



SERVICES AND FACILITIES

CHARLESTOWN COMPREHENSIVE PLAN

A description of Charlestown's infrastructure and public services and facilities, issues and opportunities related to its public buildings and major services, and recommendations to achieve services that maintain the quality of life, and sustainability, particularly related to water supply.

Map
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Cover Photo: Jane Weidman

SERVICES AND FACILITIES CHAPTER

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CHAPTER 5. SERVICES AND FACILITIES
Planning Commission Final Draft; December 2019

INTRODUCTION

As a rural community with limited infrastructure, the types of services and facilities provided in Charlestown are less extensive as compared with more urban communities in the state. In addition to several municipal departments, a regional school model and a police department, the town is serviced by quasi-municipal fire districts supported by volunteers, and a small community center and library. With limited public services, the town avoids the need for expensive public facilities and associated high tax rates.

Residential far outweighs commercial and industrial uses in Charlestown; it provides the bulk of the town’s tax base and the greatest demand for public services. According to the Tax Assessor, residential property contributes about 98% of the town’s property tax income, with the commercial and industrial sectors together contributing approximately 2%.

All residences and businesses rely entirely on groundwater for their supply of potable water, which is delivered through wells, both individual and community. There is no sewer service in Charlestown, and none proposed.

The capacity and condition of the public facilities and infrastructure supporting services in Charlestown are considered adequate, with a few exceptions. The Department of Public Works garage at Town Hall has limited space, and a location that provides better access to the western part of town to store the equipment and vehicles would be preferable. The accessibility of the Senior/Community Center in Ninigret Park, and its capacity to provide long-term recreational and community programming for all ages needs to be evaluated.

It is anticipated that other than roadways in the coastal areas, facilities and infrastructure in Charlestown are not likely to be impacted by natural hazards over the 20-year planning horizon of the comprehensive plan (see Natural Hazards chapter).

RELATIONSHIP TO OTHER CHAPTERS

Natural Resources Chapter

In Charlestown, where all water supplied to the community is from wells (groundwater), natural resource preservation is key to protecting the availability and quality of potable water. Policies to protect groundwater, wetlands and freshwater bodies, and the salt ponds are discussed in the Natural Resources chapter.

Recreation Chapter

The Department of Public Works (DPW) is responsible for maintaining municipal buildings and grounds, including the town's parks and recreation facilities. Recreational programs and assets are described in detail in the Recreation chapter.

Energy Chapter

The Energy chapter discusses various means that the town might take to increase energy efficiency, both in municipal operations and throughout the town, as well as other issues specific to energy generation.

Natural Hazards Chapter

Natural hazards and projected climate change provide a lens through which the location of the community's existing and proposed facilities and infrastructure are viewed. Issues such as storms and sea level rise are addressed further in the Natural Hazards chapter, as well as in the Charlestown Natural Hazard Mitigation Plan, 2017.

Transportation Chapter

Transportation facilities, specifically the road network and related standards including road design and stormwater management, as well as the maintenance services provided by the town, are discussed in further detail in the Transportation chapter.

Land Use Chapter

The community's current and future needs for services, facilities and infrastructure are a function of its land use – the types of uses, their locations and densities. These are described in detail in the Land Use chapter, which also includes a proposed Future Land Use Map.

EXISTING CONDITIONS

Major Public Facilities and Infrastructure

Shown on Map SF-1 *Public Facilities* are the locations of Charlestown's major public facilities.

The town owns several buildings and infrastructure, while other buildings are owned by quasi-municipal and nonprofit organizations providing services to the town, as shown on the map and detailed below.

Elementary School

Charlestown is a partner with the adjacent towns of Richmond and Hopkinton in a regional school system known as the Chariho Regional School District. Within the town boundaries is only one of the district's elementary schools, the Charlestown Elementary School, located on Carolina Back Road (Route 112). With the exception of two elementary schools located in Hopkinton, all other regional educational facilities are located within the Town of Richmond.

Town Hall

Charlestown's Town Hall is an historic building, built in 1893. It is set on a slight hill above the road at 4540 South County Trail (Route 2). Two wings have been added on either side of the original building, and various projects have been undertaken since 2006 to upgrade the building, which is in good condition and is viewed as generally adequate for the 20-year planning horizon of the comprehensive plan. Various administrative offices are located in the building. It also houses the Department of Public Works (DPW) garage where equipment and materials are stored.

Police Station

Constructed in 2006, the police station is a 1,400-square-foot modern facility that replaced an out-of-date facility located within the town hall building. It is located at 4901 Old Post Road (Route 1A), adjacent to Route 1 and directly across from Ninigret Park. It is also the location of the town's Emergency Operations Center activated during natural disasters and other emergencies. The facility has hurricane shutters to harden the structure against extreme weather.

Fire Stations

There are three fire stations located in Charlestown. The Charlestown Fire District owns two stations. The Charlestown-Richmond Fire Station, built in 2004, is located at 4377 South County Trail (at the junction of Routes 2 and 112) in the northern part of town. The Cross Mills Fire Station, completed in 2012, is located at 4258 Old Post Road in the southern part of town. The Dunn's Corner Fire District Station 2, built in 2004 and owned by the Dunn's Corner Fire District in Westerly is located at 5664 Post Road (Route 1). Dunn's Corner Fire District also owns the Quonochontaug Grange, located at 5662 Post Road next door to the fire station; it is a 1930s era grange available for community activities and meetings.

Emergency Medical Station

The Charlestown Ambulance Rescue Service building, built in 1983, is located at 4891 Old Post Road, next to the Police Station and is owned by a non-profit organization.

Solid Waste Transfer Station

The Charlestown Residential Collection Center, the drop-off facility owned by the town, is located at 50 Sand Hill Road on the eastern edge of town. The property includes a closed landfill.

Animal Shelter

The town-owned animal shelter is located at the end of Sand Hill Road adjacent to the Charlestown Residential Collection Center. It has ten runs for dogs and sixteen cages for cats, and a portable generator. An addition and upgrades to the present building are needed for storage, for quarantine and overflow of animals, and for the temporary shelter of evacuated pets.

Senior/Community Center

The Senior/Community Center, owned by the town, is located at the southern end of Ninigret Park at 100 Park Lane (accessed off of old Post Road). The facility, the main portion of which was the residence of the commanding officer of the US Naval Auxiliary Landing Field, has been upgraded and expanded over the years. It provides services, meals and programs for seniors. It also provides an area for recreational programming and community gatherings, and serves as an emergency cooling/warming shelter.

Library

The Cross Mills Library is located at 4417 Old Post Road in the southern section of town. Operated by a local nonprofit organization, it provides library services and reading programs, and offers a wide array of cultural and informational programs to the public. These include concerts, films, weekly card games and crafts, art programs and yoga. There is also a meeting room in one wing that is available for public use.



Jane Weidman

Cross Mills Library

Public Infrastructure

Other infrastructure systems located in town include:

- AMTRAK, the railway that is part of the Federal Railroad Administration’s Northeast Corridor, crosses through the northerly portions of the community, although there are no passenger or commercial train stops in Charlestown.
- Fiber optic cables and legacy transatlantic cables that connect to telecommunication hubs for landline and microwave distribution.
- High-tension electrical lines, and a natural gas transmission line are also located within Charlestown.
- Cellular and other communication towers and associated infrastructure at various locations in town.

The built environment also includes health care facilities and the existing infrastructure – roadways, onsite water treatment systems (OWTS), potable water treatment and distribution systems, and other communications infrastructure.

