Complete Streets policy for all new and reconstructed streets and roadways within the Town.
11	T-5	Develop and implement a computerized pavement management system to identify and prioritize maintenance and capital improvements for local roads and drainage structures, and to coordinate roadway maintenance and improvement projects with other infrastructure improvements.
11	T-6	Work with the Rhode Island Department of Transportation to expedite the Transportation Improvement Program (TIP) projects programmed for West Warwick.
11	T-7	Improve local streetscapes through the use of curbing, street tree planting, vegetated buffer strips, repaired and new sidewalks, and drainage improvements.
11	T-8	Provide greater emphasis on the design and construction of sidewalks for all new and rehabilitated roadways.
11	T-9	Track and implement regular maintenance and sweeping of pedestrian walkways, sidewalks, and streets.
11	T-10	Prepare a bicycle path master plan for the Town of West Warwick connecting recreational, commercial, historical, and natural resource attributes of the Town.
11	T-11	Review and evaluate the needs of the service population and the levels of service obtained through provider organizations to assure that needs and requirements are met.
11	T-12	Expand the availability of transportation service to people in need who currently do not meet eligibility requirements.
<b>12</b>		<b>NATURAL HAZARDS</b>
12	NH-1	Amend the Zoning Ordinance to respond to impacts from hazards and climate change on infrastructure, land use, and development.
12	NH-2	Evaluate the access and connections to parks and recreation areas to ensure safety.
12	NH-3	Plant additional vegetation in green spaces throughout the Town to filter air and to absorb and filter stormwater runoff.
12	NH-4	Expand the tree canopy in parks and natural spaces to reduce the heat impacts of buildings and pavement.
12	NH-5	Educate business owners and residents about stormwater management techniques, such as swales, detention basins, rain gardens and other Best Management Practices (BMPs).
12	NH-6	Acquire properties and demolish structures that have experienced repeated losses due to flood events.
12	NH-7	Educate property owners about flood hazards and resources available for adaptation and mitigation, and information on the evacuation routes and emergency shelters.
12	NH-8	Review land uses and development in areas potentially affected by the failure of dams to determine whether restrictions are necessary to prevent potential losses.
12	NH-9	Create public awareness of potential flood hazard areas and conditions.
12	NH-10	Conduct vulnerability assessments of all municipal infrastructure to determine priorities for adaptation and mitigation.

14. IMPLEMENTATION PROGRAM

	RESPONSIBILITY				CURRENT STATUS	TIMING			COST
	TOWN COUNCIL	PLANNING BOARD	ZONING BOARD OF REVIEW	DEPARTMENT		PRIORITY	INTERMEDIATE	LONG-TERM	
				Planning			●	TBD	
	●	●		Public Works/ Town Engineer/ Planning			●	NA	
	●			Public Works/ Town Engineer			●	NA	
	●			Planning/ Town Engineer			●	NA	
	●			Planning/ Public Works/ Town Engineer			●	NA	
	●	●		Planning/ Public Works			●	NA	
							●	TBD	
				Planning			●	\$10,000-15,000	
				Senior and Community Center			●	NA	
	●			Senior and Community Center			●	TBD	
	●	●		Planning			●	NA	
				Planning			●	NA	
				Public Works			●	NA	
				Public Works			●	NA	
	●					●		NA	
	●						●	NA	
	●			Planning		●		NA	
	●			Planning/ Town Engineer			●	NA	
	●			Planning/ Public Works			●	NA	
	●			Planning/ Town Engineer			●	NA	

SECTION	REFERENCE	ACTION
12	NH-11	Develop a public educational program and distribution strategy regarding hurricane preparedness, safety tips, emergency shelter location, and emergency service contacts.
<b>13</b>		<b>LAND USE</b>
13	LU-1	Revise the Zoning Ordinance to create more defined standards for large-scale multifamily development and to direct them to the appropriate areas of the town, close to the village centers, as buffers between commercial and residential development, in areas where public water and sewer are available, with direct access to major roadways, and away from established residential neighborhoods and areas of sensitive natural resources, such as wetlands and steep slopes.
13	LU-2	Enforce the minimum requirements for two-family and multifamily developments as defined in the Zoning Ordinance.
13	LU-3	Update the Zoning Ordinance Use Tables to eliminate outdated commercial use categories and to include newer more contemporary commercial uses.
13	LU-4	Evaluate the establishment of the Village Commercial districts for their effectiveness and consider amendments to the existing standards or alternative zoning, if necessary.
13	LU-5	Review and amend the sign regulations, as necessary, to conform to current standards and practices.
13	LU-6	Identify state and national register historic properties and districts.
13	LU-7	Work with a new local Historic District Commission to review historic district zoning regulations of other communities, designate those areas of the community which will be targeted for such preservation efforts, and consider establishing historic district zoning.
13	LU-8	Research and create a Planned Unit Development (PUD) section in the Zoning Ordinance which permits a parcel of land to be planned and developed as one unit and contains a mix of residential and commercial uses and common open space.
13	LU-9	Establish a new or develop a relationship with an existing Land Trust to preserve high-priority open space.
13	LU-10	Investigate the use of Conservation Development or Cluster Development zoning strategies to protect large areas of open space while still allowing some development.
13	LU-9	Update, revise, and amend existing Zoning Ordinance to conform to the State approved Comprehensive Plan as required in Rhode Island Comprehensive Planning and Land Use Act RIGL 45-22.2-13.
13	LU-10	Eliminate nonconforming uses through enforcement of the Town's zoning regulations.
13	LU-11	Enforce off-street parking and loading requirements contained in the Zoning Ordinance, particularly when there is a change of use that requires an increase in the number of spaces provided.
13	LU-12	Enforce Rhode Island Department of Environmental Management (RIDEM) regulations for developments in proximity to wetlands and the Pawtuxet River.



14. IMPLEMENTATION PROGRAM

	RESPONSIBILITY				CURRENT STATUS	TIMING			COST
	TOWN COUNCIL	PLANNING BOARD	ZONING BOARD OF REVIEW	DEPARTMENT		PRIORITY	INTERMEDIATE	LONG-TERM	
	●			Fire/ Planning/ Police		●		NA	
	●	●		Planning		●		NA	
	●	●	●	Building and Zoning		●		NA	
	●	●		Planning		●		NA	
							●	NA	
	●	●		Planning		●		NA	
	●	●		Pawtuxet Valley Preservation and Historical Society/ Planning/ RI Historical Preservation Society			●	NA	
	●	●		HDC/ Planning			●	NA	
	●	●		Planning		●		NA	
	●	●		Planning		●		NA	
	●	●		Planning		●		NA	
	●	●		Planning		●		In house or \$20,000-30,000	
	●	●	●	Building and Zoning/ Planning			●	NA	
	●	●	●	Building and Zoning/ Planning		●		NA	
	●	●	●	Building and Zoning/ Planning		●		NA	

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## 14.2 Zoning Ordinance and Map Amendment Schedule

The Zoning Ordinance and Map will be amended with respect to the location of multifamily housing in accordance with *Section 13 Land Use* within 12 months of the acceptance by Town Council of this plan.





HARRIMAN