NUTRIENT SOURCE IDENTIFICATION REPORT

Town of Bourne

Updated September 2023

ENVIRONMENTAL PARTNERS
— An Apex Company —

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SECTION 1 INTRODUCTION

This Nitrogen Source Identification Report (NSIR) has been developed for the Town of Bourne to address the requirements of the US Environmental Protection Agency's (EPA) 2016 Massachusetts Small Municipal Separate Storm Sewer System (MS4) General Permit. As detailed in Appendix H section I.1.b, the permit requires that within four years of the permit effective date the permittee shall complete a Nitrogen Source Identification Report. The report shall include the following elements:

1. Calculation of total MS4 area draining to the water quality limited receiving water segments or their tributaries, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to MS4 General Permit Part 2.3.4.5.b,
2. All screening and monitoring results pursuant to MS4 General Permit Part 2.3.4.7.b, targeting the receiving water segment(s),
3. Impervious area and directly connected impervious area (DCIA) for the target catchment,
4. Identification, delineation and prioritization of potential catchments with high nitrogen loading, and
5. Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during redevelopment.

SECTION 1.1 NUTRIENT POLLUTION

Nutrient pollution is one of America's most widespread, costly and challenging environmental problems and is caused by excess nitrogen and phosphorus in the air and water. When land is developed, and storm drain systems are installed, the amount of nitrogen and phosphorus discharged to local streams, ponds and wetlands increases significantly relative to naturally occurring stream conditions. In the urban environment, nitrogen and phosphorus loads develop from a variety of sources including organic debris such as fallen leaves, animal and pet waste, lawn and agricultural fertilizers, malfunctioning sewers and septic systems and atmospheric deposition from car exhaust, among other sources.

In the urban environment the prevalence of paved and impervious areas coupled with the existence of storm drain collection systems allows street runoff containing excess nutrient pollution to be quickly collected and conveyed to the nearest waterbody, generally with little or no treatment—bypassing the natural processes such as soil filtration and infiltration that would capture and recycle nutrients before they reached waterways in an undeveloped landscape.

As a result, nutrient pollution from polluted stormwater runoff has become a major source of pollution across the country. Nutrient pollution increases undesirable plant and algae growth in waterways, which can be highly toxic to humans and wildlife and reduce oxygen levels in the water. This, in turn, impedes recreation and creates chronic challenges for aquatic life, sometimes leading to fish kills. In freshwater waterways, phosphorus is generally the primary pollutant of concern, while nitrogen becomes the primary concern once freshwater rivers flow into saltwater estuaries and bays.

SECTION 1.2 MS4 PERMIT REGULATIONS

Under federal and state clean water legislation, the Massachusetts Department of Environmental Protection (MassDEP) is charged with establishing water quality standards and determining whether waterways meet these designated standards. MassDEP publishes its Integrated List of Waters, also referred to as the 303d Impaired Waters List, identifying waters that do not meet water quality standards. The report is published and submitted to Environmental Protection Agency (EPA) in fulfillment of reporting requirements under the Federal Clean Water Act. The most recent Integrated List of Waters went into effect in February 2022. These waterways are referred to as being "impaired" or "water quality limited" based on one or more causes which may include nitrogen and nutrient/eutrophication biological indicators. MassDEP is also charged with preparing waterbody-specific cleanup plans for nutrient pollution known as Total Maximum Daily Loads or TMDLs, though these are yet to be prepared for many impaired waterways.

Urbanized areas in the Town of Bourne are subject to the requirements of the MS4 General Permit. One of the requirements is that communities discharging stormwater to waterways that are listed by MassDEP as impaired for phosphorus, nitrogen, or nutrients, or that flow into impaired waterways, and for which a total maximum daily load (TMDL) does not exist, shall prepare a Nutrient Source ID Report as detailed by Appendix H of the MS4 General Permit. This report has been developed to satisfy this requirement.

SECTION 1.3 MS4 PERMIT APPENDIX H APPLICABILITY

The 2018/2020 update to the Integrated List of Waters lists a number of waterbodies within the Town of Bourne, which are listed in **Table 1-1** below. This list includes waterbodies with nitrogen impairments that have approved TMDLs; those waterbodies do not trigger Appendix H. Buttermilk Bay (MA95-01), Little Buttermilk Bay (MA95-76), Megansett Harbor (MA95-19), and Red Brook Harbor (MA95-18) contain water quality impairments for nutrient/eutrophication biological indicators, which triggers Appendix H. Since these waterbodies are coastal/marine, nitrogen rather than phosphorus is the nutrient of concern. Therefore these four waterbodies must be evaluated for nitrogen in accordance with Appendix H.

In addition to the Integrated List of Waters, the MS4 Permit Appendix H can be triggered by various other documents related to water quality published by state or federal agencies. One such organization is the MassDEP Massachusetts Estuaries Project, which has documented a nitrogen impairment in Squeteague Harbor (MA95-55). This waterbody lacks a final nitrogen TMDL. Additionally, the MassDEP Buzzard's Bay Watershed 2000 Water Quality Assessment Report identified nitrogen as a source of impairment for Buttermilk Bay (MA95-01), Little Buttermilk Bay (MA95-76), and Pocasset Harbor (MA95-17). MassDEP has not finalized nitrogen TMDLs for these waterbodies either.

In summary, the waterbodies that require a nitrogen source identification analysis include Buttermilk Bay, Little Buttermilk Bay, Megansett Harbor, Red Brook Harbor, Squeteague Harbor, and Pocasset Harbor. The Town is only required to implement this program in the MS4 Urbanized Area

of Town, which greatly reduces the size of the Study Area. Note that no MS4 Urbanized Area within the Town of Bourne flows to the Megansett Harbor, which is primarily located in Falmouth, MA. The MS4 Urbanized Area and the status of impaired waters in the Town of Bourne is shown in **Figure 1-1**.

Table 1-1: Impaired Waters within the Town of Bourne

Waterbody Name	Segment ID	Category	Impairment(s)	Associated Approved TMDL *
Back River	MA95-47	4a	• Fecal Coliform	36172
Cape Cod Canal	MA95-14	4a	• Fecal Coliform	36171
Eel Pond	MA95-48	4a	• Fecal Coliform	36172
Phinney's Harbor	MA95-15	4a	• Estuarine Bioassessments	35069
			• Fecal Coliform	36172
			• Nitrogen, Total	35069
Pocasset River	MA95-16	4a	• Fecal Coliform	36172
Bournes Pond	MA96-57	4a	• Estuarine Bioassessments	32535
			• Estuarine Bioassessments	32638
			• Fecal Coliform	36772
			• Nitrogen, Total	32535
			• Nitrogen, Total	32638
Buttermilk Bay	MA95-01	5	Estuarine Bioassessments	
			• Fecal Coliform	36172
			• **Nutrient/Eutrophication Biological Indicators**	
Little Buttermilk Bay	MA95-76	5	• Estuarine Bioassessments	
			• **Nutrient/Eutrophication Biological Indicators**	
Megansett Harbor	MA95-19	5	• Estuarine Bioassessments	
			• Fecal Coliform	
			• **Nutrient/Eutrophication Biological Indicators**	
Pocasset Harbor	MA95-17	5	• Estuarine Bioassessments	
			• Fecal Coliform	36172
Queen Sewell Pond	MA95180	5	• Harmful Algal Blooms	
Red Brook Harbor	MA95-18	5	• Estuarine Bioassessments	
			• Fecal Coliform	36172
			• **Nutrient/Eutrophication Biological Indicators**	

Category 4a Waters – TMDL is complete.

Category 5 Waters – impaired water bodies that require a TMDL.

***** "Approved TMDLs" are those that have been approved by the EPA as of the date of issuance of the Massachusetts 2018/2020 List of Integrated Waters (February 2022).

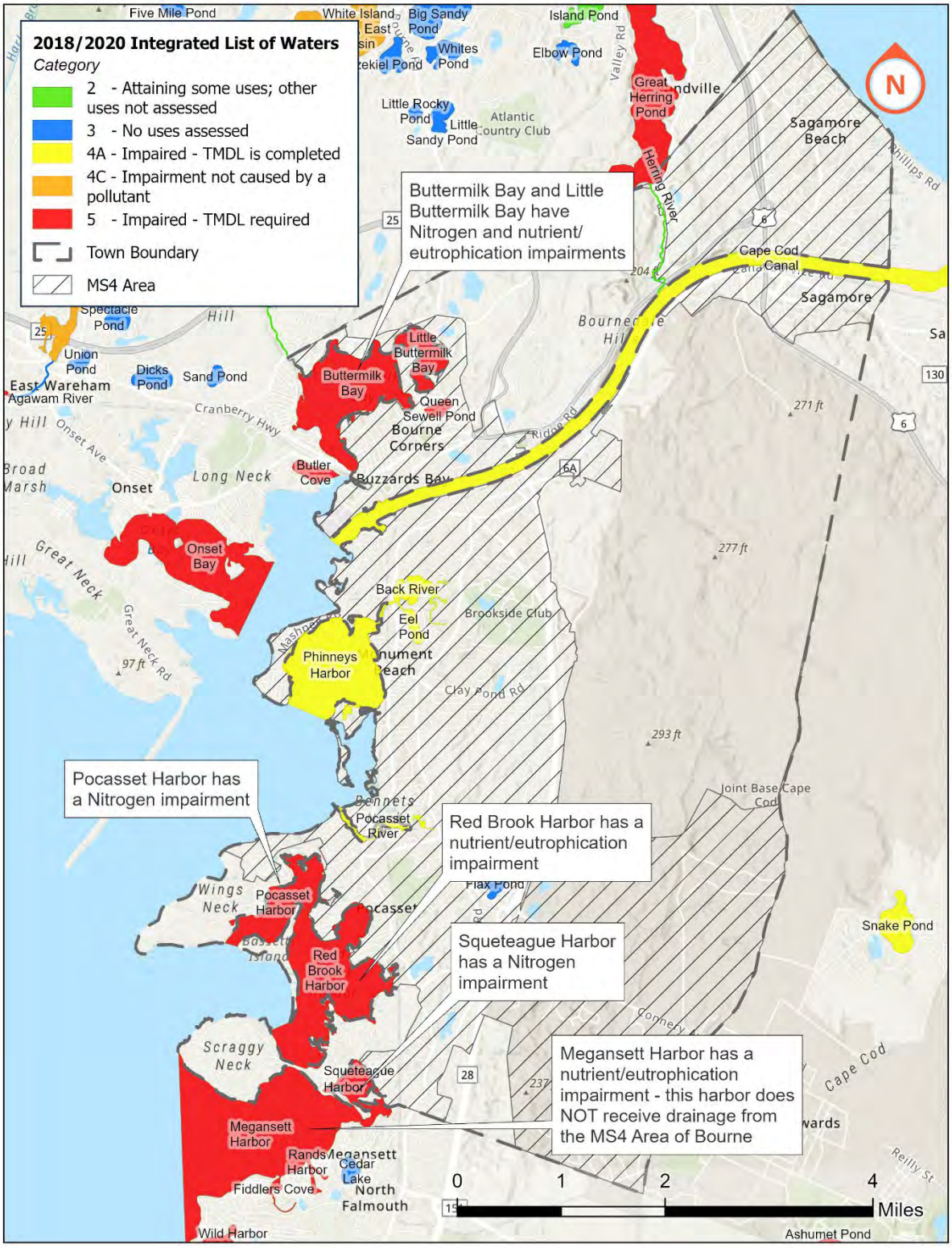


Figure 1-1: Impaired Waters in the Town of Bourne

SECTION 2 MS4 AREA CALCULATIONS

SECTION 2.1 MAPPING REVIEW

In order to calculate the total MS4 land area that is located within the nitrogen-impaired catchments, Environmental Partners, LLC (EP) overlayed the limits of the watershed with the MS4 Urbanized Area. This information was obtained from existing Massachusetts Geographic Information System (MassGIS) data layers. EP verified the watershed delineation through LiDAR data and topographic contour lines to ensure the delineation was representative of stormwater flow patterns.

The area of overlap between the MS4 Urbanized Area and the catchments of Buttermilk Bay, Little Buttermilk Bay, Megansett Harbor, Red Brook Harbor, Squeteague Harbor, and Pocasset Harbor is the portion of Town subject to the Nitrogen Source ID Report requirement and will be called the "area of study" moving forward. This area is shown in **Figure 2-1** below.

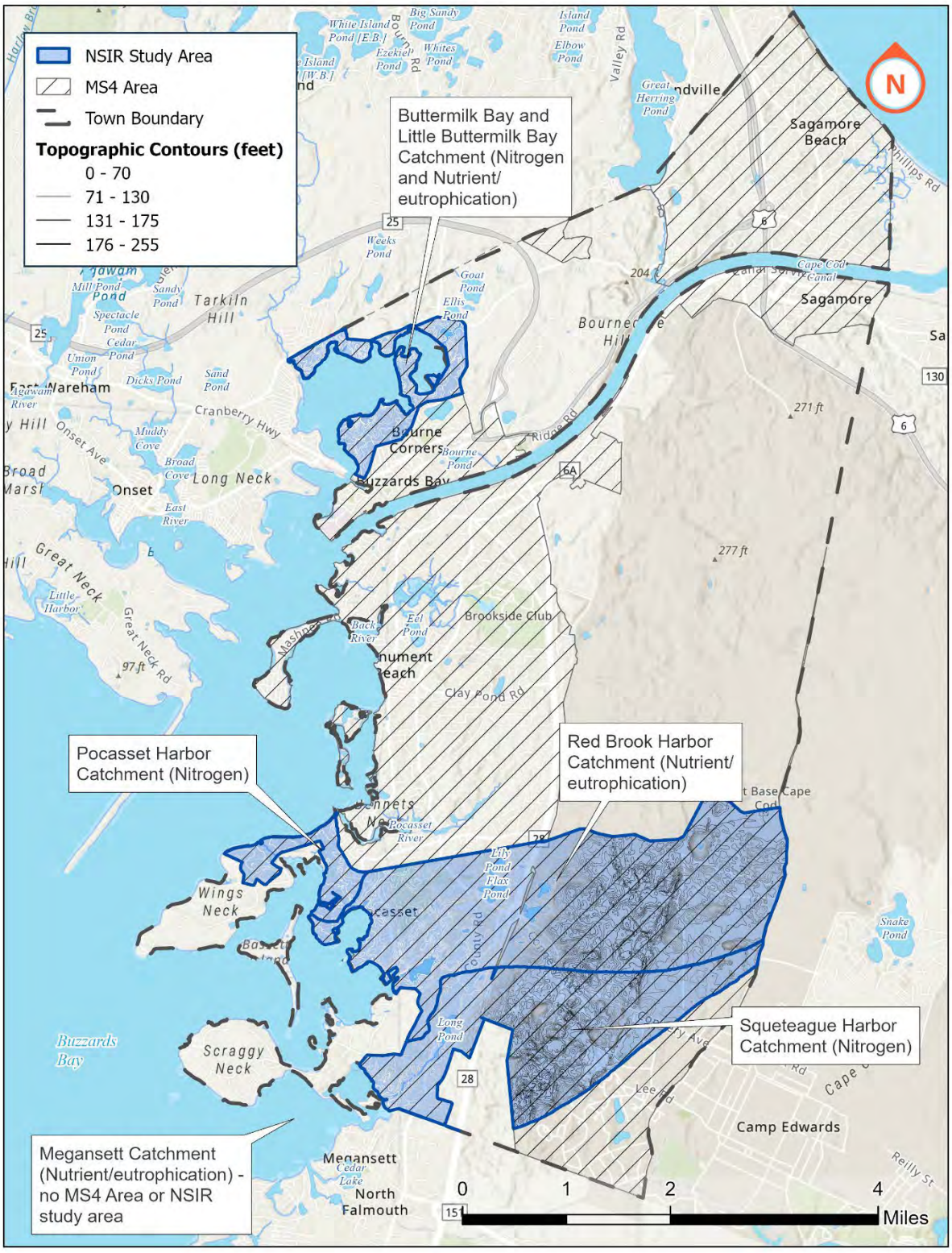


Figure 2-1: Nitrogen Study Area within the Town of Bourne

SECTION 2.2 AREA CALCULATIONS AND CHARACTERIZATION

To examine the land surface cover within the area of study, 2016 Land Use/Land Change data was used from MassGIS. The distribution of land cover is shown below in **Table 2-1** and **Figure 2-2**. The total land within all three catchments is approximately 5,924.8 acres or 9.3 square miles. Separately, the Buttermilk Bay and Little Buttermilk Bay catchment is 480.1 acres, the Pocasset Harbor catchment is 279.7 acres, the Squeteague Harbor catchment is 1,865.3 acres, the Red Brook Harbor catchment is 3,299.6 acres, and the Megansett Harbor catchment is 0 acres.