Public Administration

The philosophy of the Town of the Charlestown, as reflected by the actions and decisions of its administration, is to provide services and facilities that protect the health, safety and welfare of the public; that foster economic well-being; that preserve and enhance environmental quality; and that reinforce the distinction between urban and rural areas at an affordable tax rate. To that end:

- The town manages its facilities and services in an efficient manner assisted by equipment and technologies as appropriate.
- The town contracts for other services, such as fire protection, emergency medical services, and library services, from local quasi-municipal or nonprofit organizations.
- The town relies on natural resources for its water supply, which is provided by groundwater wells and pumps owned and operated by landowners and private water districts.
- The town relies on natural resources for its wastewater management, which is provided by onsite wastewater treatment systems (OWTS) installed for and operated by landowners.

This approach is consistent with and embodies the state’s goals and policies for services and facilities as found in the State Guide Plan (*Land Use 2025: Rhode Island’s State Land Use Policies and Plan*) and with the laws of the state.

Approximately 28 full-time and part-time employees provide municipal services, which are provided from offices in the Town Hall. Reporting to the five-member Town Council, which sets policy, is the Town Administrator, Town Clerk, Treasurer, Building Official, Zoning/Code Enforcement Officer, Town Planner, Public Works Director, Parks and Recreation Director, Parks and Recreation Program Manager, Tax Assessor, Tax Collector, GIS Coordinator, and Stormwater and Wastewater Program Manager. An Information Technology (IT) position was created in 2019. Sessions of Municipal Court are held in the Town Council Chambers.

Assisting are volunteers who serve on the many boards and commissions: Planning Commission (elected), the Zoning Board of Review, Board of Canvassers and the Affordable Housing, Agricultural Preservation, Budget, Building, Coastal Pond Management, Conservation, Economic Improvement, Parks and Recreation, Senior Citizens, Tax Assessment Review and Wastewater Management Commissions.

Public Education

Public education in Charlestown is provided through a regional school district shared with the adjacent towns of Richmond and Hopkinton. The name, Chariho, is derived by combining the first syllables from each town name. The Chariho Regional School District was authorized by state statute in 1958.

There are four elementary schools – two of which are located in Hopkinton, one located in Charlestown, and one in Richmond. Other educational facilities – the middle school, the high school, the career and technical training school, Chariho Tech, and the Chariho Alternative Learning Academy, a school for students with special needs, are located on Switch Road in Richmond, in the Village of Wood River. District administrative offices are also in Richmond on Switch Road.



Jane Weidman Charlestown Elementary

For students enrolled in Chariho Tech, the offerings of a career and technical training are coupled with a comprehensive high school program. In addition to several technical programs, services include guidance and career counseling, and job development and internship placements. Also offered independently depending on enrollment, are a number of fee-based adult education programs including general literacy (GED preparation, computer use) and specific vocations (i.e. HVAC technician, electrical apprenticeship, certified nursing assistant, teaching assistant).

The condition of the schools and supporting facilities are generally considered to be good. The high school and middle school were renovated and updated in 2010. A new building to house the Alternative Learning Academy was completed in 2018 allowing the program to be moved from dilapidated portable trailers. Ongoing updates to Chariho Tech were also completed in 2018. Charlestown Elementary has developed an outdoor learning program which utilizes an all-weather area, outdoor learning centers, a nature trail and a rain garden that can be utilized for education as well as absorbing runoff from surrounding asphalt. The district maintains an ongoing program for building and system upgrades and for renovations in cooperation with the RI Department of Education.

Enrollment in the Chariho School District, and that of students residing in Charlestown and their percentage of the total student body, over a recent ten year period is shown below in Table SF-1.

**Table SF-1
Chariho Regional School District Enrollment 2009-2018**

School Year	Total	Charlestown
2009-2010	3609	1,024 (28.4%)
2010-2011	3577	1,017 (28.4%)
2011-2012	3538	1,022 (28.9%)
2012-2013	3451	980 (28.4%)
2013-2014	3422	960 (28.1%)
2014-2015	3290	932 (28.3%)
2015-2016	3184	883 (27.7%)
2016-2017	3254	884 (27.2%)
2017-2018	3168	856 (27.0%)
2018-2019	3133	795 (25.4%)

Source: Chariho Regional School District

Overall, school enrollment declined steadily in the Chariho School District in the period between the 2009-10 and the 2018-19 school years, dropping by 476 students, a decrease of about 13%. At the same time, the percentage of Charlestown students among the total enrollment in Chariho also dropped slightly (Charlestown enrollment dropped by 229 students, a decrease of about 22%). Barring major demographic shifts in the district, enrollments are projected to be generally flat or modestly decline over the 20-year planning horizon of the comprehensive plan. As a result, the school district does not anticipate the need for additional educational facilities within this period. However, enrollment numbers could rise if significant additional residential development occurs within any of the three towns.

As required under the Chariho Act, each town contributes to the district proportionally on the basis of student enrollment; that is, each town pays into the district on a per-pupil basis. For the 2018-19 academic year, the total Chariho operating budget was \$52,487,969. Charlestown's share of this budget was \$14,216,622.

Public Safety

Police Department

The Charlestown Police Department is a 24-hour municipal police agency accredited in 2017 by the State of Rhode Island. The department is responsible for law enforcement, the protection of life and property, and emergency communications. Policing of the Narragansett Settlement Lands is provided by the Narragansett Tribal Police, but the department also interacts closely with the tribal police and takes an active role in investigation, apprehension and prosecution when required.

The department has two divisions, the largest being the uniformed Patrol Operations Division, and the other, the Administrative and Criminal Investigations Division. In addition to a chief, the department is staffed by a force of 20 sworn police officers and 5 full-time civilian employees. Staff is supplemented by part-time special police officers, traffic constables and several additional part-time administrative personnel.

The police administration is of the opinion that the modern police station and the current police force and supporting personnel will continue to meet the needs of the community throughout the 20-year planning horizon of the comprehensive plan.

The Police Department also provides administrative support for, and oversight of, the specialized services of the Harbor Master, two Assistant Harbor Masters and the Animal Control Officer. Special programming offered by the department includes a prescription drug drop off and disposal service for town residents.

Fire Districts

Fire protection in Charlestown is provided through quasi-municipal fire districts chartered by the State of Rhode Island. Fire districts collect taxes from property owners to support operations and provide fire protection, either directly or under contract with another fire district. The Dunn's Corners Fire District, Shady Harbor Fire District, Quonochontaug Central Beach Fire District (sometimes simply referred to as the Central Beach Fire District) and Charlestown Fire District are the districts serving Charlestown's residents. The Shady Harbor and Quonochontaug Central Beach Fire Districts have fee-based contracts with the Dunn's Corners Fire District, which is headquartered in Westerly and also provides contract services to two other fire districts in that town.

The Dunn’s Corners Fire District (Fire Station 2) provides protection in the southern portion of Charlestown as far east as the Hitching Post Restaurant on Route 1, and including extensive amounts of state land at Burlingame State Park and Management Area. The district is a member of the Southern League, a group of fire departments within a radius of 15 to 20 miles that provide mutual aid to each other and frequently work together in training exercises. Dunn’s Corner has an active membership, with a district chief, a full-time fire marshal and two deputy chiefs along with over 30 voluntary firefighters serving both Westerly (out of Fire Station 1) and Charlestown. Fire Station 2 in Charlestown has four bays for vehicles and equipment; the district has three engines, a tower truck, a tanker, a brush truck, a rescue vehicle, utility vehicle, boat and two ATVS.

The Charlestown Fire District, formed by legislation in 1974, provides fire protection in the remaining portion of Charlestown. The Charlestown/Richmond Volunteer Fire Association (Charlestown-Richmond Fire Station) and the Cross Mills Volunteer Fire Department (Cross Mills Fire Station), in existence since 1928 and 1938 respectively, are the fire companies of the Charlestown Fire District, which is staffed by a part-time paid district chief and also about 30 active volunteer firefighters. Charlestown-Richmond houses two fire engines, a tanker (2700 gallons) and a rescue truck. Cross Mills houses four fire engines, including an older reserve engine which is shared with Charlestown-Richmond, and a rescue vehicle.

Emergency Medical Services

Dispatching of emergency services – including those for the Charlestown Ambulance Rescue Service, the Charlestown Police Department and the Charlestown Fire District – is provided by the Charlestown Police Department. The system is equipped with enhanced 9-1-1 and computerized address information available in the event a caller is unable to speak.

Emergency medical services are provided at the paramedic level of care on a 24-hour basis by Charlestown Ambulance Rescue Service, which is staffed by volunteers. Also provided by the rescue service are medical incident command, light technical rescue work including water rescue, special event coverage, and community education.

Emergency Management Department

Charlestown’s Emergency Management Department manages emergencies affecting the public peace, health, safety, comfort and welfare of residents and visitors, and works to protect persons and property during emergencies. The department director and other personnel qualified in emergency service, including the deputy director, comprise the Charlestown Emergency Management Agency. When active, the emergency management operations center is supported by Amateur Radio Association volunteers at KB1RDE.

The department plans for the utilization of town facilities, equipment and personnel during emergencies; equips and maintains a management operations center; assists the president of the

Town Council in a declared emergency; and acts as liaison with other municipal departments and local public safety agencies and with federal and state agencies, including the Federal Emergency Management Agency (FEMA), the Rhode Island Emergency Management Agency (RIEMA), the RI Department of Health and the RI Chapter of the American Red Cross. The department has adopted an Emergency Operations Plan. Charlestown also participates in the CodeRED Emergency Notification System.

Public Works

The Department of Public Works (DPW) provides a number of public services to the community through its highway, solid waste, wastewater, buildings and grounds, and mosquito abatement divisions.

A full-time director manages the operation of the department's divisions, formulates policy recommendations, identifies priorities relative to the services provided and interacts with the public, town officials, and state authorities on matters ranging from road maintenance priorities to construction bid documents to capital budget programming.

The staff consists of 8 full-time highway workers, 1 full-time and 2 seasonal ground maintenance workers, 2 full-time and 1 seasonal collection center workers and 1 full-time janitor. A full-time secretary is shared between the divisions.

The highway division of DPW maintains approximately 140 lane-miles of town-owned roads, services which include sealing road surfaces, keeping roads clear (including winter plowing) and general maintenance activities (see Transportation chapter for additional details on transportation infrastructure).



Charlestown Police Department

DPW Plows in Ninigret Park

A goal has been to bring all town-owned roads up to minimum standards so that maintenance can be routine. As of the end of 2019, except for one (Old Mill Road) all town-owned roads have been brought up to minimum standards and adequate drainage facilities have been installed. The department uses data entered in a customized database to assess, monitor and project roadway conditions and the costs associated with maintenance and/or capital improvements.

The building and grounds division maintains the Town Hall, Senior/Community Center, the transfer station and animal shelter, and the facilities of the DPW. It also maintains, including minor repairs to, the buildings and facilities in Ninigret Park.

In order to reduce the risk of disease transmission, the mosquito abatement division helps to control mosquito populations primarily through the application of *Bacillus thuringiensis* (Bti), a natural form of biological control. The town also maintains drainage swales and structures to prevent water stagnation that would promote mosquito proliferation.

Solid Waste

Charlestown provides no municipal solid waste pick-up service. Residents may drop off their waste at the Charlestown Residential Collection Center (CRCC), or arrange for one of several commercial waste haulers licensed by the town to collect their solid waste and dispose of it for a fee. Non-residential solid waste must also be collected and disposed of by one of the licensed commercial waste haulers at the property owner's expense. Town regulations prohibit the disposal of solid waste elsewhere in the town. The CRCC is located north of Route 1 at the end of Sand Hill Road (off Old Coach Road) on a larger parcel which also includes the animal shelter and a closed landfill (described below).

Only residential solid waste may be dropped off by Charlestown residents, who must purchase an annual sticker for their vehicle and for each bag of garbage disposed of. The disposal of hazardous material, autos and auto parts, and stumps and boulders are prohibited at the CRCC. Tires and used crankcase oil are accepted with limitations, and white goods, bulky waste and demolition debris are accepted for a fee commensurate with the town's cost for disposal. Leaf and yard waste and brush are also accepted and composted on site.

Municipal solid waste collected at the CRCC is transported to the Rhode Island Resource Recovery Corporation (RI RCC) facilities in Johnston, RI (the Central Landfill), for disposal.

Recycling is mandatory in Charlestown and all residents and business owners, including those who use private commercial waste haulers, are required by local ordinance and state law to separate recyclable materials from the waste stream at the source. Following issuance of an annual permit (\$20 fee) residents are able to dispose of recyclables at the CRCC with no additional charge. The town has adopted a one-bag-at-a-time program, supplying canvas shopping bags to local merchants at cost for sale to customers so as to reduce the use of plastic bags at checkout.

In 2018, according to records maintained by the RI RCC, a total of 1,101 tons of material was transported to the Central Landfill by the Town of Charlestown. This represents about 268 pounds of trash per person, by far the lowest generation of solid waste in the state. Of the total, 290 tons (29.6%) was taken to the Materials Recovery Facility (MRF) at the Central Landfill for recycling purposes. Adding in composted material, scrap metal (white goods), clothing, tires, and other recyclables, RI RCC estimated the overall diversion rate for Charlestown at 37.2%.

There are two former (closed) municipal landfills that are owned by the town:

- Charlestown Sanitary Landfill: located on a larger (68 acre) but mostly wooded parcel which also includes the transfer station and the animal shelter, this landfill was active until 2000. Its closure was monitored by the RI Department of Environmental Management (RI DEM) who entered into a consent agreement with the town to ensure that it was capped and covered with appropriate material in accordance with an approved closure plan. The 7 acre landfill is unlined and a series of monitoring wells test the quality of groundwater on a regular basis.
- Narrow Lane Landfill: located on the westerly side of Narrow Lane, the landfill was closed in 1980. It encompasses most of the 8.6 acre parcel, but is not subject to active monitoring, based on an evaluation by the US Environmental Protection Agency (EPA). It could conceivably be evaluated for re-use in the future.

There are also five CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System) or EPA Superfund sites within Charlestown. These sites, all of which are closed, are described below (not shown on Map SF-1).

There are two landfill sites and one fuel depot site on land that was once the US Naval Auxiliary Landing Field in Charlestown, now the town-owned Ninigret Park and the US Fish and Wildlife-owned Ninigret National Wildlife Refuge. Within the park is a small landfill where fuel, solvents, pesticides and bomb casings and ammo containers were left, and small concentrations of petroleum hydrocarbons and metals (munitions debris) remain in the soil. There is also a tank farm where underground fuel storage tanks were placed. The site within the refuge was used as an inland toxic waste dump, again with metals, pesticides and petroleum hydrocarbon, as well as lead and zinc, which are in higher concentrations in the soil and the surface water than surrounding areas. The landfill areas have been remediated but must remain undisturbed. Neither site is readily accessible to the public.

The tank farm site was also remediated – all tanks and contaminated soil have been removed – but because of a concern with lead in the groundwater, the site is governed by a specific Environmental Land Use Restriction (ELUR) agreed to by the Town of Charlestown and the RI Department of Environmental Management. The ELUR prohibits activities that would disturb the residual petroleum, the withdrawal of groundwater or the construction of occupied structures on the site.