Table 2-1: Land Cover Distribution in the Study Area

Land Cover Name	Percent of Area	Total Acres
Evergreen Forest	33.9 %	2002.7
Deciduous Forest	29.8 %	1759.4
Developed Open Space	13.0 %	768.5
Impervious	9.8 %	576.8
Scrub/Shrub	3.6 %	211.9
Grassland	3.4 %	197.9
Cultivated	1.3 %	78.3
Bare Land	1.2 %	72.1
Other	< 4.2 %	239.3

To characterize the land surface cover within the areas of study, the 2016 Land Use/Land Cover data from MassGIS was used. The study area consists primarily of forest, both deciduous and evergreen, which combined, covers approximately 63.7 percent of the area. Developed open space also makes up approximately 13.0 percent of the land cover, and impervious land cover makes up approximately 9.8 percent.

In addition to land cover, land *use* can help characterize a study area, especially for areas with impervious surface. In the Buttermilk Bay and Little Buttermilk Bay catchment, the majority of impervious surface is associated with right-of-way (roadway) and residential land uses. Other land uses in this catchment include open land and tax-exempt, both of which have minimal impervious land cover. The only other land use category in this catchment is commercial, which includes one property on Lewis Point Road for the Royal Cape Cod health rehabilitation center.

The Pocasset Harbor catchment area contains similar land uses as the Buttermilk Bay and Little Buttermilk Bay catchment. Residential and right-of-way (roadways) make up the largest land use categories, followed by open space. There is one agricultural parcel on Circuit Ave that hosts a cranberry bog. The sole tax-exempt land use parcel is Barlow's Landing Beach and is owned by the Town of Bourne.

The Squeteague Harbor and Red Brook Harbor catchment areas are less residential than the other study areas. The largest land use category in these two catchments is tax-exempt, driven by the Joint Base Cape Cod property that encompasses the entirety of the catchment areas east of Massachusetts Route 28. Massachusetts Route 28A transects the catchment areas and includes numerous businesses (i.e. commercial land use). Additionally there are three cranberry bogs located on agricultural land use properties. The land closest to the harbors primarily contain residential land use properties. In the Red Brook Harbor catchment area, the Pocasset Golf Club is a large area of commercial land use off Clubhouse Drive along the railroad tracks.

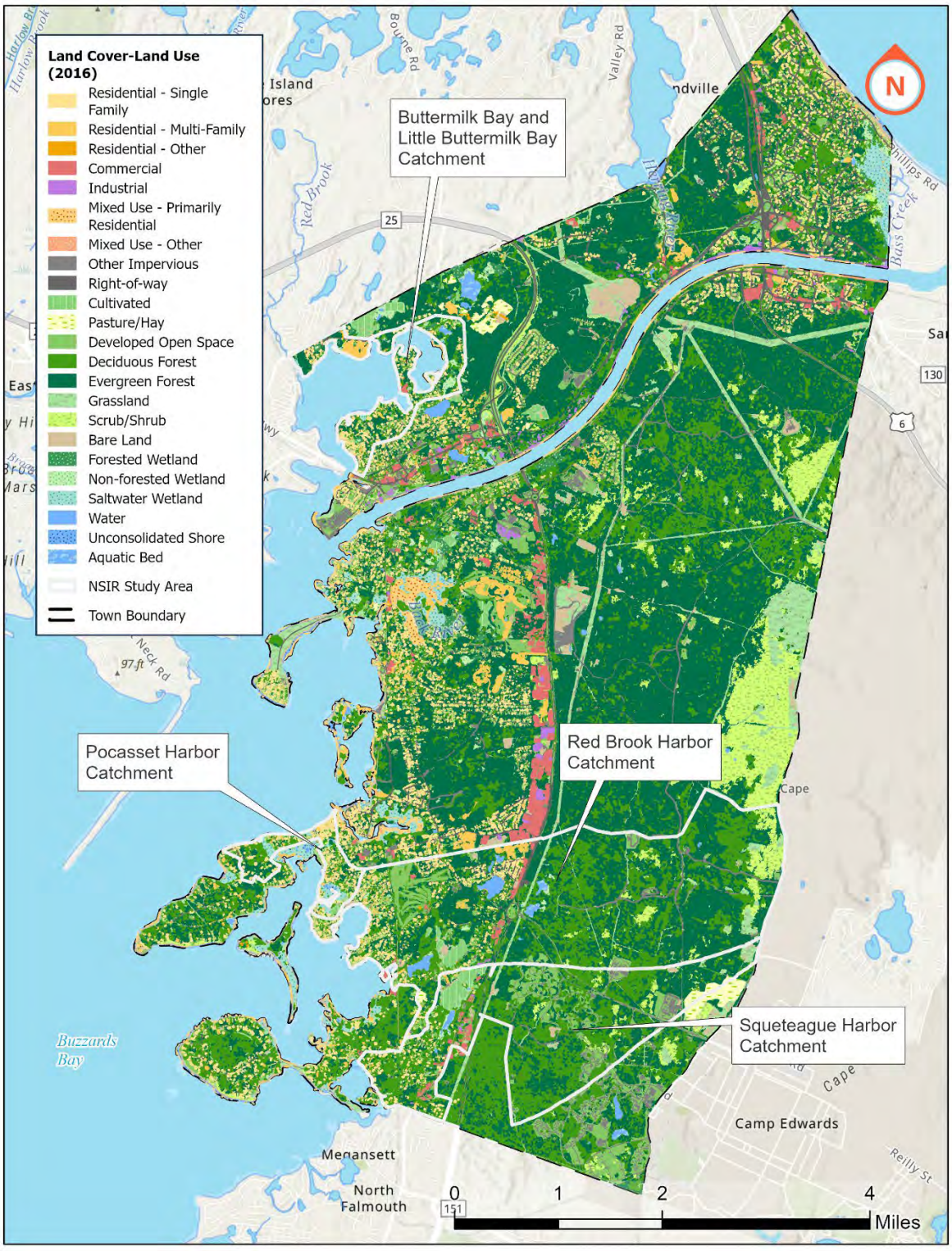


Figure 2-2: Land Cover-Land Use in the Nitrogen Study Area

SECTION 3 SCREENING AND MONITORING DATA

Previous work from the Town's Illicit Discharge Detection and Elimination (IDDE) Program was reviewed during the development of this report. There are 49 MS4 outfalls located in the study area. Stormwater sampling and inspection results help identify land within the area of study to prioritize for future stormwater management efforts.

The Massachusetts Maritime Academy in partnership with the Massachusetts Estuaries Program conducts stormwater sampling in accordance with the Town of Bourne's IDDE Program. In 2020 and 2021, they conducted dry and wet weather outfall screening at most of the outfalls located in the study area. Outfall sampling results are summarized in **Table 3-1** and **Figure 3-1**, below. Total nitrogen was detected in outfalls between concentrations of <0.61 and 3.0 mg/L. Total nitrogen lacks a regulatory threshold approved by the MassDEP that applies to the sampling conducted. Full outfall screening results are included in **Appendix A.**

Table 3-1: Outfall Sampling Results

Receiving Waterbody	Outfall ID	Sampling Type	MS4 Priority	Total Nitrogen (mg/L)*	Nitrate (mg/L)*	Date Sampled
Buttermilk Bay (MA95-01)	BBB1051PI	Wet	High	1.1	Below Reporting Limit	9/9/2021
	BBB1013PI	Wet	High	2.1	0.27	4/1/2021
	BBB1008RC	Dry	Low	Not Sampled	0.29	11/30/2020
		Wet		<0.74	0.14	4/16/2021
Little Buttermilk Bay (MA95-76)	BBB1032PI	Wet	Low	1.5	Below Reporting Limit	4/16/2021
	BBB1022RC	Wet	Low	<0.61	Below Reporting Limit	10/4/2021
	BBB1030PI	Wet	Low	<0.66	0.06	4/16/2021
	BBB1026PI	Wet	High	3.0	0.11	9/9/2021
Red Brook Harbor (MA95-18)	SPO1008PI	Wet	High	Not Sampled	0.14	11/20/2020
	SPO1013PI	Wet	High	Not Sampled	0.17	11/12/2020
	SPO1018RC	Wet	Low	Not Sampled	0.13	11/23/2020
	SPO1012PI	Wet	High	Not Sampled	0.94	5/4/2021

*These waterbodies have no applicable nitrogen thresholds to which these results can be compared.

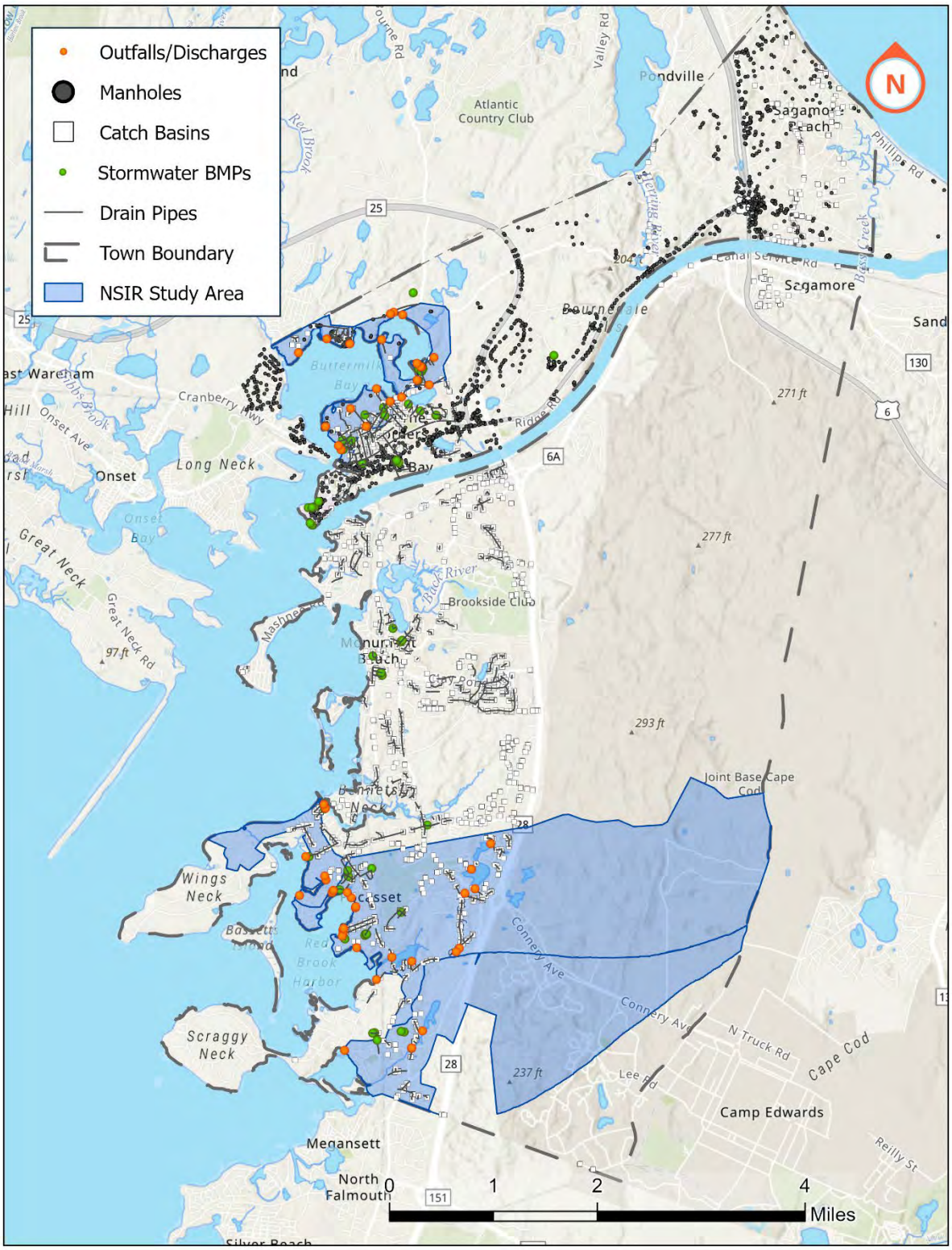


Figure 3-1: Dry Weather Outfall Screening Locations and Stormwater System

SECTION 4 IMPERVIOUS AREA AND DCIA

SECTION 4.1 IMPERVIOUS AREA

Impervious area is the land surface cover type that is paved, covered by buildings, or otherwise rendered unable to absorb water naturally due to development. Impervious area for the Town was calculated using the MassGIS 2016 Land Use/Land Cover (LULC) data layer, which was published in 2019. This data layer maps impervious and pervious land cover by land use type based on remote sensing and other data sources. This data was overlaid with the area of study to estimate total impervious area upstream of nutrient-impaired waterways in Bourne. The impervious surfaces within the area of study is shown in **Figure 4-1**.

SECTION 4.2 DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)

DCIA, also referred to as "effective impervious cover," is the amount of impervious area that is directly connected to the storm drain system via a closed pipe connection. Most land in the Town was developed during a previous era in stormwater management that included collecting and conveying stormwater away from developed areas to wetland areas. Modern stormwater practices, known as Low Impact Development (LID) or Green Infrastructure (GI) practices, collect stormwater at the point of generation to clean, slow down and recharge stormwater runoff using best management practices (BMPs).

Any device, practice or procedure that effectively controls the quality and/or quantity of stormwater runoff can be classified as a BMP. Many new development and redevelopment projects constructed in recent years have required the installation or upgrade of BMPs such that today some properties have no BMPs, some have BMPs that do not meet some modern standards, and some have BMPs that are fully compliant with modern standards.

Site-specific information about the existence of specific BMPs is not available at the parcel level. Estimating DCIA can yield a specific pollutant loading estimate for a given area. DCIA was estimated based on land use categories following EPA formulas provided in Attachment 1 of Appendix F in the MS4 General Permit. **Table 4-1** below shows the DCIA and impervious area within the study area. As mentioned previously, approximately 9.8 percent of the entire study area is covered with impervious surfaces.

Table 4-1: Impervious Area and DCIA within the Study Area

Total Impervious Area	576.8 Acres
Total Estimated DCIA	277.1 Acres

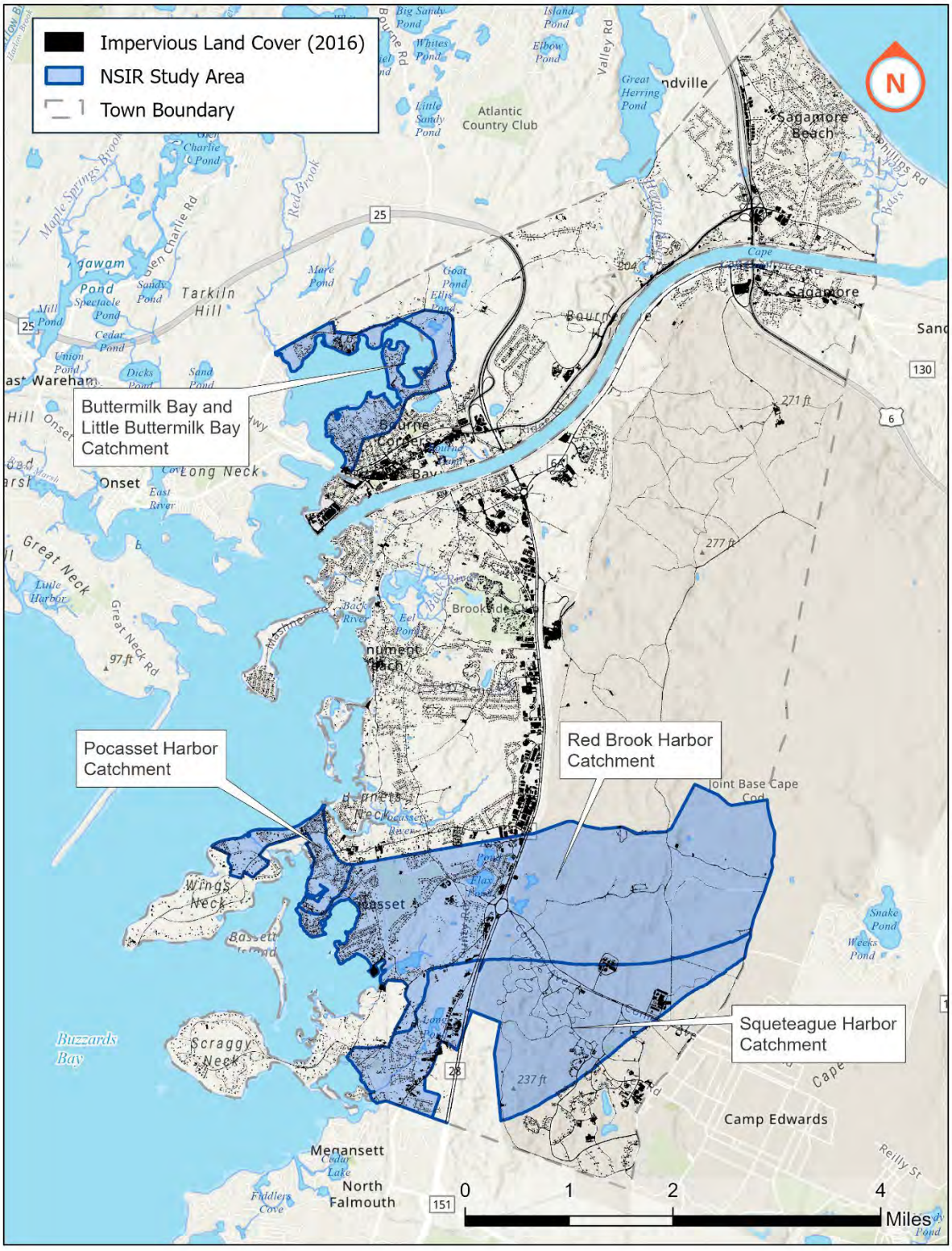


Figure 4-1: Impervious Area Distribution in the Nitrogen Study Area

SECTION 5 CATCHMENT PRIORITIZATION

To estimate the pollutant loads for nitrogen in the study area, estimated pollutant loading rates for different combinations of land use type, land cover type and soil type were developed in accordance with guidance in the EPA 2016 MS4 Permit. The individual loading rates for these unique subsections were summed per parcel, which produced an overall estimated catchment pollutant loading rate for each individual parcel. The GIS methodology developed and used to calculate nutrient loading rates is described in this section, schematically shown in **Figure 5-1** and detailed in **Appendix B**.