A discussion of the environmental sites of concern in the park and refuge are described in the document “*Final Post Remedial Long-Term Groundwater Monitoring Report 20082010, Charlestown Naval Auxiliary Landing Field, Site 8, Charlestown, RI, FUDSD01RI0008*”, prepared by United States Army Corps of Engineers, New England District, Concord, MA, June 2, 2017. (Site 8 refers to the remediated tank farm site).

The other two CERCLIS sites are a landfill on Sand Plain Road of unknown ownership known as the Kenyon Piece Landfill where drums containing chemicals were dumped, and the United Nuclear Corporation Landfill on Narragansett Trail that was remediated following closure, and is currently part of a large nature preserve owned by The Nature Conservancy (see description in the Economic Opportunity chapter). For information on these sites, see the EPA’s Superfund site at <https://www.epa.gov/superfund>.

Stormwater Management

There is not a town-wide storm drainage network in Charlestown and the town does not own or operate a Small Municipal Separate Storm Sewer System (MS4) as defined by the Environmental Protection Agency (EPA). Instead, the town owns and operates a number of small-scale systems that drain localized parts of municipal roads and public parking areas. The DPW works to replace failed catch basins with new pre-cast concrete basins with sumps, and maintains retention ponds within the town owned rights of way.

Areas of Charlestown meet the criteria for a Densely Populated Area (DPA), and as such the town has a permit for the discharge of stormwater from the Rhode Island Pollutant Discharge Elimination System (RIPDES) program, Rhode Island’s version of the National Pollutant Discharge Elimination System (NPDES). In accordance with the RIPDES program, Phase II, the town is required to demonstrate effective protection of Special Resource Protection Waters, Outstanding National Resource Waters, and Impaired Waters.

In 2013 the town developed and adopted a Stormwater Management Plan. The plan establishes policies and actions the town will undertake in relation to its stormwater management system under the RIPDES program. Additionally, the plan addresses compliance with municipal stormwater (MS4) state and federal regulations, which prioritize awareness of non-point and other stormwater pollution sources. The town has been operating in accordance with the plan since its adoption.

Charlestown has embraced the principals of Low Impact Development (LID) in its Subdivision and Land Development Regulations, which require that all new subdivisions be developed as cluster subdivisions (individual house lots with commonly held open space areas) unless there is a compelling reason why a conventional subdivision is more appropriate. The regulations require the use of LID site planning and design elements to mitigate pollution, reduce sedimentation, provide visual amenities and wildlife habitat, and utilize structural and nonstructural best

management practices (BMPs) as per the 2010 *RI Stormwater Design and Installation Standards Manual*, and the *RI Soil Erosion and Sediment Control Handbook* (revised 2014).

Wastewater Management

Like many rural areas of the state, Charlestown relies on onsite wastewater treatment systems (OWTS) as the only means to treat and recycle wastewater back into the ground. Charlestown has no public sewer service, and none is proposed for anywhere in town within the 20-year planning horizon of the comprehensive plan.

The Rhode Island Septic System Maintenance Act of 1987 authorized towns to establish wastewater management districts to operate as alternatives to municipal sewer systems, and to protect groundwater quality and important natural resources from adverse impacts due to failing or poorly maintained OWTS. Charlestown's Wastewater Management District was established in 1994 and encompasses the entire town. It operates under the oversight of the Wastewater Management Commission. A full-time on-site wastewater specialist/environmental scientist serves as the principal wastewater management program administrator, and coordinates activities of the district with the other town departments, particularly Building/Zoning and Planning. Since 1994 the town has:

- Adopted an Onsite Wastewater Management Plan and has a robust municipal onsite wastewater management program in place. The 1999 management plan was updated in 2010 in the *Source Water Protection Plan for the Town of Charlestown, Rhode Island*, developed by the Charlestown Source Water Steering Committee and prepared by the Atlantic States Rural Water and Wastewater Association.
- Revised its wastewater management ordinance to require periodic inspection of OWTS by a town-approved septic service provider. Inspection records for every OWTS in town are maintained in a comprehensive database, which homeowners and realtors can search at <http://septicsearch.com>.
- Participated in the statewide Community Septic System Loan Program. Qualifying homeowners who need to replace cesspools or repair or replace septic systems can access low-interest loans that are processed on a first-come, first-served basis when funding is available.
- Required, since 2004, removal of cesspools and the upgrade of failing or malfunctioning OWTS. Under its cesspool phase-out program, all of the more than one thousand cesspools in Charlestown at the start of the program have been replaced with code-compliant OWTS.
- Solicited data from voluntary well testing performed by residents – data necessary to determine whether groundwater quality and important natural resources are being protected

from adverse impacts due to substandard OWTS. The data has shown significant nitrate levels (4 to 6 parts per million), approaching the alert level of 5 parts per million, considered by the RI Department of Health (RI DOH) to be a warning to either remediate the cause of the high nitrate levels or to look for other sources of drinking water. There are cases in certain parts of Charlestown that exceed 10 parts per million, the level at which water is deemed non-potable by the RI DOH.

- Obtained a grant in late 2017 to monitor the efficiency of installed systems that employ nitrogen-reducing technology. Under the grant, recommended landscaping process policies will be implemented, and six demonstration rain gardens will be installed on town properties to improve stormwater infiltration.

Management of OWTS is cost effective when compared with the costs of operating a municipal wastewater collection, treatment and disposal program. With existing land use controls and proper OWTS management, it is expected that wastewater treatment and disposal using OWTS will continue to meet the wastewater disposal needs in Charlestown.

Water Supply

All drinking water in Charlestown, whether delivered through public or private wells, depends on groundwater. Groundwater and the issues related to its quality are described in detail in the Natural Resources chapter; See Map NR-2 for the locations of groundwater reservoirs and recharge areas, including the major aquifers within the Pawcatuck–Wood River Watershed and wellhead protection areas. Groundwater recharge takes place throughout the town, and the designated wellhead protection areas shown on the map are only those that recharge in relation to the community public wells.

Quality and Adequacy

The quality of the groundwater in Charlestown is very good, with most groundwater being suitable for use as public drinking water without treatment.

The current rate of water usage for year round residents can be estimated by using the assumed 2015 population of 7,772 and water usage, as per state guidance, of 65 gallons per capita per day. That amounts to 505,180 gallons of use per day. With a projected 2040 year round population of 9,329, that would be 606,385 gallons of use per day.

The seasonal influx of summer residents and tourists adds to the town's population. This influx occurs from May through October, when the town's population swells to between 25,000 and 30,000. At peak times, demand for water could be as high as 1.95 million gallons per day (30,000 people x 65 gallons per capita).

However, as long as the groundwater is protected from contamination, it appears that groundwater resources in Charlestown are more than capable of providing enough water to meet both year round and peak season needs for residential and non-residential uses as a whole over the 20-year planning horizon of the comprehensive plan.