SECTION 5.1 POLLUTANT LOAD CALCULATIONS

In order to calculate pollutant loading rates for Bourne's study area, EP produced a "*loading rate base layer*" in GIS that combined MassGIS 2016 LULC, soil data from the USDA Natural Resources Conservation Service (NRCS) and the most recently available parcel data from MassGIS. The LULC data was first clipped to the Study Area in ArcGIS Pro. Next, an intersection was performed between the LULC data layer and the soil data layer, combining the information into a single layer. The LULC and soil variables will be discussed in the sections below.

Several fields were added to this *loading rate base layer* to support later steps of the analysis. The first two fields or variables added were the Nitrogen Loading Crosswalk linking LULC data to nitrogen load export rates (found in Table 1-2 of Attachment 1 to Appendix F of the MS4 General Permit) and the Nitrogen Load Export Rate, the numerical nitrogen loading rate assigned to a record (Table 1-2 in Attachment F of the MS4 General Permit). Two additional fields, the DCIA Multiplier and the DCIA Exponent, were added from the applicable Sutherland equation used to estimate directly connected impervious area for specific records. Finally, a join field was added that gives each feature a unique number and functions as a bridge to join calculations completed in Excel with data layers produced in GIS.

Once these fields were added, the GIS data was exported to Excel and formulas were used to fill in data for these newly added fields. The Excel table was then joined to our GIS data to populate each new field. The final nitrogen load (lb/year) for each small polygon was calculated in GIS by multiplying each nitrogen loading export rate (lb/acre/year) by the polygon area (acre). Lastly, the dissolve tool was used to return the shapefile geometry to that of parcels. The final GIS file contained the nitrogen load, impervious area, and DCIA for each parcel within the study area. A breakdown of the nitrogen parcel loading is shown in **Appendix C** and displayed through maps in **Appendix D**.

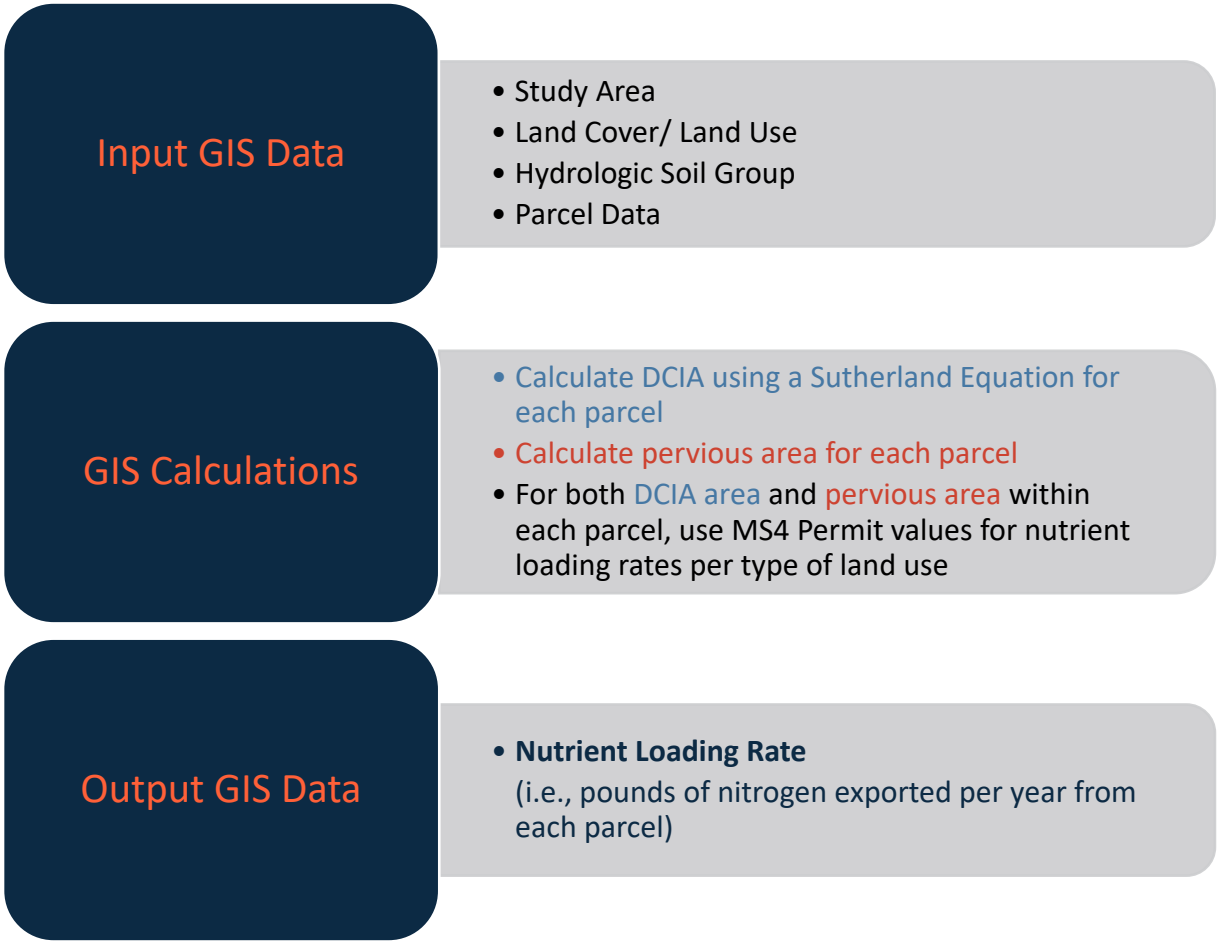


Figure 5-1: Schematic Representation of Loading Calculations

Section 5.1.1 Land Use / Land Cover

"Land use" is a term used to describe how humans use land and represents the economic and cultural activities that are practiced at a given place ("agricultural," "residential," "industrial," etc.). "Land cover" refers to the surface cover on the ground ("impervious," "pervious," "water," etc.). Often, these terms are used interchangeably but the distinction between the two is important for this analysis. An area with an "impervious" land cover type is naturally going to have a higher potential for pollutant runoff than an area with a "pervious" land cover type. Similarly, an area with a land use described as "agricultural" is more likely to produce high amounts of nitrogen than an area described as "forest" due to the excessive use of nitrogen-laden fertilizers used in modern day agriculture. Through the combination of land use, land cover and nitrogen load export rates, the "nitrogen loading crosswalk" was established and incorporated into our analysis.

Section 5.1.2 Soil Classification Type

Hydrologic soil group (HSG) information was also incorporated into our analyses and BMP recommendation process. These soil types are defined by the NRCS and can be determined on the NRCS online soil database. There are four hydrologic soil groups based on infiltrative capacity: A, B, C and D. Soil groups A and B have a low runoff potential and high infiltration rate, whereas soil groups C and D have high runoff potential and low infiltration rates. Additionally, the NRCS classifies some soils as having "dual groups," such as A/D or B/D. The first letter represents the undrained behavior of the soil, and the second letter represents the drained behavior. While determining optimal locations to install BMPs, A and B soils were given priority over C and D soils. This is because nitrogen removal does not occur without infiltration.

Bourne's study area primarily contains soil group A, which is shown in **Figure 5-2**.

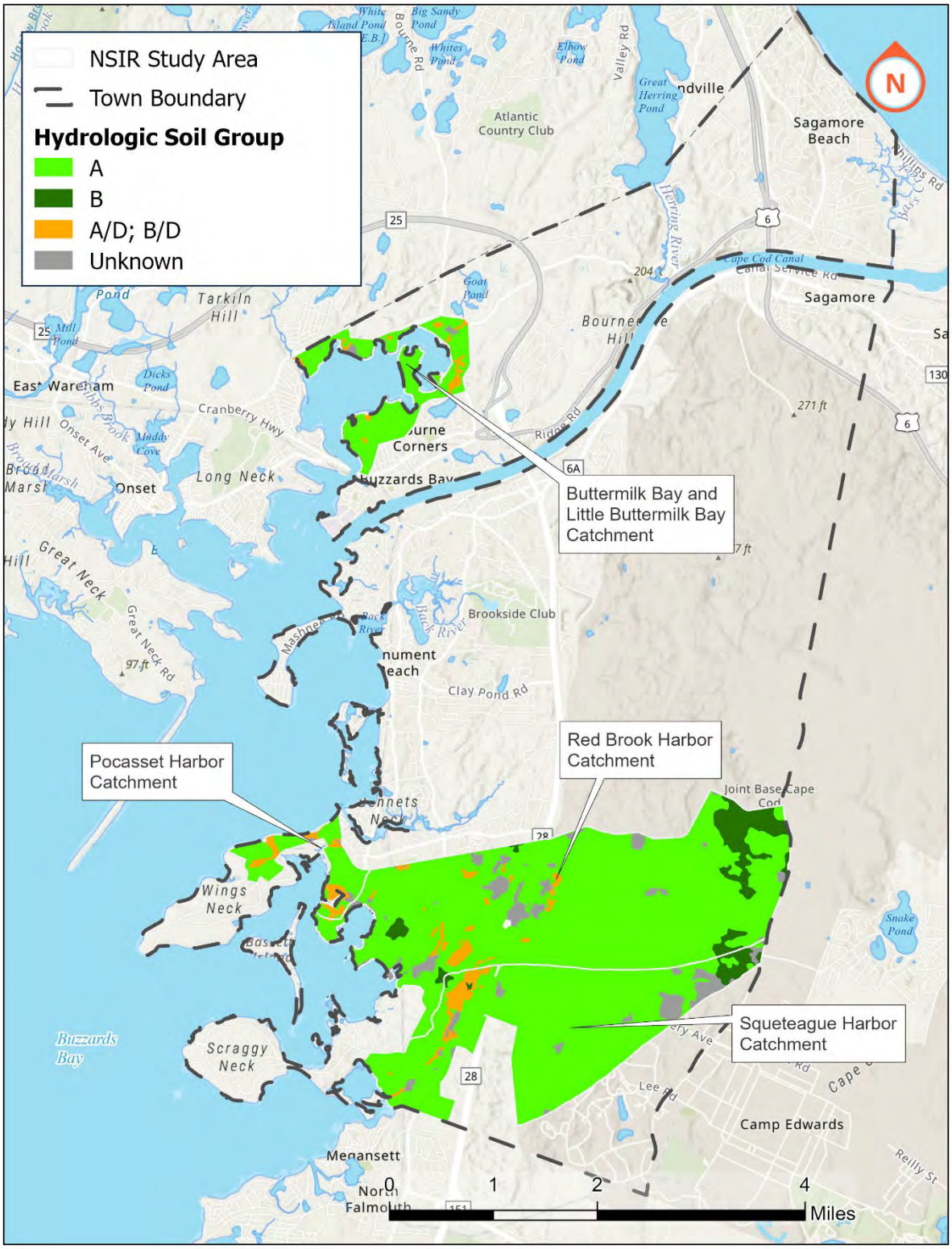


Figure 5-2: Hydrologic Soil Groups in the Nitrogen Study Area

SECTION 5.2 PRIORITIZATION

This analysis estimates how much nitrogen is exported or carried via stormwater to the environment from each parcel. Ultimately, nitrogen loading rates are just one factor when determining viability and prioritization of future stormwater management projects. In the process of recommending nitrogen-reducing BMPs, EP also evaluated where existing piped drainage networks are and where they discharge. Well-draining A and B group soils were targeted, in addition to naturally low-lying locations that receive stormwater. The sampling history, discussed in Section 3, was evaluated, but did not provide definitive information. Lastly, the ownership of parcels was evaluated. This work resulted in prioritizing areas for siting future BMPs, which will be discussed in the following section.

SECTION 6 POTENTIAL RETROFIT OPPORTUNITIES

After careful review of the data and process identified above in Sections 4 and 5, EP identified potential locations for stormwater BMP retrofit opportunities to reduce overall nitrogen loading within the MS4 area. EP considered multiple criteria to identify appropriate locations for potential BMPs. Criteria included land ownership, land use, nutrient loading, watershed contributory area, and hydrologic soil group. Favorable criteria were Town owned parcels; bare, impervious, or otherwise previously disturbed land use; high nutrient loading; large watershed contributory area; and infiltrative soils such as A and B soil characteristics.

SECTION 6.1 EXISTING STORMWATER BMPS

The Town of Bourne owns and maintains seventeen mapped stormwater BMPs within the study area. These include three within the Squeteague Harbor watershed, one within the Pocasset Harbor watershed, and thirteen within the Buttermilk Bay and Little Buttermilk Bay watersheds. While the exact classification of these BMPs are unknown, it is expected that many – if not all – are infiltrative BMPs and therefore remove nitrogen. The locations of these BMPs were made available by the Massachusetts Maritime Academy; the Town may own and maintain additional stormwater BMPs that are not currently mapped.

SECTION 6.2 RECOMMENDED RETROFIT PROPERTIES

Environmental Partners identified several BMP retrofit opportunities within the study area where there are currently no existing BMPs. Recommended BMPs are located on Town-owned parcels and within public roadway ROWs. These locations are identified in **Table 6-1** and **Figure 6-1**, below. The potential BMPs are listed in order of priority for consideration for implementation.