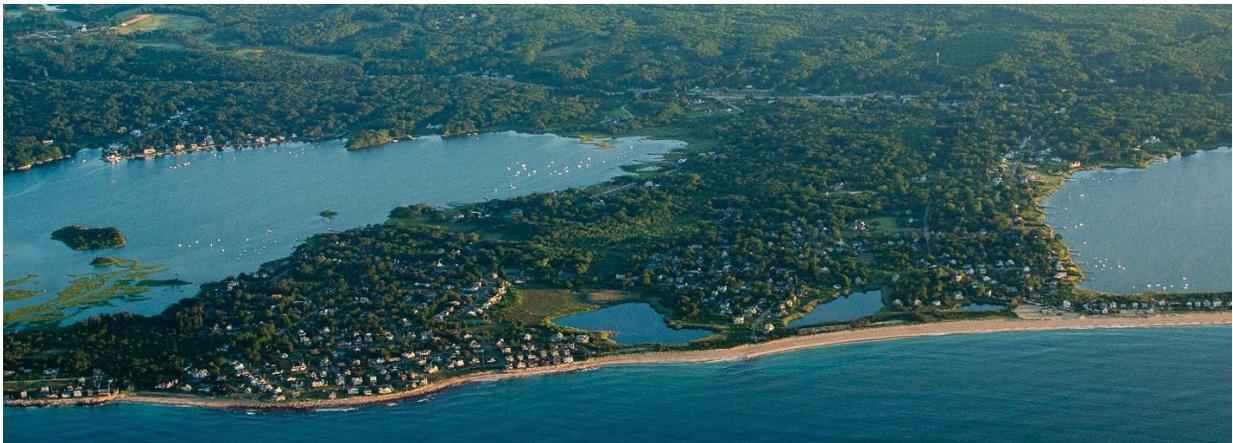
Delivery

Water in Charlestown is delivered through private wells, both individual and community. There are limited areas of distribution (water supply lines) associated with private water districts as described below.

There are no major public water supply systems in Charlestown, nor are there plans for such a proposed service area in the 20-year planning horizon of the comprehensive plan. Because no water supplier produces 50 million gallons of water or more per year, a water supply system management plan is not required under state regulations.

Two water districts in the community have been created under state law, the Shannock Water District and the Quonochontaug East Beach Water District. The Shannock Water District provides water to homes in the village of Shannock and Columbia Heights in Charlestown, and to the Kenyon Industries facility in Richmond. The district is also the source of water for Shannock Village Cottages, a low/moderate-income housing development in Charlestown (see Housing chapter).

Throughout 2015 and into early 2016, a Town Council established committee, the Potable Water Working Group, met to discuss issues related to the quality of the drinking water in portions of Charlestown where there are high concentrations of groundwater Nitrogen, particularly the Quonochontaug area. Comprised of representatives of the private water suppliers, the community, and town elected officials and staff, and with input from other experts, the group focused on nitrate levels in the drinking water, salt water intrusion and water supply and demand.



Vic G Divorak

Quonochontaug Peninsula

The areas of most concern were determined to be within the densely developed areas of the coastal ponds watershed and the impacts from nutrients entering the drinking water supply for both private wells and public wells. It is understood based on modeling that groundwater Nitrogen concentrations mainly emanate from OWTS.

The group's efforts concluded with the identification of a coastal groundwater protection overlay district defined by the Coastal Resources Management Commission's Salt Pond Region Special Area Management Plan, to be used as the basis for future regulation; the development of a voluntary program for landscapers to agree to make use of best management practices in lawn care and landscaping; and public outreach in the form of street signage in the drinking water supply areas and informational brochures regarding the protection of drinking water. The group also worked with the Charlestown Wastewater Management Commission to identify a series of innovative policies to reduce nutrient output from OWTS.

Partially due to this work and other efforts by the town to study the correlation of nitrogen in the groundwater with septic system density, Charlestown applied for and received an EPA grant for \$800,000 (awarded in 2018) to undertake a project to reduce nitrogen in the groundwater and salt ponds. The project scope includes monitoring the nutrient output of advanced OWTS through quarterly sampling and analysis; the actual replacement of fifteen substandard systems; and a public education and outreach component.

Also in 2015 the RI Water Resources Board purchased land in the Cross Mills section of Charlestown, using bond money from the state's South County Groundwater Protection and Acquisition Program. The acquisition was for the purposes of "land banking" the parcel as a potential future source of water for properties in this area of Route 1A and the Charlestown Beach peninsula, but also potentially outside of Charlestown.

In 2017, the town was also confronted with the possibility that groundwater from one of the aquifers within its boundaries could be withdrawn, trucked out of town and sold for the purpose of supplying cooling water for a natural gas power plant in Burrillville. This proposal by some members of the Narragansett Indian Tribe, met with considerable public and tribal resistance, especially from Charlestown residents and officials, and was ultimately not pursued.

SERVICES AND FACILITIES: ISSUES AND OPPORTUNITIES

As a predominately rural community Charlestown provides a limited menu of services and facilities to its residences and businesses. As stated in the Existing Condition section, the overall quality of the infrastructure and public facilities is very good in Charlestown. Given the stability of the town's demographic profile and expected trends over the next twenty years, current levels of service are expected to meet the needs of the local populace. Nonetheless, there are issues and areas of opportunity for upgrades and improvements to certain services and facilities.

Municipal and Public Buildings and Services

Town Hall

In recent years considerable attention has been paid to upgrading the Town Hall facility, which is in very good condition. With the exception of space needed for record storage, it has adequate room for service provision and public use.

However, garage space available to house equipment of the Department of Public Works is extremely cramped, and some equipment and town vehicles cannot be stored at the location. In addition, the Town Hall location on South County Trail presents DPW access constraints to the western and northwestern parts of town. In 2006 the town addressed a similar situation with the construction of a new police station on a large parcel of land on Old Post Road, right off Route 1. Relocating the DPW to town land behind the Police Station with easy access to the highway should be considered.

In 2018, the Town Hall was provided with whole facility generator service in the event of power outages in the community. This minimizes disruption to municipal services during such events and also enhances the Town Hall's function as a warming/cooling center and emergency water source during storm emergencies.

Police Station

The Charlestown Police Station is not located within the 500-year flood plain on FEMA maps, and as such will not be impacted by sea level rise during the time frame of this comprehensive plan. The facility was also constructed in accordance with building code requirements for "high wind zones" (winds greater than 120 mph). The facility is viewed as adequate for expected functional and service requirements without the need for major upgrades or improvement.

Fire Stations

The fire stations located in the coastal area, Dunn's Corners Fire District Station 2, and the Cross Mills Fire Station, as well as the Charlestown Ambulance Rescue Service building, would not be impacted by sea level rise, according to the Charlestown Hazard Mitigation Plan. However, these buildings, representing critical public safety infrastructure, are located in a high wind zone and hardening improvements should be considered over the timeframe of this plan.

Public Safety and Emergency Services

Although the town is not immune from issues that affect other Rhode Island communities, its public safety and emergency response capabilities are well positioned to meet existing and

anticipated local needs. However, improved communication and coordination with state and federal entities during emergency events has been suggested in the Charlestown Hazard Mitigation Plan. A dialogue in this regard should be initiated by the town with planning and policy protocols implemented as necessary.

About half of the communication towers and support facilities in Charlestown were established prior to the major revision of the 2000 RI State Building Codes. Whether these structures can withstand wind loads that might be expected should be evaluated.

Senior/Community Center

The Senior/Community Center located within Ninigret Park is used for an array of recreational programming on a year round basis, as well as for senior activities. The Recreation chapter of this plan identifies a need for more year round recreational activities including use of indoor facilities for active sports. Presently there is limited space available in the Charlestown schools, and other facilities with public access. In addition, the location of senior services in the remote area of the park is not ideal. The building also serves as a warming/cooling center and an evacuation center, and as such, its location below Route 1 and within the 500-year flood plain and a high wind zone has led to much discussion in town that an alternative location should be identified.

A review is required to determine the long-term recreational and community programming needs of residents of all ages in Charlestown, and to identify the capacity and appropriate location of an indoor recreational facility/community center that best meet these needs.

Community Services

Services to assist veterans, disadvantaged individuals and families to satisfy basic needs are provided by the town in partnership/cooperation with local relief organizations. Such supportive partnerships should continue and be flexible to respond to the changing needs of vulnerable elements of the local population.

Beach Pavilions and Salt Ponds

The town's beach pavilions are at risk from flooding and wind damage as a result of sea level rise and more intense storms. Both were built after the major revisions to the state building code in 2000. Hardening projects to improve the resiliency of these facilities should be considered (see Natural Hazards chapter).

As infrastructure critical to both navigation and the health of the salt ponds, the Charlestown and Quonochontaug Breachways and the channels from the ponds to the breachways which connect to Block Island Sound are assets that need to be maintained. The Charlestown Harbor Management

Plan, adopted in 2017 and approved by the Coastal Resources Management Council (CRMC) in 2018 (see town website) identifies the need to monitor and maintain the breachways and channels and to coordinate with the appropriate state and federal agencies. Specifically, the town will keep its dredging permits for Ninigret and Quonochontaug Ponds active on an as-needed basis. The town also maintains a fund for dredging and marsh restoration, which is generally available as a local match for federal and/or state grant money that may become available for these purposes.

Education

Maintaining adequate local and state contributions to the Chariho Regional School District remains a priority of Charlestown and the other participating communities in the district, Hopkinton and Richmond. Because state funding is critical in providing an adequate educational program for the district, the three communities should maintain an active dialogue with the state administration, RI Department of Education and the RI Legislature to ensure that appropriate resources are provided.

There are no capacity and few maintenance issues in any of the schools in the district. It is important that Charlestown maintain active communications with Richmond and Hopkinton over the course of the planning timeframe of this plan so that demographic changes within the district can be adequately planned for and accommodated as necessary.

Road Network

The DPW has worked over time to upgrade all town roads to a minimum standard so that they are maintained more easily and effectively, and costly repairs are avoided. These objectives have been accomplished, with the exception of improvements to Old Mill Road (center-eastern area of town off of Route 2). Old Mill Road is slated to be reconstructed in 2020.

As noted in the Existing Conditions section, the DPW makes use of a customized roadway management program which keeps the department up to date on the overall condition of each local road and accurately provides costs for routine maintenance and for needed improvements. The program is administered in-house.

Roads that intersect with sea level rise scenarios must be upgraded (elevated), redesigned or in some cases, abandoned. With projections from the National Oceanic and Atmospheric Administration (NOAA) of a 3 to 5-foot sea level rise by the year 2050, flooding will occur at locations currently not susceptible. More frequent and intense storms will increase inland flooding as well (see Natural hazards chapter). While most local roads are considered adequate within the 20-year planning horizon of the comprehensive plan, the town's public works policies and capital improvement programs need to consider adaptation in the future.



Charlestown Police Department

Impassable Local Road during the March 2010 Flood

Over 60% of Charlestown’s roads (measured by miles) are private, mostly unpaved and maintained by the residents who own property along them. They can only be accepted as town-owned roads if they are upgraded to town standards at the property owners’ expense. New private roads are permitted in certain circumstances (see Transportation chapter), but they must be constructed of gravel or pervious surface and require the establishment of a homeowners’ association for permanent maintenance.

Solid Waste Management

By state mandate, the town is required to achieve, at a minimum, a solid waste recycling rate of 35% and a solid waste diversion rate of 50% by 2035. Recent data (2018) from the RI RRC indicates that with a recycling rate of 29.6% and a diversion rate of 37.2%, the municipal drop-off program in Charlestown is approaching the state’s targets. Because of the limited capacity of the Central Landfill, the RI RRC is also studying multiple options for handling and disposing of the state’s solid waste. Whatever course is taken, tipping fees are expected to increase significantly in the years ahead. In addition, the recycling industry is undergoing major changes and it is becoming increasingly difficult for RI RRC to find markets for many recyclable materials. For all of these reasons and despite the low production of solid waste as measured by the tonnage sent to the Central Landfill, Charlestown should work to encourage higher rates of diversion and recycling in the community, particularly by the seasonal and transient population. This requires enhanced public education on the environmental and economic importance of reducing solid waste, including information on a comprehensive “reduce-reuse-recycle-rot (compost)” approach.

The strategic placement of recycling containers at key locations, such as beaches and tourist destinations, could all serve to increase the amount of recyclables the town brings to the Central Landfill in Johnston without also increasing the amount of solid waste dropped off, thereby improving the overall recycling and diversion rates for Charlestown.

Even though the town does not get credit for the recyclables picked up in Charlestown by private haulers, as a matter of principle the town should encourage private haulers collecting and disposing of solid waste from the community to continue and improve their recycling and solid waste diversion efforts. Finally, the town could also include expanding the range of materials that it accepts, including those that RI RRC may not take but that other entities will.

The DPW also arranges for local collection days with RI DEM's Eco-Depot; these efforts have been successful and should be continued. Education could be provided on the proper use, storage and disposal of household hazardous materials and other materials such as motor oil. Improvements to the disposal of "e-waste" should be considered as well.

Stormwater Management

As stated in the Existing Conditions section, Charlestown, in accordance with the RIPDES program requirements, has an adopted Stormwater Management Plan. The town will continue to operate in accordance with the plan. In 2017 the town enacted a sedimentation and erosion ordinance, a major component of local efforts for stormwater management improvements under RIPDES.

Local land development and subdivision regulations have been amended to implement Low Impact Development (LID) techniques and standards. LID is a comprehensive approach to site planning utilizing design techniques that store, infiltrate, evaporate and detain runoff as close as possible to the point where precipitation reaches the ground. LID can be used to accommodate growth while reducing the environmental impact of site development, and needs to continue to be an integral part of the design of all future development.

The town should consider other stormwater related policies and programs such as a stormwater reuse program at public buildings, and an educational program to inform the public on the problems associated with impaired stormwater quality, and the actions which can be taken to improve it.

Efforts must also be made to plan for the proper functioning of stormwater systems as a result of sea level rise and increased flooding due to climate change (see Natural Hazards chapter).

Wastewater Management

Under its wastewater management program, the town actively monitors installed OWTS and has been effective in replacing cesspools and other substandard and failing OWTS. Properly installed and maintained conventional OWTS, on adequately sized lots, are very effective at removing contaminants from wastewater and safely returning it to the groundwater. However, conventional OWTS do not remove significant amounts of nitrate or phosphates or many other possible contaminants that should not be disposed of through the wastewater stream. Nitrogen reducing systems (denitrification OWTS) have better capabilities in this regard.

The area of town most impacted by nitrogen from OWTS is the watershed of the salt ponds. The watershed has been mapped and is used for policy development and regulation by the Coastal Resources Management Council (CRMC) under its Salt Ponds Region Special Area Management Plan (SAMP), and by the RI DEM as the South Shore Salt Ponds Critical Resource Area. A discussion on the impacts of development in the watershed on the ponds' water quality and habitat value is contained in the Natural Resources chapter, but it is important to note that OWTS are the largest contributors of nitrogen to the groundwater. In the salt ponds watershed, the DEM mandates the use of denitrification systems for all new OWTS or for those that require an upgrade. A change to this regulation is not anticipated (nor desired).

An increase in new development in the coastal areas south of Route 1, as well as the continued conversion of summer homes to year round residences in these areas is expected (see Housing Choice chapter). One opportunity for the town to respond to this increased coastal development is to apply conditions to new construction in densely developed critical resource areas. While DEM has approval authority over OWTS's, the town can use the limitation of Nitrogen loading on individual sites as a basis for regulating such features as building size and footprint, and lot coverage. This could be applied in the form of an overlay zoning district.