Table 6-1: BMP Retrofit Opportunities

Location	Impaired Waterbody	Recommended BMP
Beach Access Rd off Squeteague Harbor Rd	Squeteague Harbor	Infiltrative BMP TBD
Barlows Landing Beach	Pocasset Harbor	Infiltrative BMP TBD
Circuit Ave at Outfall 86	Pocasset Harbor	Infiltration chamber system
End of Massasoit Ave	Pocasset Harbor	Infiltration chamber system
Old Head of the Bay Rd at Head of Bay Rd	Buttermilk Bay/Little Buttermilk Bay	Infiltration chamber system

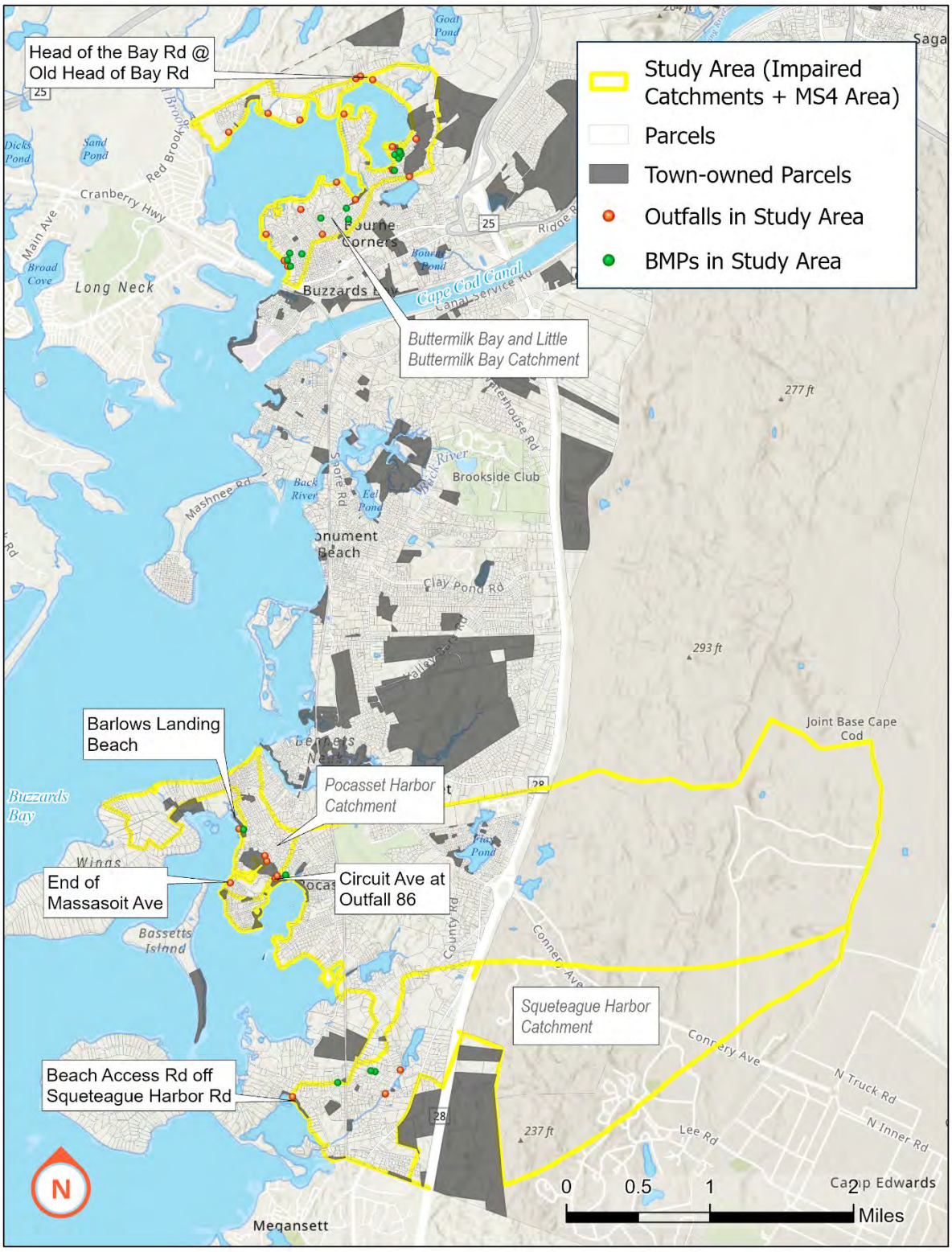


Figure 6-1: BMP Retrofit Opportunities in the Nitrogen Study Area

Section 6.2.1 Beach Access Road off Squeteague Harbor Road

The beach at Squeteague Harbor off of Squeteague Harbor Road is Town-owned. It contains a short, paved access road leading into a boat launch and a small laydown area for non-motorized boats. There is an existing stormwater outfall in the laydown area. Further investigation is needed to determine the source of stormwater for this outfall and the existing stormwater flows in this area. Pending this investigation, EP recommends installing an appropriate infiltrative BMP in this area to treat runoff from the paved access road that discharges via the existing outfall.

Section 6.2.2 Barlows Landing Beach

Barlows Landing Beach is a Town-owned beach located immediately adjacent to Pocasset Harbor. The site includes a parking area, boat launch, dock, several small facility buildings, and a sandy beach area. There is one existing chamber system BMP in the grassed area at the end of Barlows Landing Road just before the sandy beach. This likely treats runoff from Barlows Landing Road prior to discharge. However, runoff from the paved parking area and boat launch area likely discharges directly into Pocasset Harbor via overland sheet flow. EP recommends intercepting these flows to the greatest extent practicable and routing them to an infiltrative BMP for nitrogen removal prior to discharge to Pocasset Harbor. Further investigation is needed to determine the most appropriate method of stormwater capture and treatment.

Section 6.2.3 Circuit Avenue at Outfall 86

Circuit Ave is a Town-owned road with an existing stormwater outfall discharging directly into Red Harbor Brook. There is no known catch basin or closed drainage infrastructure in this area. Therefore, further investigation is needed to determine the source of stormwater for this outfall and the existing stormwater flows in this area. EP generally recommends treating runoff from the roadway with an infiltrative BMP prior to discharge via the existing outfall.

Section 6.2.4 End of Massasoit Avenue

Massasoit Road is a Town-owned road that terminates at a boat launch. There is a Town-owned parcel immediately adjacent to the boat launch and an existing stormwater outfall at the end of the road discharging directly into Pocasset Harbor. There is no known catch basin or closed drainage infrastructure in this area. Therefore, further investigation is needed to determine the source of stormwater for this outfall and the existing stormwater flows in this area. EP recommends capturing and treating runoff from Massasoit Ave prior to discharge into Pocasset Harbor via the existing outfall and overland flow.

Section 6.2.5 Old Head of the Bay Road at Head of Bay Road

Both Old Head of Bay Road and Head of the Bay Road are Town-owned roads that intersect within the Little Buttermilk Bay watershed. Head of the Bay Road is a heavily trafficked road with existing catch basins and closed drainage infrastructure which discharge directly into Little Buttermilk Bay via a stormwater outfall just south of the intersection. EP recommends installing a subsurface infiltration chamber system at the start of Old Head of Bay Road which treats this runoff prior to discharging via the existing outfall.

SECTION 7 NEXT STEPS

The preliminary results of producing this Nutrient Source ID Report for the Town of Bourne provides a valuable starting point for the next phase of the MS4 General Permit requirements described in section I.1.c of Appendix H of the Permit. These requirements are due for each municipality by the end of permit year 5 (June 30, 2023):

- "Evaluate all permittee-owned properties identified as presenting retrofit opportunities,"
- "Provide a listing of planned structural BMPs and a plan and schedule for implementation," and
- "Any structural BMPs installed…by the permittee…shall be tracked and the permittee shall estimate the nitrogen removal by the BMP."

In addition to the structural Best Management Practices described above, we recommend the Town of Bourne also consider non-structural controls within the study area. Since the majority of the area is residential, we expect that a significant portion of the total nitrogen load is generated by fertilized residential lawns. Non-structural practices, such as those described within Attachment 2 of Appendix F of the MS4 General Permit include Enhanced Street Sweeping, Enhanced Catch Basin Cleaning, and the implementation of an Organic Waste and Litter Collection Program could result in noticeable reductions in nitrogen loading.

SECTION 7.1 IMPLEMENTATION PLAN

The implementation plan for the installation of structural BMPs should be designed around prioritizing areas with higher nitrogen loads. Field visits and soil testing will be completed prior to pursuing any BMP retrofit opportunities. We recommend pursuing the proposed BMPs in the following order of priority:

- Old Head of Bay Rd at Head of the Bay Rd,
- Barlows Landing Beach,
- Beach Access Rd off Squeteague Harbor Rd,
- End of Massasoit Ave,
- Circuit Ave at Outfall 86, and

SECTION 7.2 NUTRIENT REMOVAL TRACKING

Estimates of annual nitrogen load and load reductions resulting from BMP implementation are provided in Attachment 3 to Appendix F of the MS4 Permit and are intended for use by the community to demonstrate progress toward nitrogen reduction. For each structural BMP type identified in the permit, long-term cumulative performance information is given to calculate nitrogen load reduction or to determine needed design storage volume capacities to achieve a specified reduction target.

If it is not already occurring, EP recommends that the Town of Bourne begin tracking all existing structural BMPs to determine their nutrient removal efficiency. By tracking this existing nutrient

removal, the Town will establish a foundation to quantify progress on achieving additional nitrogen reduction during the MS4 permit term. A template nutrient removal tracker sheet is attached as **Appendix E** to this report for the Town's use and records.

SECTION 7.3 ALIGNMENT WITH OTHER MS4 PERMIT REQUIREMENTS

In addition to requirements triggered by impaired waterbodies (Appendix H), the MS4 General Permit requires all permittees, regardless of impairment status, to complete a BMP Retrofit Analysis in Year Four (section 2.3.6.d). The BMP Retrofit Analysis exclusively examines permittee-owned properties within a community's MS4 Area. Since the NSIR area of study only includes four receiving waters, the BMP Retrofit Analysis examines a larger area of Bourne.

APPENDIX A

Bourne Outfall Reports

Stormwater Report for: BBB1000PI
in the Town of Bourne

Academy Drive

2016 Massachusetts Integrated Listed Water

Discharge directly to Cape Cod Canal

MA95-14 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 12 inch Concrete

SNEP Project: Yes

Urbanized: Yes

Sewered:

4 No Flow Observations

Rating by Weather (0-5):

Wet : 3

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BN12NOV02-A	11/12/2020	BBB1000PI	pipe	0 hrs	0.49 in	none	7.74	19.5 C	3.32 ppt	0 ppm	3 ppb	0.88 ppm	3 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BN12NOV02-A	6000												

Stormwater Report for: BBB1000RC
in the Town of Bourne

Academy Drive

2016 Massachusetts Integrated Listed Water

Discharge to unlisted water of Buzzards Bay

Buzzards Bay

Pollutants: None Identified

Pipe: Road cut

SNEP Project: Yes

Urbanized: Yes

Sewered:

4 No Flow Observations

Rating by Weather (0-5):

Wet : 1

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BN04OCT01-A	10/4/2021	BBB1000RC	surface	0 hrs	1.65 in	none	8.89	21.3 C	0.11 ppt	0.25 ppm	20 ppb	0 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BN04OCT01-A		< 1000											

Stormwater Report for: BBB1005PI
in the Town of Bourne

Report Created on: 8/15/2022

Harbor Place

2016 Massachusetts Integrated Listed Water

Discharge to unlisted water of Buzzards Bay

Buzzards Bay

Pollutants: None Identified

Pipe: Circular 12 inch Concrete

SNEP Project: Yes

Urbanized: Yes

Sewered:

6 No Flow Observations

Rating by Weather (0-5):

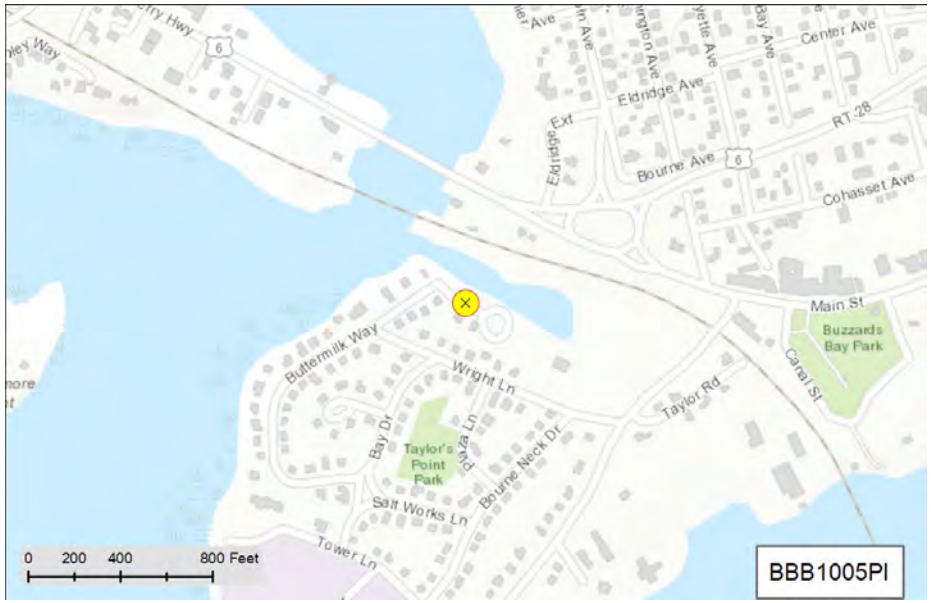
Wet : 4

Dry : 3

Recommnedation:

MS4 Ranking: Excluded

Status:



Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BN30OCT10-A	10/30/2020	BBB1005PI	pipe	0 hrs	2.61 in	none	7.39	11.5 C	0.01 ppt	0 ppm	0 ppb	0 ppm	1 ppr
1BO01APR05-A	4/1/2021	BBB1005PI	pipe	1 hrs	0.93 in	none	7.80	14.7 C	0.01 ppt	0.25 ppm	0 ppb	0.88 ppm	2.5 ppr
1BO03JUN02-A	6/3/2021	BBB1005PI	pipe	0 hrs	0.01 in	none	7.77	19.2 C	0.03 ppt	0.5 ppm	3 ppb	0.88 ppm	2 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BN30OCT10-A	10000												
1BO01APR05-A		480000											
1BO03JUN02-A		200											

Stormwater Report for: BBB1006RC
in the Town of Bourne

Deep Water Way

2016 Massachusetts Integrated Listed Water

Discharge to watershed of Buttermilk Bay

MA95-01 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators, Fecal Coliform

Pipe: Road cut

SNEP Project: No

Urbanized: Yes

Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 3

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO01APR02-A	4/1/2021	BBB1006RC	surface	0 hrs	0.92 in	none	5.97	19.3 C	0.1 ppt	0 ppm	0 ppb	0.88 ppm	1 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO01APR02-A		10000		1 mg/L		0.27 mg/L	BRL	1.3 mg/L					

Stormwater Report for: BBB1007PI
in the Town of Bourne

Harbor Place

2016 Massachusetts Integrated Listed Water

Discharge to unlisted water of Buzzards Bay

Buzzards Bay

Pollutants: None Identified

Pipe: Circular 12 inch Concrete

SNEP Project: Yes

Urbanized: Yes

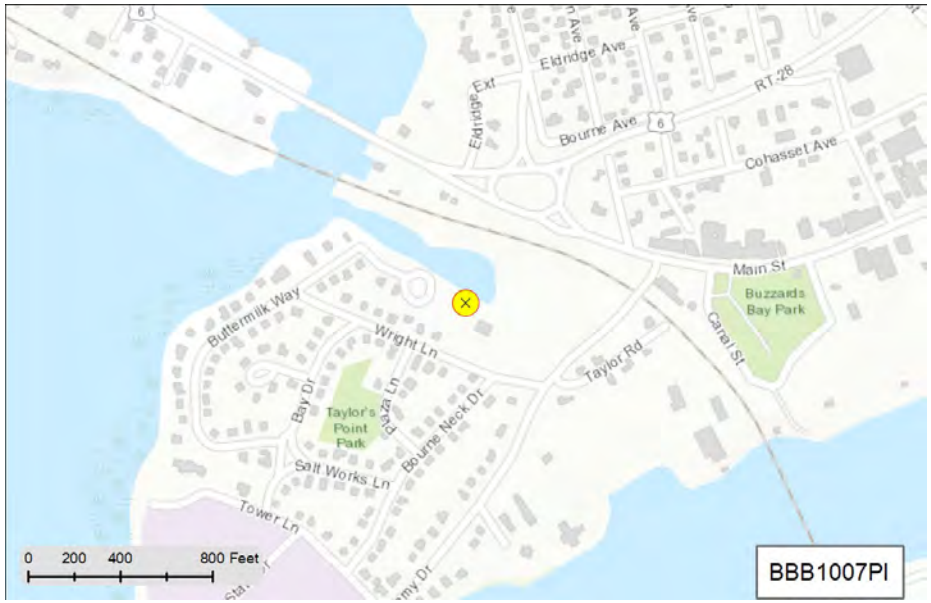
Sewered:

4 No Flow Observations

Rating by Weather (0-5):

Wet : 2

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BN30OCT09-A	10/30/2020	BBB1007PI	pipe	0 hrs	2.61 in	none	7.25	9.4 C	0.06 ppt	0 ppm	0 ppb	0.88 ppm	0.25 ppr
1BO01APR04-A	4/1/2021	BBB1007PI	pipe	0 hrs	0.93 in	none	7.35	14.5 C	0.19 ppt	0.25 ppm	0 ppb	1.76 ppm	0.25 ppr
BO19MAY01-A	5/19/2022	BBB1007PI	surface	0 hrs	0.09 in	None	9.07	18.8 C	0.07 ppt	0 ppm	15 ppb	1.76 ppm	0.2 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BN30OCT09-A	10000												
1BO01APR04-A		< 1000											
BO19MAY01-A		> 8000		2 mg/L		0.372 mg/L		2.4 mg/L	0.413 mg/L				