Matt Dowling

New Septic System Installation

For some village districts and shoreline communities, consideration of the use of collective OWTS rather than wastewater being managed on each property by individual systems should also be evaluated. A recommendation of the Hazard Mitigation Plan is that a feasibility study for each proposed village district be undertaken.

Water Supply

State planning guidelines indicate that water supply issues need to be considered when planning for future land uses and that municipalities should encourage land uses with low potential for impacting the quantity and quality of their potable water supply. These guidelines further direct that, when planning for natural resource preservation, communities should incorporate measures that will support/preserve water quality and water supply system goals.

Protecting the Aquifers

Charlestown's abundant water resources have attracted the attention of outside parties interested in exploiting those resources. At present, there are no restrictions on water withdrawals for export from the community. Heavy pumping volumes for withdrawals to provide water supply to other communities, for commercial water bottling and sales, or to be sold as a commodity has the potential to disrupt the natural hydrology and threaten the long-term viability of the local water supply. The review of options for restricting large-scale water withdrawals for export outside the town is an important issue in the 20-year planning horizon of this plan.

The state purchase of property in Charlestown in Cross Mills as a potential future water source provides a protective measure for potable water availability in this densely developed village setting. The yield from the well is projected to be sufficient to supply water to homes and business in Cross Mills and the Charlestown Beach area. However, the well head protection area includes at least two active OWTS and does not meet the minimum RI Health Department standards for a public water supply. Before developing this water supply, a variance would have to be granted by the Health Department. It is also the position of the Town of Charlestown that any water drawn from the aquifer be returned to the groundwater (by means of on-site septic systems) and not transferred out of the watershed, and that any public water supply be carefully considered in terms of its potential to increase development pressure.

The Pawcatuck – Wood River Watershed is shared by other Washington County communities, as well as by the Narragansett Indian Tribe whose Settlement Lands lie within the boundaries of the Charlestown. The attempt by some members of the tribe to sell water from an aquifer accessed on Settlement Lands for cooling water to a proposed power plant in the northern part of the state in 2017 reinforces the need to have improved and continual communication with the tribe, and with the adjoining communities and the applicable state agencies on regional groundwater issues.

Preventing Contamination

In addition to the OWTS, another contributor to Nitrogen above background levels in groundwater is the use of fertilizers for lawn care. In 2016, the town enacted a “Recommended Landscaper Program” a voluntary sign-up program for businesses who agree to conduct and promote best management practices in lawn care, fertilizer use and landscaping. Information is available on the town website. If the program does not achieve the desired results, the town may consider an ordinance to implement appropriate conservation techniques for lawn care management.

Potential sources of contaminants such as leaking heating oil tanks, the handling of hazardous materials, etc., also pose localized risks to groundwater quality. Improved state oversight and regulations in these areas would be useful. While oil spills are rare, their impact can be devastating to local waterways and resources. The Harbor Management Plan recommends the adoption of an updated oil spill contingency plan to coordinate town, state and federal response in this area as it affects the salt ponds.

Groundwater testing, on a voluntary basis, from private wells and community water supplies is a valuable tool for understanding the condition of groundwater across the community, and this solicitation and analysis of data should continue and be encouraged.

Efficient Water Use

The Rhode Island Drought Management Plan (State Guide Plan Element 724) states that all towns should minimize the effects of drought on public health and safety, economic activity, and environmental resources, and to preserve the water supply of the state. This can be assisted by encouraging the efficient use of water resources by residents and local business owners. Public education and awareness of the finite nature and sensitivity of water resources are key elements.

The town can set an example in this regard by monitoring water consumption at town facilities and buildings, encouraging wise use of water resources in bathrooms and kitchens of municipal buildings, and studying whether there are specific pieces of equipment in public facilities that could be replaced or retrofitted to increase water efficiency. The town may want to consider ordinances and regulations to reduce water consumption for new development.

Water conservation is also a critical component in fighting saltwater intrusion into aquifers along the coast. The Recommended Landscaper Program described above includes various means to conserve water and should be considered especially in the salt ponds watershed. There also are currently no withdrawal limits. The RI Water Resources Board is conducting an assessment of safe and sustainable withdrawal rates and its findings and recommendations might be considered for incorporation into the town’s code of ordinances.

SERVICES AND FACILITIES: GOALS, POLICIES AND ACTIONS

The goals, policies and actions described below are intended to maintain and improve the town's high quality program for municipal services and facilities, and to address the few areas where concerns have been identified, notably increasing recycling and protecting water supply and water quality.

GOALS

- Goal 1** **Ensure that Charlestown's public services and facilities support and enhance the quality of life in the community and in a manner compatible with the town's natural and cultural resources and rural traditions.**
- Goal 2** **Protect the community's natural water resources and ensure long term sustainable use of its drinking water supply.**

POLICIES AND ACTIONS

- Goal 1** **Ensure that Charlestown's public services and facilities support and enhance the quality of life in the community and in a manner compatible with the town's natural and cultural resources and rural traditions.**

The following policies and (in some cases) action items have been identified to meet this principal goal relating to public services and facilities:

- Policy 1.1** **Continue collaboration with adjoining towns, particularly Richmond and Hopkinton, on regional issues and resource sharing efforts.**
- Policy 1.2** **Continue to review and meet the town's educational needs in the context of the Chariho Regional School District and the standards, programs and resources of the RI Department of Education.**
- Policy 1.3** **Ensure that the physical facilities are up-to-date and can effectively meet the town's public service needs.**

Action 1 Evaluate the feasibility of re-locating the Department of Public Works to land on Old Post Road near the Police Station and with easy access to Route 1.

Action 2 Evaluate all public safety buildings and structures to determine their resilience in storm and emergency events, and make upgrades as needed.

Action 3 Identify all town roads to be impacted by sea level rise or increased flooding due to the impacts of climate change and initiate planning for their modification or abandonment.

Policy 1.4 Work to increase recycling and diversion rates as a means to reduce the amount of solid waste sent to the state Central Landfill.

The town has a goal of a minimum 35% solid waste recycling rate and a minimum 50% solid waste diversion rate by 2035. Some steps that the town can take to achieve this and to work towards a sustainable policy of solid waste management are:

Action 1 Encourage composting by establishing a compost bin program at the Charlestown Residential Collection Center.

Action 2 Explore the placement of recycling bins in various town locations to facilitate recycling by tourists and seasonal residents.

Action 3 Research the economic and logistical feasibility of expanding the range of materials which the town can accept and recycle appropriately.

Action 4 Facilitate electronic and hazardous waste recycling in the community by coordination of special collection opportunities with RI DEM and RI RRC and evaluate the consideration of a dedicated program in the community to permit ongoing disposal of these types of waste.

Policy 1.5 Promote effective health and social service programs and facilities, in cooperation or partnership with other public, private and non-profit agencies and groups.

Action 1 Evaluate the feasibility of re-locating the Senior/Community center and consider options for a location more suitable for emergency shelter purposes.

Action 2 Develop and distribute public information brochures regarding municipal facilities and services that are available to Charlestown residents, particularly those related to emergency situations.

Action 3 Support the emergency management agency in coordinating emergency response services to any health care providers, senior housing facilities or any resident living independently with a health concern during power outages and other natural hazard emergencies.

Policy 1.6 Encourage and recognize volunteerism in the fire, rescue, ambulance service, library, Parks and Recreation Department activities, town boards and commissions, and other volunteer services.

Goal 2 Protect the community’s natural water resources and ensure long term sustainable use of its drinking water supply.

Policy 2.1 Maintain Charlestown’s long-range program of effective stormwater management to reduce risk of flooding, control erosion and sedimentation and protect surface and groundwater quality and quantity.

Action 1 Continue to locate and inventory existing municipal stormwater facilities and work towards correcting problems for existing drainage in a manner which considers the surrounding drainage patterns and natural resources, including:

- a. Digital mapping in the town’s GIS system of the stormwater handling elements and outfalls;
- b. Sampling and analysis of outfall effluent at all stormwater outfall locations; and
- c. Development of conceptual treatment and/or retrofit plans where problems are detected.

Action 2 Continue to apply Low Impact Development site standards in the review and approval of new land developments and subdivisions, including:

- a. Encourage the installation of raingardens and other “green infrastructure” at residential and commercial developments; and
- b. As necessary, contract with independent professional engineering or environmental planning consultants to review stormwater management designs.

Action 3 Develop a stormwater reuse program that includes the use of best management practices, such as the installation of rain barrels, cisterns or other water storage and reuse facilities at public buildings.

Action 4 Continue to undertake public education, participation and outreach in accordance with the Phase II Stormwater Management Program, including educating homeowners on using buffers, vegetation or other measures to increase water retention on site.

Action 5 Develop a database of storm drains in town that are located within the projected sea level rise scenarios and can be monitored during flood events and/or extreme high tides

Action 6 Undertake a comprehensive stormwater management study for areas exposed to flooding and/or sea level rise, developed through state and/or federal funding.

Policy 2.2 Maintain and expand Charlestown’s successful program for on-site wastewater management.

Action 1 Work with property owners who have failed or underperforming OWTS’s to upgrade or replace them to current and acceptable standards.

Action 2 Establish a program to monitor nitrogen-reducing OWTS’s to determine effectiveness and facilitate reduction of nutrients to the drinking water.

Action 3 Develop a “Nitrogen Reduction Overlay District” applied to critical resource areas to regulate the size and impact of new development so as to reduce groundwater nitrogen in a scientifically based manner.

Action 4 Undertake feasibility studies for potential collective OWTS’s in higher-density “village” areas of town, including conceptual plans and cost estimates for collective OWTS’s or package mini-treatment plants.

Policy 2.3 Continue and enhance municipal efforts to ensure the protection of groundwater resources in the community.

Action 1 Consider the establishment of a water source protection ordinance which requires that water drawn from aquifers within Charlestown remain within the watershed and prohibits the withdrawal and sale of groundwater as a commodity.

Action 2 Review the local zoning and subdivision regulations relative to groundwater protection, and enact the following regulatory changes as needed, including:

- a. An update of the list of uses prohibited in the groundwater protection section of the zoning ordinance;
- b. Inclusion of groundwater protection methodologies in growth management standards and regulations;

- c. Delineation of common open space within cluster developments so as to protect groundwater recharge areas; and
- d. Use of GIS modeling or updated flood mapping for projected sea level rise and storm surge impacts in the review process for development proposals in coastal and flood prone areas.

Policy 2.4 Minimize town use of water through conservation and other protective measures.

Action 1 Consider a cooperative program for watering of agricultural fields (odd/even days).

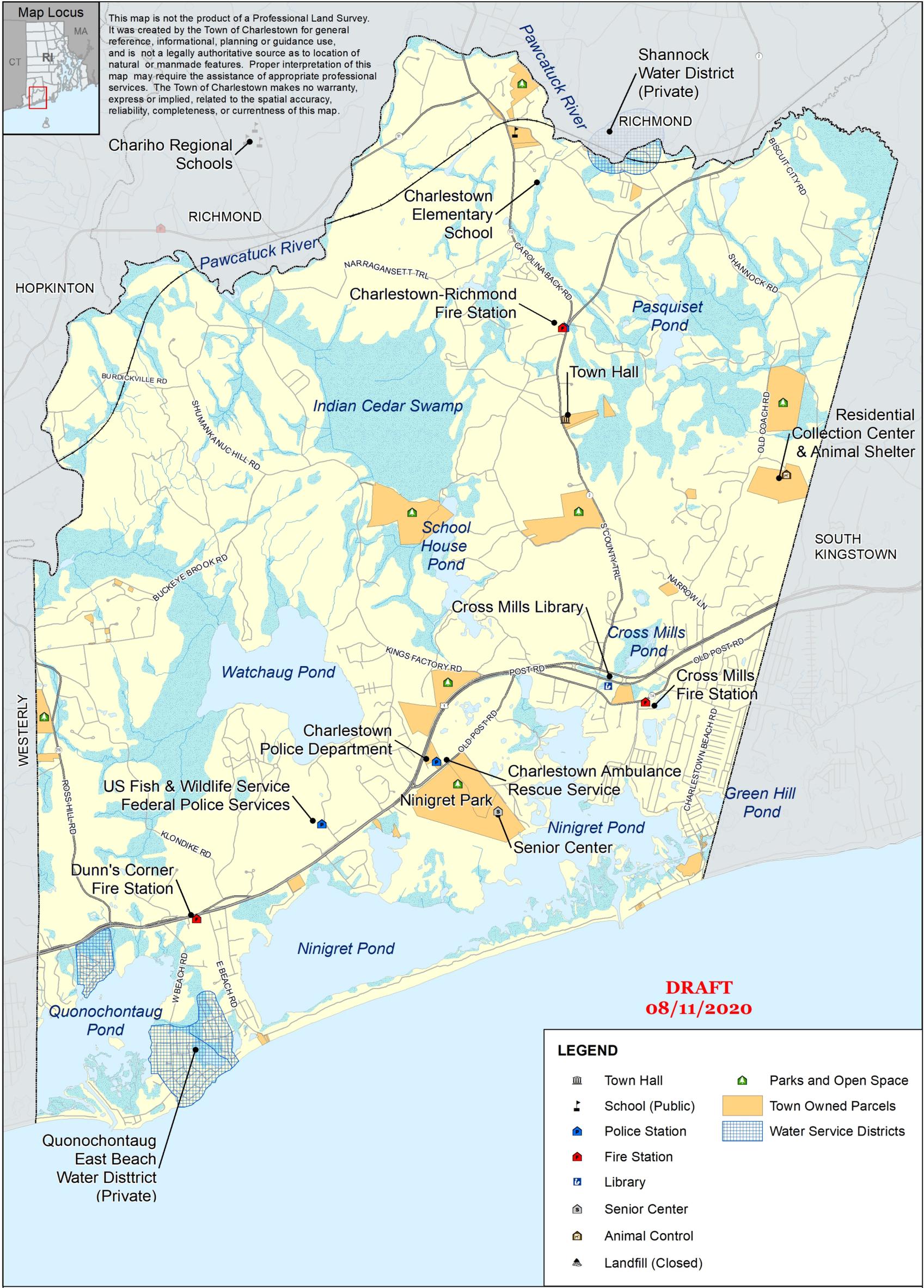
Action 2 Limit water use on athletic fields by using new drought resistant varieties when reseeding fields, and by establishing a policy to prohibit watering of fields during drought emergencies.

Action 3 Establish a signage program encouraging efficient water use in bathrooms and kitchens of municipal buildings and the elementary school.

Action 4 Amend the zoning ordinance and land development regulations as needed to mandate best practices to reduce water consumption.



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DRAFT
08/11/2020

LEGEND	
	Town Hall
	School (Public)
	Police Station
	Fire Station
	Library
	Senior Center
	Animal Control
	Landfill (Closed)
	Parks and Open Space
	Town Owned Parcels
	Water Service Districts

Map Sources:



TOWN OF CHARLESTOWN
RHODE ISLAND



Prepared by:
Town of Charlestown

COMPREHENSIVE PLAN, 2020

PUBLIC FACILITIES