Stormwater Report for: BBB1008PI
in the Town of Bourne

Report Created on: 8/15/2022

Buttermilk Bridge

2016 Massachusetts Integrated Listed Water

Discharge directly to Pocasset Harbor

MA95-17 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Fecal Coliform

Pipe: Circular 8 inch Cast Iron

SNEP Project: Yes

Urbanized: Yes

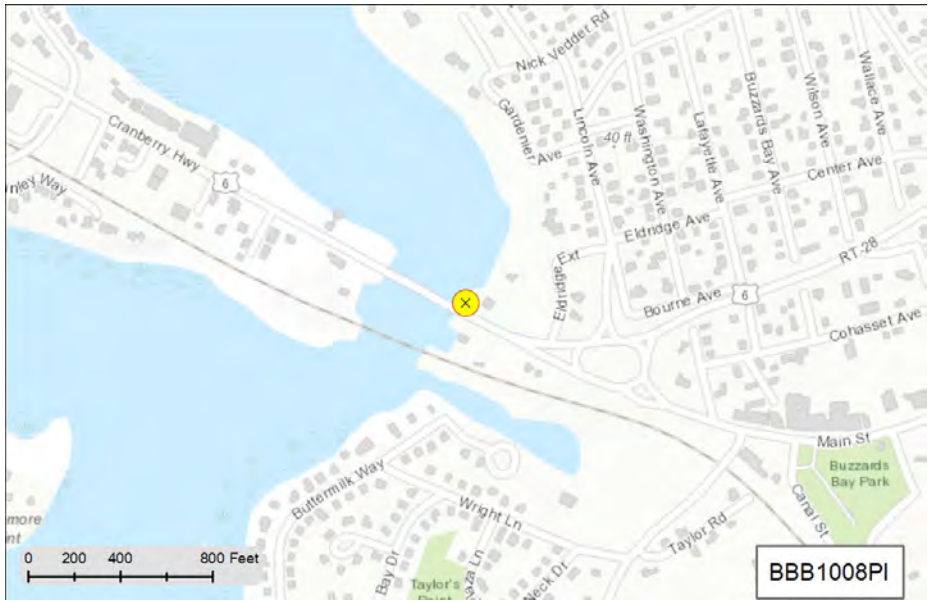
Sewered:

6 No Flow Observations

Rating by Weather (0-5):

Wet : 4

Dry : 3



Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BN30OCT11-A	10/30/2020	BBB1008PI	pipe	0 hrs	2.62 in	none	7.32	13.7 C	0.02 ppt	0 ppm	0 ppb	0.88 ppm	0.25 ppr
1BO01APR06-A	4/1/2021	BBB1008PI	sump	1 hrs	0.93 in	none	7.53	13.9 C	0.9 ppt	0.25 ppm	0 ppb	0.88 ppm	0.5 ppr
1BO03JUN01-A	6/3/2021	BBB1008PI	pipe	79 hrs	0 in	none	7.92	17.6 C	0.28 ppt	0.5 ppm	16 ppb	0.88 ppm	3 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BN30OCT11-A	< 1000			BRL	< 0.5 mg/L	0.24 mg/L	BRL						
1BO01APR06-A		40000		0.84 mg/L		12 mg/L	0.258 mg/L	13 mg/L					
1BO03JUN01-A		1000		2 mg/L		0.59 mg/L	BRL	2.6 mg/L					

Stormwater Report for: BBB1008RC
in the Town of Bourne

Nautical Way

2016 Massachusetts Integrated Listed Water

Discharge directly to Buttermilk Bay

MA95-01 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators, Fecal Coliform

Pipe: Road cut

SNEP Project: Yes

Urbanized: Yes

Sewered:

4 No Flow Observations

Rating by Weather (0-5):

Wet : 3

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: Low Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BO30NOV01-A	11/30/2020	BBB1008RC	surface	0 hrs	0.05 in	none	8.30	16.2 C	0.19 ppt	0.25 ppm	11 ppb	0.88 ppm	1 ppr
1BO16APR04-A	4/16/2021	BBB1008RC	pipe	0 hrs	1.34 in	none	7.93	14.3 C	0.01 ppt	0 ppm	6 ppb	0.88 ppm	1 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BO30NOV01-A	2000			1.3 mg/L	BRL	0.29 mg/L	BRL						
1BO16APR04-A		< 1000		BRL		0.14 mg/L	BRL	< 0.74 mg/L					

Stormwater Report for: BBB1009PI
in the Town of Bourne

Harbor Place

2016 Massachusetts Integrated Listed Water

Discharge to unlisted water of Buzzards Bay

Buzzards Bay

Pollutants: None Identified

Pipe: Circular 12 inch Concrete

SNEP Project: Yes

Urbanized: Yes

Sewered:

4 No Flow Observations

Rating by Weather (0-5):

Wet : 3

Dry : 3

Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BN12NOV01-A	11/12/2020	BBB1009PI	pipe	0 hrs	0.48 in	none	7.81	19.3 C	2.65 ppt	0 ppm	0 ppb	0.88 ppm	2 ppr
1BO16APR02-A	4/16/2021	BBB1009PI	pipe	0 hrs	1.29 in	none	7.81	12.9 C	0.08 ppt	0.25 ppm	1 ppb	0 ppm	0.5 ppr
1BO03JUN03-A	6/3/2021	BBB1009PI	pipe	0 hrs	0.02 in	none	7.10	19.8 C	3.58 ppt	0.25 ppm	79 ppb	0.88 ppm	3 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BN12NOV01-A	1000												
1BO16APR02-A		< 1000											
1BO03JUN03-A		6400											

Stormwater Report for: BBB1010PI

in the Town of Bourne

Report Created on: 8/15/2022

Gardenier Avenue

2016 Massachusetts Integrated Listed Water

Discharge directly to Buttermilk Bay

MA95-01 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators, Fecal Coliform

Pipe: Circular 12 inch HDPE

SNEP Project: Yes

Urbanized: Yes

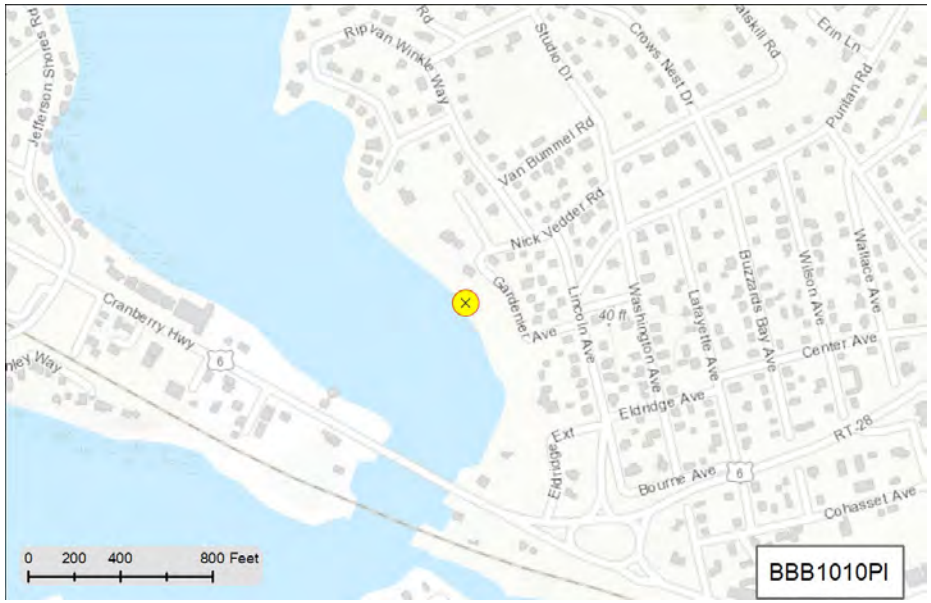
Sewered:

5 No Flow Observations

Rating by Weather (0-5):

Wet : 2

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Stormwater Report for: BBB1010PI

Report Created on: 8/15/2022

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO02SEP05-A	9/2/2021	BBB1010PI	pipe	1 hrs	4.53 in	none	7.37	21.4 C	0.31 ppt	0.25 ppm	1 ppb	1.76 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO02SEP05-A	630												

Stormwater Report for: BBB1013PI
in the Town of Bourne

Ridge Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Buttermilk Bay

MA95-01 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators, Fecal Coliform

Pipe: Circular 12 inch Corrugated Metal

SNEP Project: Yes

Urbanized: Yes

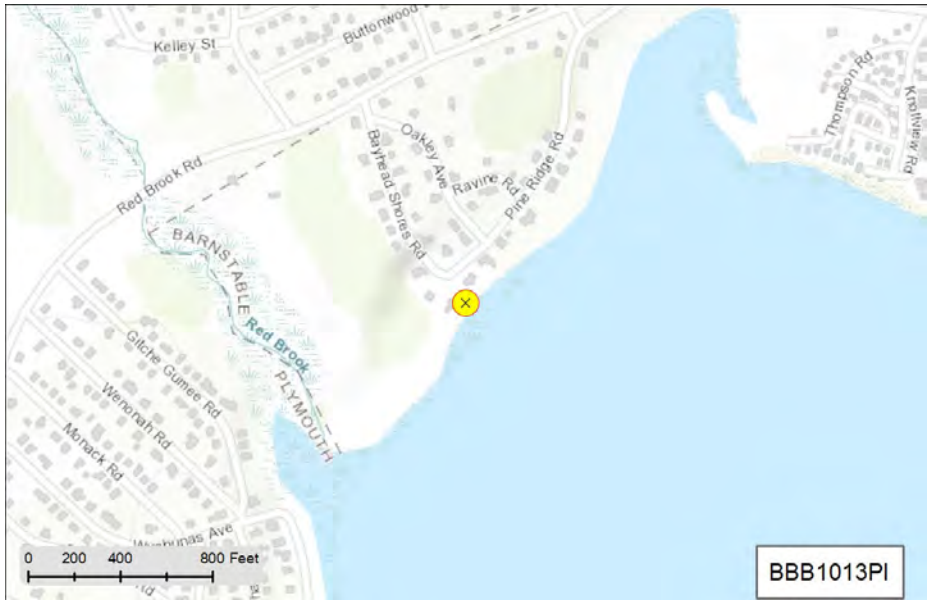
Sewered:

5 No Flow Observations

Rating by Weather (0-5):

Wet : 4

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO01APR01-A	4/1/2021	BBB1013PI	pipe	0 hrs	0.91 in	Suds	8.18	17.1 C	0.02 ppt	0.25 ppm	119 ppb	0.88 ppm	0.5 ppr
1BO16APR01-A	4/16/2021	BBB1013PI	pipe	0 hrs	1.23 in	Suds	9.10	12.6 C	0.16 ppt	6 ppm	25 ppb	0.88 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO01APR01-A		1000		1.8 mg/L		0.27 mg/L	BRL	2.1 mg/L					
1BO16APR01-A		10000		BRL		0.1 mg/L	BRL	< 0.7 mg/L					

Stormwater Report for: BBB1013RC
in the Town of Bourne

Maple Street

2016 Massachusetts Integrated Listed Water

Discharge directly to Queen Sewell Pond

MA95180 | Catagory 5 Freshwater Lake

Pollutants: Harmful Algal Blooms

Pipe: Road cut

SNEP Project: No

Urbanized: Yes

Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 3

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: Low Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO09SEP04-A	9/9/2021	BBB1013RC	surface	0 hrs	0.33 in	none	6.40	24.1 C	0.02 ppt	0 ppm		0 ppm	0.75 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO09SEP04-A	15000			2 mg/L		0.25 mg/L	BRL	2.3 mg/L					

Stormwater Report for: BBB1021PI

in the Town of Bourne

Puritan Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Queen Sewell Pond

MA95180 | Catagory 5 Freshwater Lake

Pollutants: Harmful Algal Blooms

Pipe: Circular 10 inch Corrugated Metal

SNEP Project: No

Urbanized: Yes

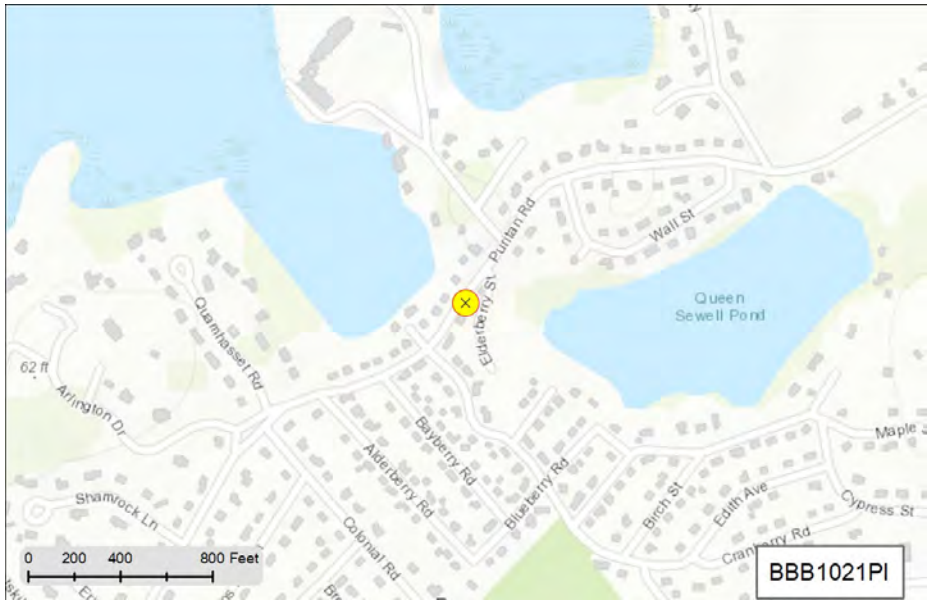
Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 1

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO02SEP02-A	9/2/2021	BBB1021PI	surface	0 hrs	4.52 in	none	8.69	19.9 C	0.01 ppt	0 ppm	2 ppb	0 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO02SEP02-A	3100												

Stormwater Report for: BBB1022PI
in the Town of Bourne

Pine Lane

2016 Massachusetts Integrated Listed Water

Discharge directly to Queen Sewell Pond

MA95180 | Catagory 5 Freshwater Lake

Pollutants: Harmful Algal Blooms

Pipe: Circular 12 inch Concrete

SNEP Project: No

Urbanized: Yes

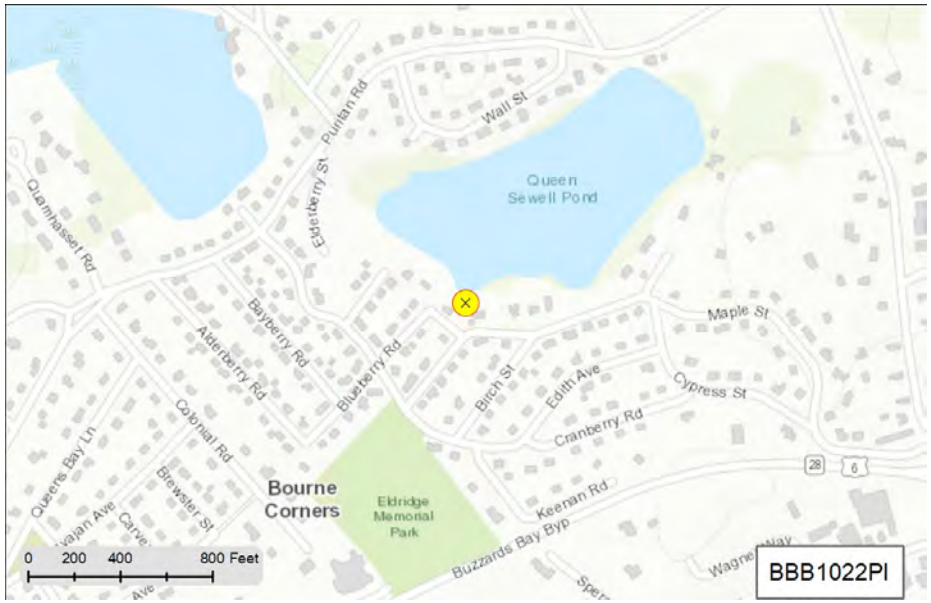
Sewered:

1 No Flow Observations

Rating by Weather (0-5):

Wet : 3

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO09SEP07-A	9/9/2021	BBB1022PI	surface	0 hrs	0.61 in	none	7.08	26.8 C	0.01 ppt	0.25 ppm		0.88 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO09SEP07-A	30000			BRL		0.16 mg/L	BRL	< 0.76 mg/L					

Stormwater Report for: BBB1022RC
in the Town of Bourne

Report Created on: 8/15/2022

Old Head of the Bay Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Little Buttermilk Bay

MA95-76 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators

Pipe: Road cut

SNEP Project: Yes

Urbanized: Yes

Sewered:

4 No Flow Observations

Rating by Weather (0-5):

Wet : 3

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: Low Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BO30NOV02-A	11/30/2020	BBB1022RC	surface	0 hrs	0.07 in	none	7.80	16.8 C	0.06 ppt	0 ppm	0 ppb	0.88 ppm	0.25 ppr
1BN04OCT02-A	10/4/2021	BBB1022RC	surface	0 hrs	1.68 in	none	8.75	21.2 C	0.01 ppt		52 ppb	0 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BO30NOV02-A	9000			1.5 mg/L	BRL	0.35 mg/L	BRL						
1BN04OCT02-A		21000		BRL		BRL	BRL	< 0.61 mg/L					

Stormwater Report for: BBB1023RC
in the Town of Bourne

Report Created on: 8/15/2022

Studio Drive

2016 Massachusetts Integrated Listed Water

Discharge to watershed of Buttermilk Bay

MA95-01 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators, Fecal Coliform

Pipe: Road cut

SNEP Project: No

Urbanized: Yes

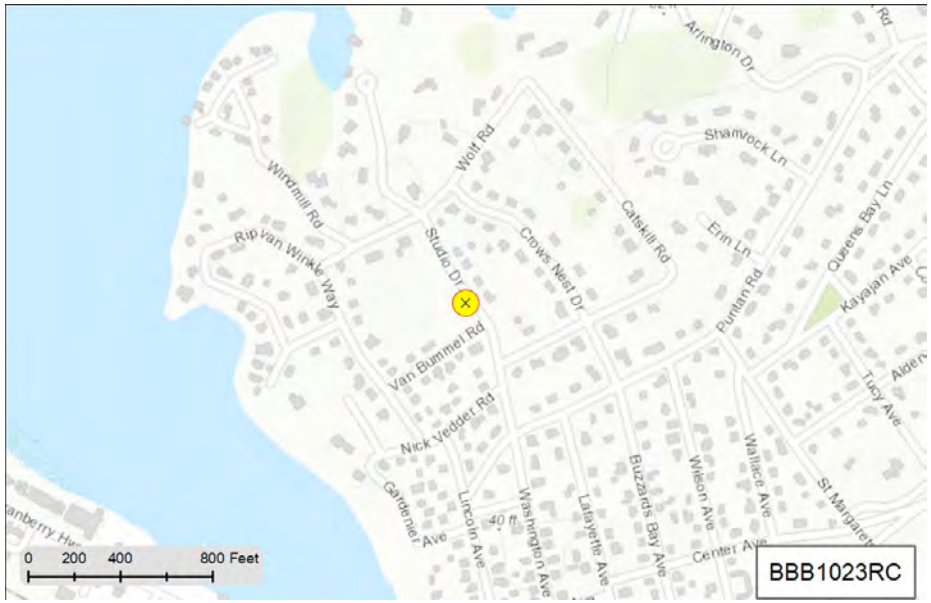
Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 1

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO09SEP05-A	9/9/2021	BBB1023RC	surface	0 hrs	0.46 in	none	7.16	26.5 C	0.01 ppt	0 ppm		0 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO09SEP05-A	1000												

Stormwater Report for: BBB1026PI
in the Town of Bourne

Report Created on: 8/15/2022

Puritan Street

2016 Massachusetts Integrated Listed Water

Discharge directly to Queen Sewell Pond

MA95180 | Catagory 5 Freshwater Lake

Pollutants: Harmful Algal Blooms

Pipe: Circular 12 inch Concrete

SNEP Project: No

Urbanized: Yes

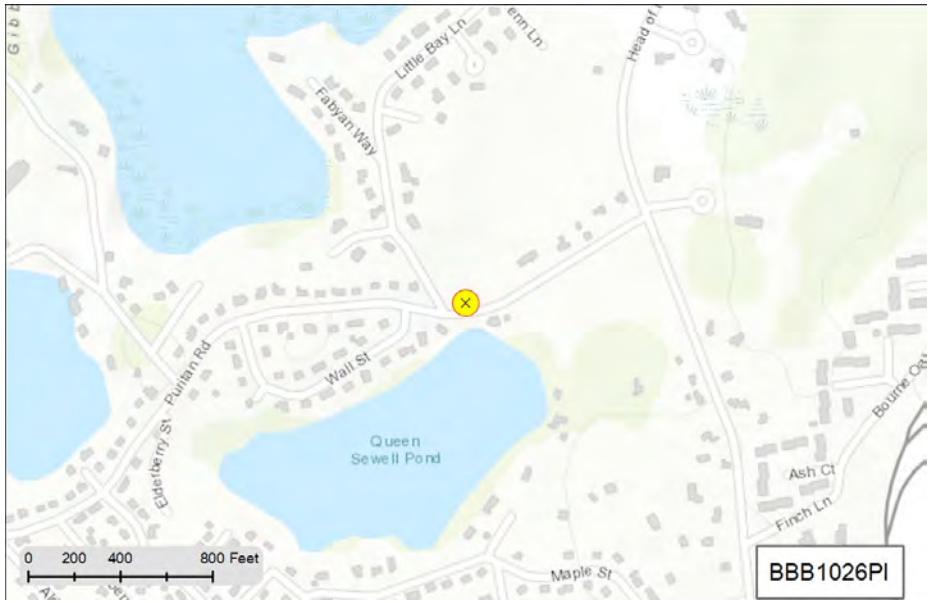
Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 3

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO09SEP01-A	9/9/2021	BBB1026PI	surface	0 hrs	0.15 in	none	7.97	24.1 C	0.37 ppt	0.25 ppm		0 ppm	2 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO09SEP01-A	110000			2.9 mg/L		0.11 mg/L	BRL	3 mg/L					

Stormwater Report for: BBB1030PI
in the Town of Bourne

Fabyan Way

2016 Massachusetts Integrated Listed Water

Discharge to tributary of Little Buttermilk Bay

MA95-76 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators

Pipe: Circular 4 inch HDPE

SNEP Project: Yes

Urbanized: Yes

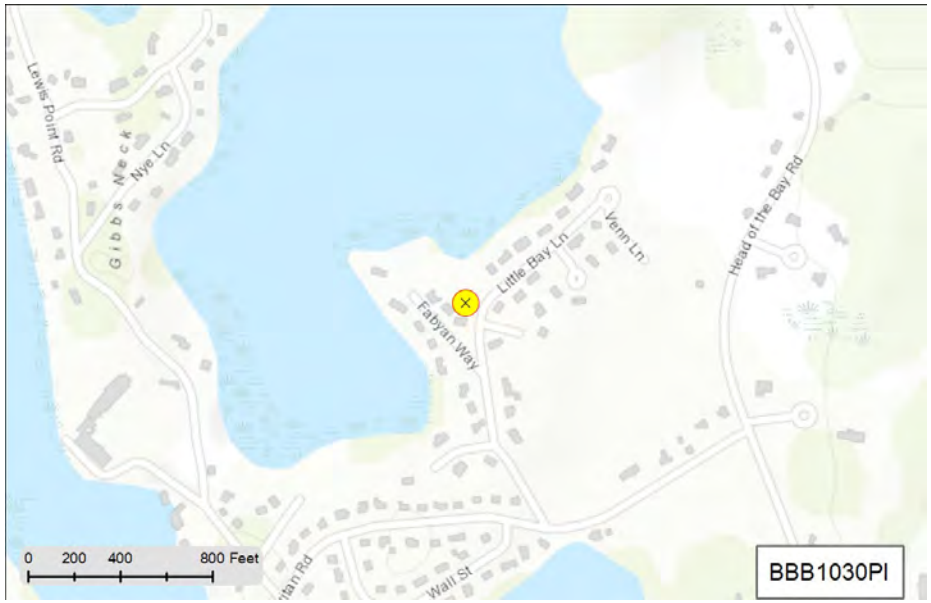
Sewered:

3 No Flow Observations

Rating by Weather (0-5):

Wet : 2

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: Low Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BN30OCT04-A	10/30/2020	BBB1030PI	pipe	0 hrs	2.39 in	none		9.9 C	0.03 ppt	0 ppm	40 ppb	0 ppm	0 ppr
1BO16APR05-A	4/16/2021	BBB1030PI	pipe	0 hrs	1.37 in	none	7.85	9.7 C	0.01 ppt	0 ppm	14 ppb	0 ppm	0.5 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BN30OCT04-A	< 1000			BRL		BRL							
1BO16APR05-A		< 1000		BRL		0.06 mg/L	BRL	< 0.66 mg/L					

Stormwater Report for: BBB1032PI
in the Town of Bourne

Report Created on: 8/15/2022

Little Bay Lane

2016 Massachusetts Integrated Listed Water

Discharge to tributary of Little Buttermilk Bay

MA95-76 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators

Pipe: Circular 12 inch HDPE

SNEP Project: Yes

Urbanized: Yes

Sewered:

4 No Flow Observations

Rating by Weather (0-5):

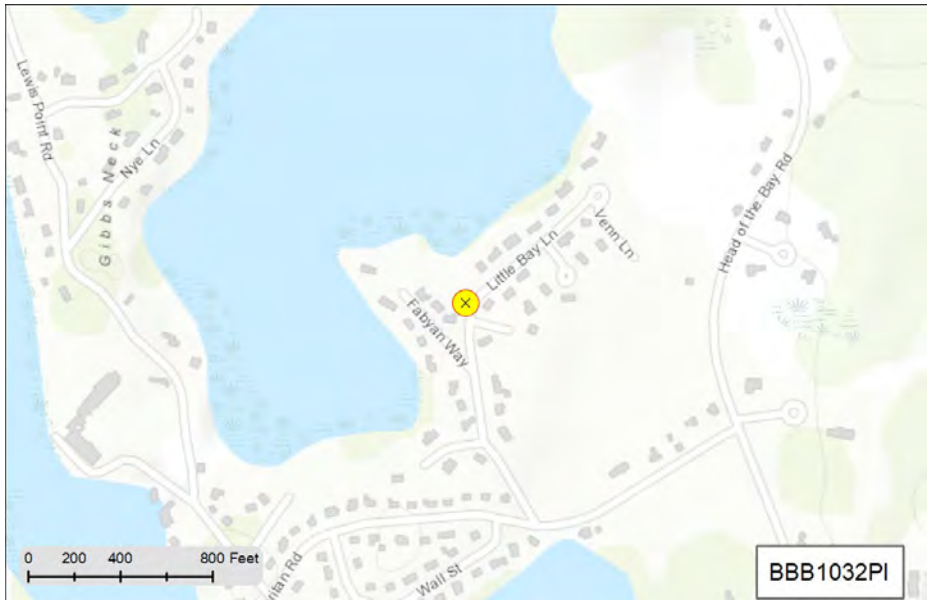
Wet : 1

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: Low Priority Outfall

Status:



Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO16APR06-A	4/16/2021	BBB1032PI	surface	0 hrs	1.38 in	none	6.94	11.5 C	0 ppt	0.25 ppm	0 ppb	0 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO16APR06-A		< 1000		1.5 mg/L		BRL	BRL	1.5 mg/L					

Stormwater Report for: BBB1033PI

in the Town of Bourne

Report Created on: 8/15/2022

Head of the Bay Road

2016 Massachusetts Integrated Listed Water

Discharge to watershed of Queen Sewell Pond

MA95180 | Catagory 5 Freshwater Lake

Pollutants: Harmful Algal Blooms

Pipe: Circular 12 inch Plastic

SNEP Project: No

Urbanized: Yes

Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 4

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO09SEP08-A-D	9/9/2021	BBB1033PI	surface	0 hrs	0.64 in	none	7.25	25.6 C	0.01 ppt	0.25 ppm		0.88 ppm	0.25 ppr
1BO09SEP08-A	9/9/2021	BBB1033PI	surface	0 hrs	0.64 in	none	7.51	25.7 C	0.02 ppt	0.25 ppm		0.88 ppm	0.5 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO09SEP08-A-D	1000			0.72 mg/L		BRL	BRL	0.72 mg/L					
1BO09SEP08-A	16000			BRL		0.2 mg/L	BRL	0.92 mg/L					

Stormwater Report for: BBB1036PI
in the Town of Bourne

Little Bay Lane

2016 Massachusetts Integrated Listed Water

Discharge to tributary of Little Buttermilk Bay

MA95-76 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators

Pipe: Circular 12 inch Corrugated Metal

SNEP Project: No

Urbanized: Yes

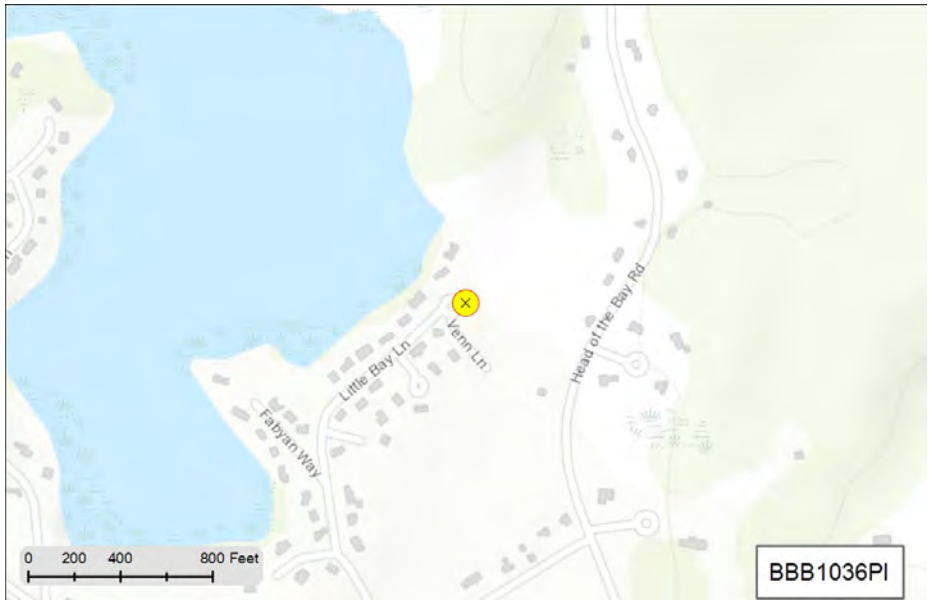
Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 1

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: Low Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Stormwater Report for: BBB1036PI

Report Created on: 8/15/2022

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO02SEP01-A	9/2/2021	BBB1036PI	pipe	0 hrs	4.48 in	none	9.18	19.2 C	0.04 ppt	0 ppm	4 ppb	0 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO02SEP01-A	2700												

Stormwater Report for: BBB1038PI
in the Town of Bourne

Head of the Bay Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Little Buttermilk Bay

MA95-76 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators

Pipe: Circular 6 inch Iron

SNEP Project: Yes

Urbanized: Yes

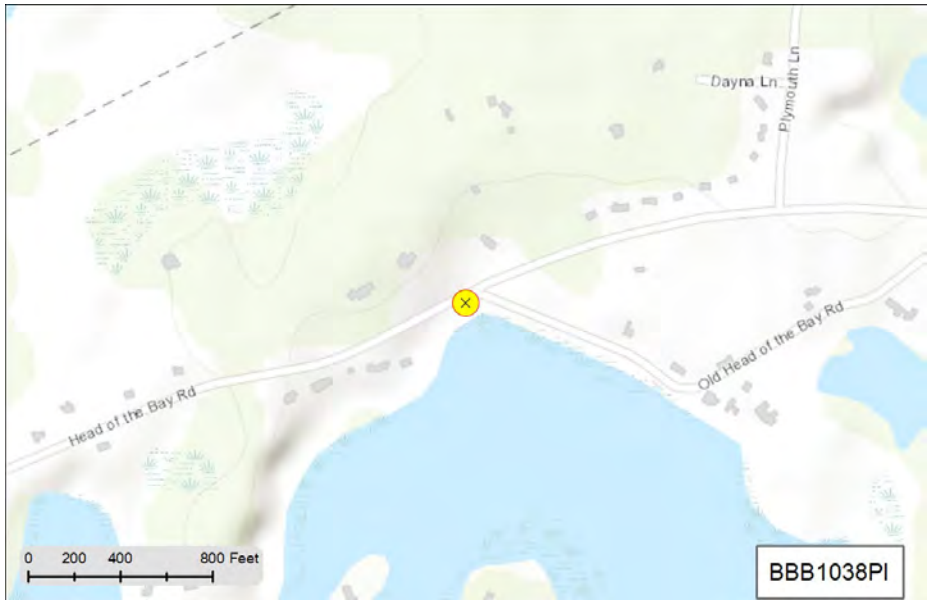
Sewered:

5 No Flow Observations

Rating by Weather (0-5):

Wet : 4

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BO30NOV03-A	11/30/2020	BBB1038PI	pipe	0 hrs	0.09 in	none	7.50	16.9 C	0.07 ppt	0.25 ppm	0 ppb	0.88 ppm	0.5 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BO30NOV03-A	19000			2 mg/L	BRL	0.33 mg/L	BRL						

Stormwater Report for: BBB1041PI
in the Town of Bourne

Taylor Point Marina

2016 Massachusetts Integrated Listed Water

Discharge to unlisted water of Buzzards Bay

Buzzards Bay

Pollutants: None Identified

Pipe: Circular 12 inch Concrete

SNEP Project: Yes

Urbanized: Yes

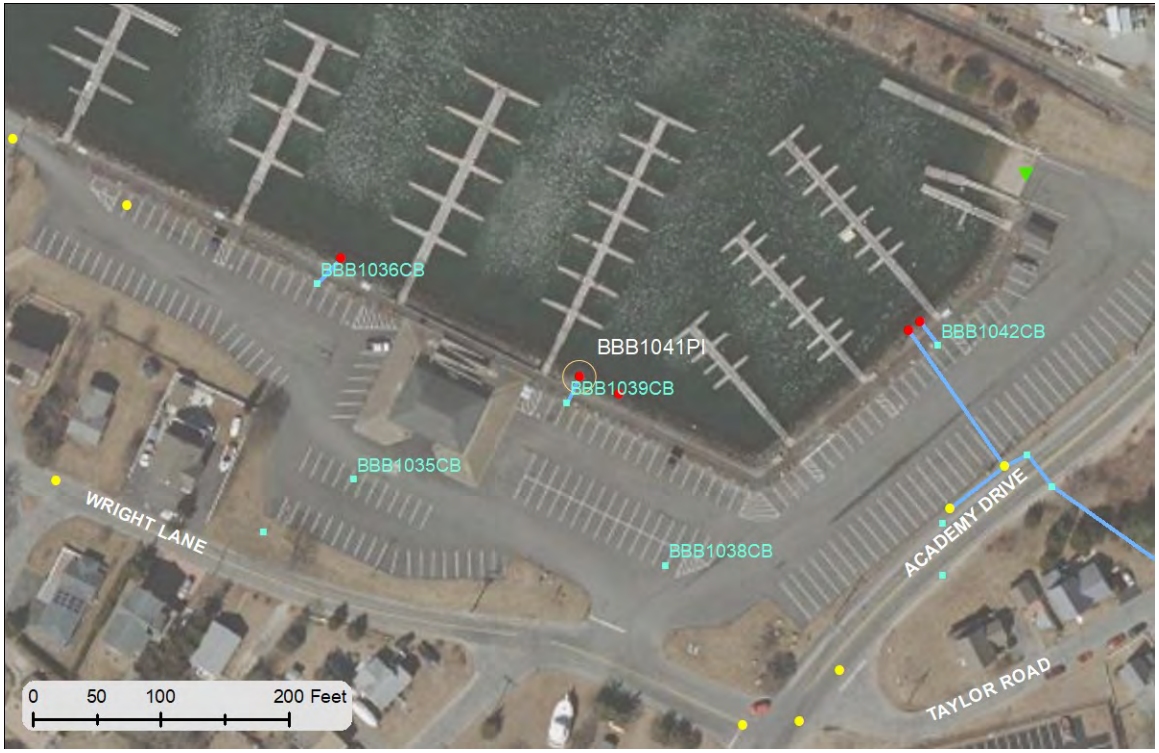
Sewered:

4 No Flow Observations

Rating by Weather (0-5):

Wet : 3

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BN30OCT08-A	10/30/2020	BBB1041PI	pipe	0 hrs	2.59 in	none	7.51	9.2 C	0.05 ppt	0 ppm	0 ppb	0.88 ppm	0.25 ppr
1BO01APR03-A	4/1/2021	BBB1041PI	surface	0 hrs	0.93 in	none	7.70	15.2 C	0.23 ppt	0 ppm	0 ppb	1.76 ppm	2 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BN30OCT08-A	10000												
1BO01APR03-A		< 1000											

Stormwater Report for: BBB1043PI
in the Town of Bourne

Taylor Point Marina

2016 Massachusetts Integrated Listed Water

Discharge to unlisted water of Buzzards Bay

Buzzards Bay

Pollutants: None Identified

Pipe: Circular Concrete

SNEP Project: Yes

Urbanized: Yes

Sewered:

5 No Flow Observations

Rating by Weather (0-5):

Wet : 2

Dry : 3

Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO16APR03-A	4/16/2021	BBB1043PI	pipe	0 hrs	1.31 in	none	7.81	14.8 C	0.01 ppt	0.25 ppm	0 ppb	0 ppm	0.5 ppr
1BO03JUN04-A	6/3/2021	BBB1043PI	pipe	0 hrs	0.02 in	none	7.61	28.8 C	0.43 ppt	0.5 ppm	23 ppb	1.76 ppm	2 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO16APR03-A		< 1000											
1BO03JUN04-A		4000											

Stormwater Report for: BBB1044PI

in the Town of Bourne

Report Created on: 8/15/2022

Academy Drive

2016 Massachusetts Integrated Listed Water

Discharge directly to Cape Cod Canal

MA95-14 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 18 inch Concrete

SNEP Project: Yes

Urbanized: Yes

Sewered:

5 No Flow Observations

Rating by Weather (0-5):

Wet : 3

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BN30OCT07-A	10/30/2020	BBB1044PI	pipe	0 hrs	2.6 in	none	7.57	9.9 C	0.09 ppt	0 ppm	0 ppb	0.88 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BN30OCT07-A	140000												

Stormwater Report for: BBB1045PI
in the Town of Bourne

Academy Drive

2016 Massachusetts Integrated Listed Water

Discharge directly to Cape Cod Canal

MA95-14 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 18 inch Concrete

SNEP Project: Yes

Urbanized: Yes

Sewered:

4 No Flow Observations

Rating by Weather (0-5):

Wet : 3

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BN30OCT06-A	10/30/2020	BBB1045PI	pipe	0 hrs	2.58 in	none	7.33	12.1 C	1.65 ppt		8 ppb	0.88 ppm	0.5 ppr
1BO16APR07-A	4/16/2021	BBB1045PI	pipe	0 hrs	1.44 in	none	7.03	13.3 C	0.24 ppt	0.25 ppm	1 ppb	0.88 ppm	0.25 ppr
1BO16APR08-A	4/16/2021	BBB1045PI	pipe	0 hrs	1.47 in	none	7.18	12.1 C	0.02 ppt	0.25 ppm	3 ppb	0.88 ppm	0.5 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BN30OCT06-A	< 10000												
1BO16APR07-A		< 1000											
1BO16APR08-A		< 1000											

Stormwater Report for: BBB1046PI
in the Town of Bourne

Report Created on: 8/15/2022

Academy Drive

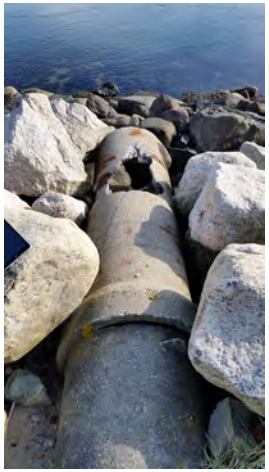
2016 Massachusetts Integrated Listed Water

Discharge directly to Cape Cod Canal

MA95-14 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 18 inch Concrete



SNEP Project: Yes

Urbanized: Yes

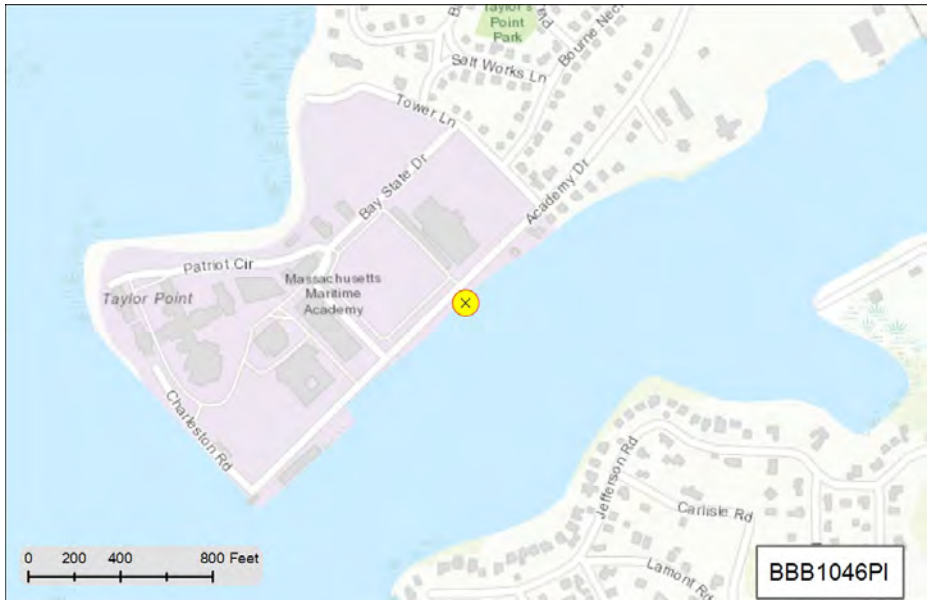
Sewered:

5 No Flow Observations

Rating by Weather (0-5):

Wet : 4

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BN30OCT05-A	10/30/2020	BBB1046PI	pipe	0 hrs	2.56 in	none	8.03	16.1 C	0.15 ppt	0 ppm	24 ppb	0.88 ppm	0.25 ppr
1BO01APR07-A	4/1/2021	BBB1046PI	pipe	2 hrs	0.93 in	none	7.52	13.1 C	0.03 ppt	0.25 ppm	0 ppb	0.88 ppm	3 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BN30OCT05-A	30000												
1BO01APR07-A		< 1000											

Stormwater Report for: BBB1048PI
in the Town of Bourne

Patriot Circle

2016 Massachusetts Integrated Listed Water

Discharge to unlisted water of Buzzards Bay

Buzzards Bay

Pollutants: None Identified

Pipe: Circular 12 inch Transite

SNEP Project: No

Urbanized: Yes

Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 2

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO09SEP06-A	9/9/2021	BBB1048PI	pipe	0 hrs	0.59 in	none	7.26	25.1 C	0.02 ppt	0.25 ppm		2.64 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO09SEP06-A		1000		BRL		0.16 mg/L	BRL	< 0.76 mg/L					

Stormwater Report for: BBB1049PI

in the Town of Bourne

Report Created on: 8/15/2022

Puritan Road

2016 Massachusetts Integrated Listed Water

Discharge to watershed of Cape Cod Canal

MA95-14 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 8 inch Corrugated Metal

SNEP Project: No

Urbanized: Yes

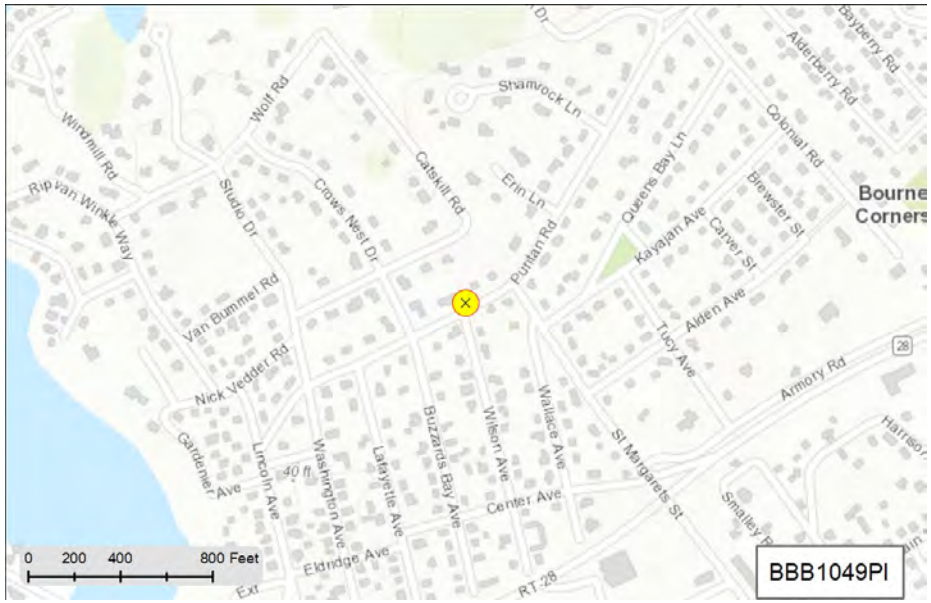
Sewered:

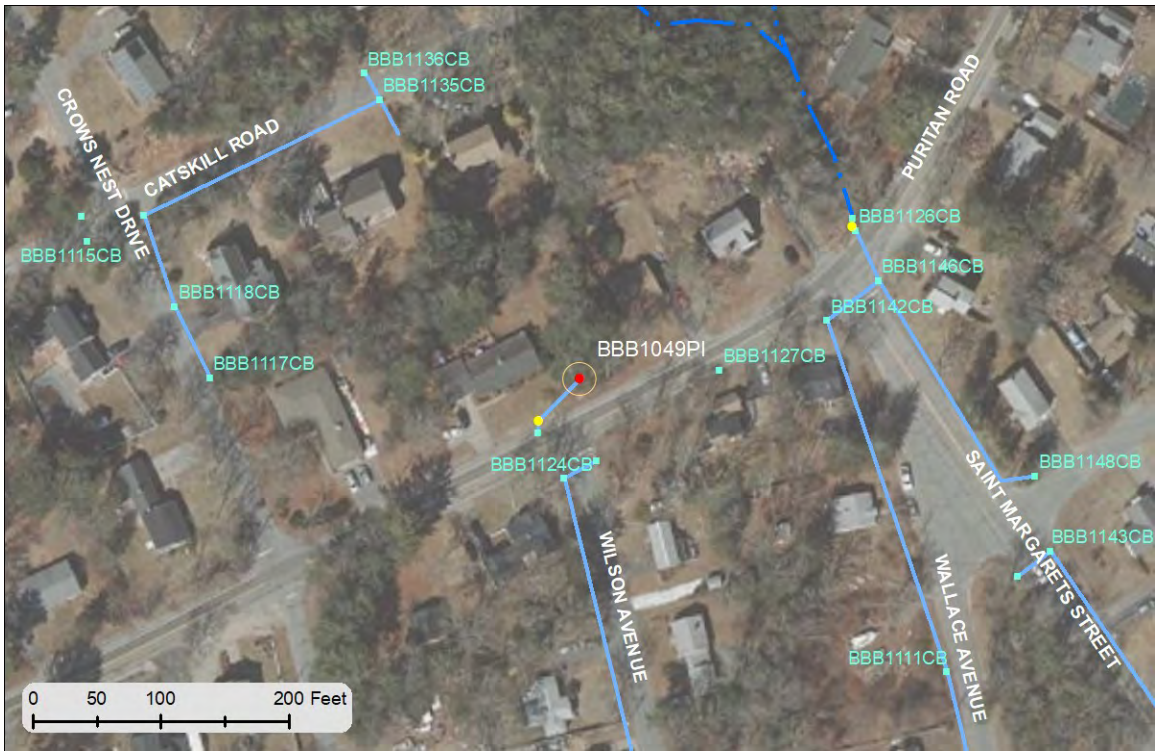
0 No Flow Observations

Rating by Weather (0-5):

Wet : 2

Dry : No Data or No Flow





Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO02SEP03-A	9/2/2021	BBB1049PI	surface	0 hrs	4.53 in	none	8.09	19.7 C	0 ppt	0 ppm	1 ppb	0.88 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO02SEP03-A	2100												

Stormwater Report for: BBB1051PI

in the Town of Bourne

Wolf Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Buttermilk Bay

MA95-01 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators, Fecal Coliform

Pipe: Circular 12 inch HDPE

SNEP Project: No

Urbanized: Yes

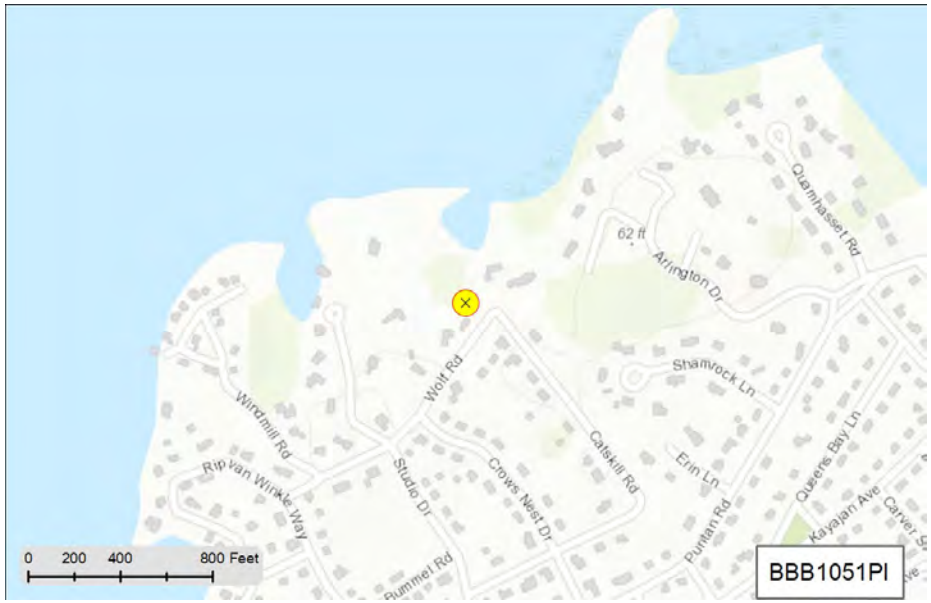
Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 4

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO09SEP02-A	9/9/2021	BBB1051PI	pipe	0 hrs	0.19 in	Odor, Suds	6.21	23.5 C	0.03 ppt	0.25 ppm		1.76 ppm	0.75 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO09SEP02-A	13000			0.95 mg/L		BRL	0.14 mg/L	1.1 mg/L					

Stormwater Report for: BBB1063PI
in the Town of Bourne

Report Created on: 8/15/2022

Colonial Road

2016 Massachusetts Integrated Listed Water

Pipe:

SNEP Project: No

Urbanized: Yes

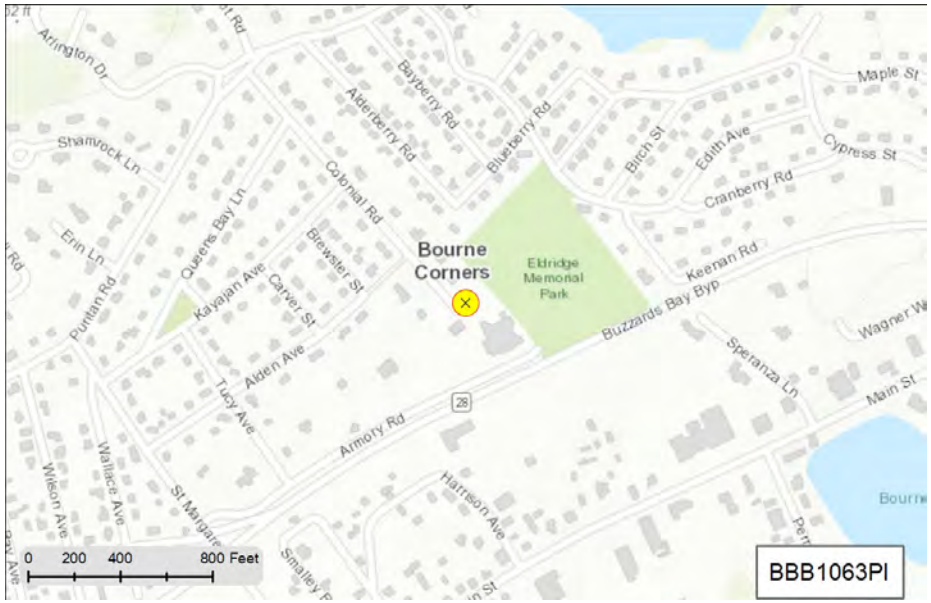
Sewered: Yes

0 No Flow Observations

Rating by Weather (0-5):

Wet : 2

Dry : 4



Recommnedation:

MS4 Ranking: Low Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO02SEP04-A	9/2/2021	BBB1063PI	pipe	0 hrs	4.53 in	none	7.52	20.1 C	0.01 ppt	0.25 ppm	0 ppb	0.88 ppm	0.25 ppr
1BO09SEP03-A	9/9/2021	BBB1063PI	surface	0 hrs	0.19 in	none	6.36	23.8 C	0.01 ppt	0.5 ppm		0.88 ppm	0.5 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO02SEP04-A	5800												
1BO09SEP03-A	20000			0.88 mg/L		0.11 mg/L	BRL	1 mg/L					

Stormwater Report for: BBB1066PI

in the Town of Bourne

Report Created on: 8/15/2022

Canal Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Cape Cod Canal

MA95-14 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 12 inch Iron

SNEP Project: No

Urbanized: Yes

Sewered: Yes

0 No Flow Observations

Rating by Weather (0-5):

Wet : 2

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO25OCT01-A	10/25/2021	BBB1066PI	pipe	0 hrs	0.19 in	none	7.31	16.8 C	0.79 ppt	0.5 ppm	0 ppb	0.88 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO25OCT01-A		< 1000		1.1 mg/L		0.46 mg/L	1.4 mg/L	3 mg/L					

Stormwater Report for: BSC1010PI
in the Town of Bourne

Report Created on: 8/15/2022

Herring Pond Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Great Herring Pond

MA94050 | Catagory 4A Freshwater Lake

Pollutants: Mercury In Fish Tissue

Pipe: Circular 12 inches HDPE

SNEP Project: No

Urbanized: Yes

Sewered:

0 No Flow Observations

Rating by Weather (0-5):

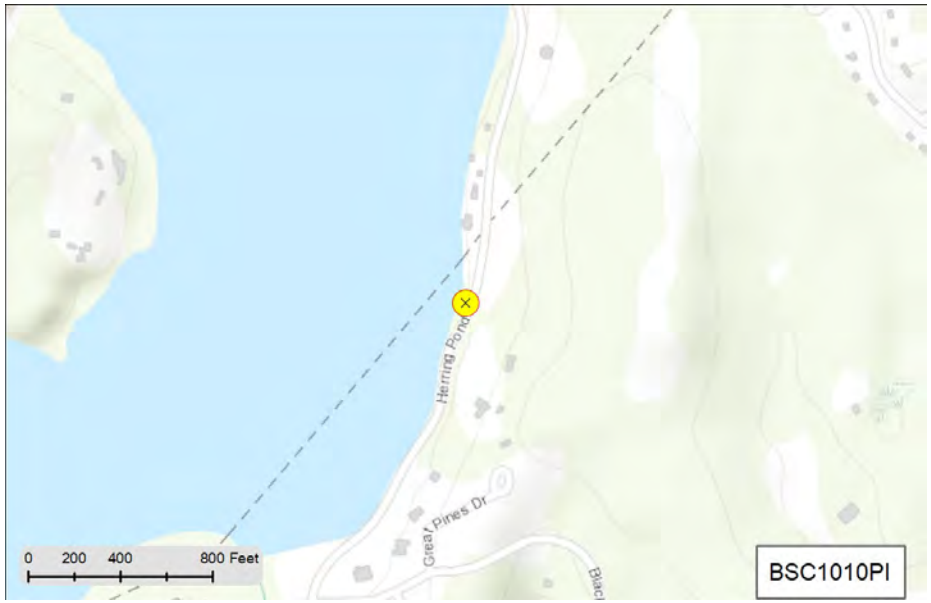
Wet : 2

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: High Priority Outfall

Status:



Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
BO24MAR01-A	3/24/2022	BSC1010PI	pipe	0 hrs	0.68 in	none	9.38	10.1 C	0.26 ppt	0 ppm	44 ppb	0.88 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
BO24MAR01-A	1500												

Stormwater Report for: BSC1016PI
in the Town of Bourne

Canal Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Cape Cod Canal

MA95-14 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 12 inch Concrete

SNEP Project: No

Urbanized: Yes

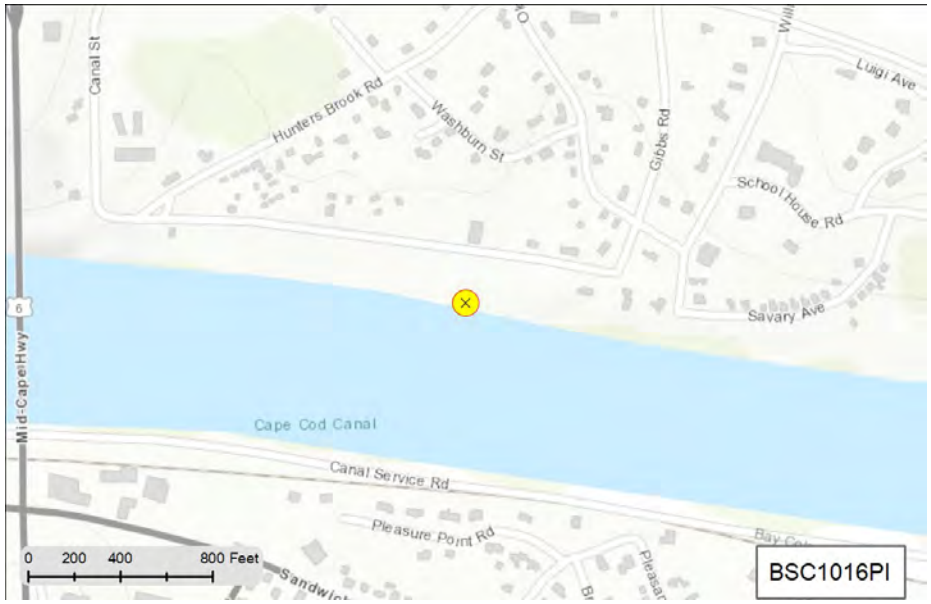
Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : No Data

Dry : 1



Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO15JUL01-A	7/15/2021	BSC1016PI	pipe	80 hrs	0 in	none	7.73	26.9 C	0.11 ppt	0.25 ppm	119 ppb		

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO15JUL01-A	< 1000												

Stormwater Report for: BSC1019PI
in the Town of Bourne

Report Created on: 8/15/2022

Canal Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Cape Cod Canal

MA95-14 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 18 inch Concrete

SNEP Project: No

Urbanized: Yes

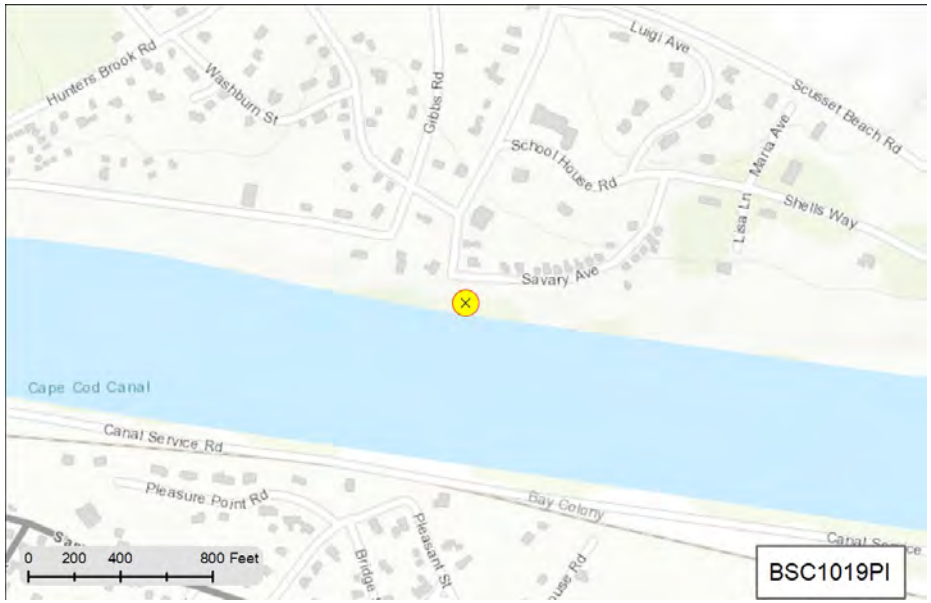
Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 4

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO25OCT02-A	10/25/2021	BSC1019PI	pipe	0 hrs	0.25 in	none	7.28	15.2 C	0.02 ppt	0.5 ppm	111 ppb	0.88 ppm	0.5 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO25OCT02-A		58000		BRL		1.7 mg/L	0.61 mg/L	2.3 mg/L					

Stormwater Report for: SBB1006PI
in the Town of Bourne

Jefferson Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Cape Cod Canal

MA95-14 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 8 inch Concrete

SNEP Project: Yes

Urbanized: Yes

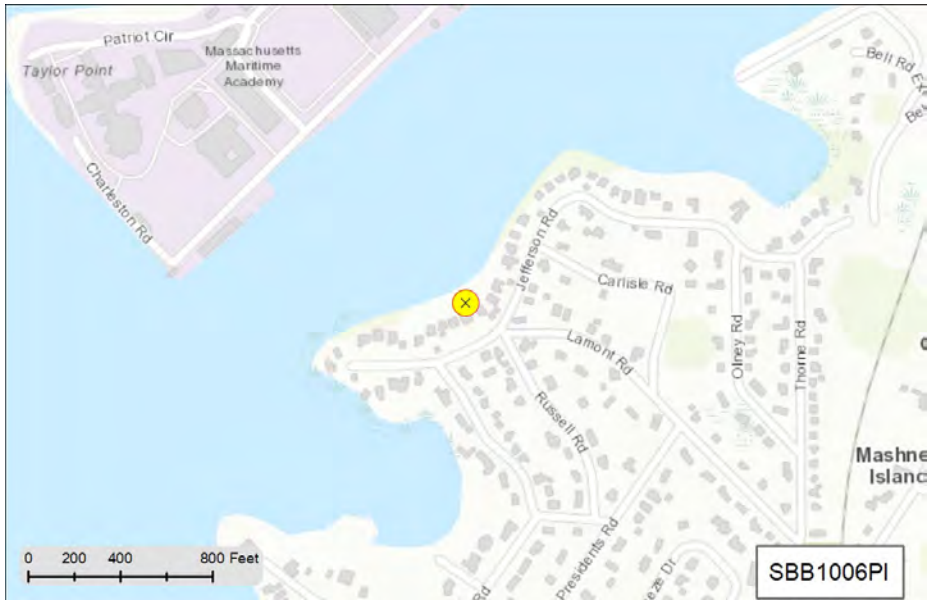
Sewered:

4 No Flow Observations

Rating by Weather (0-5):

Wet : 3

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BN30OCT02-A	10/30/2020	SBB1006PI	pipe	0 hrs	2.28 in	none	7.96	12.3 C	0.03 ppt	0 ppm	2 ppb	0.88 ppm	0.25 ppr
1BN04OCT04-A	10/4/2021	SBB1006PI	surface	0 hrs	2.21 in	none	7.20	20.8 C	0.01 ppt	0.25 ppm	40 ppb	0.88 ppm	0 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BN30OCT02-A	10000												
1BN04OCT04-A		15000											

Stormwater Report for: SBB1014PI

in the Town of Bourne

Report Created on: 8/15/2022

Ships Way

2016 Massachusetts Integrated Listed Water

Discharge directly to Cape Cod Canal

MA95-14 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 18 inch Concrete

SNEP Project: No

Urbanized: Yes

Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 2

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
BO24MAR02-A	3/24/2022	SBB1014PI	pipe	0 hrs	0.74 in	none	9.40	10.4 C	0.01 ppt	0 ppm	41 ppb	0.88 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
BO24MAR02-A		< 1000											

Stormwater Report for: SBB1026PI
in the Town of Bourne

Keene Street

2016 Massachusetts Integrated Listed Water

Discharge directly to Cape Cod Canal

MA95-14 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 24 inch Concrete

SNEP Project: No

Urbanized: Yes

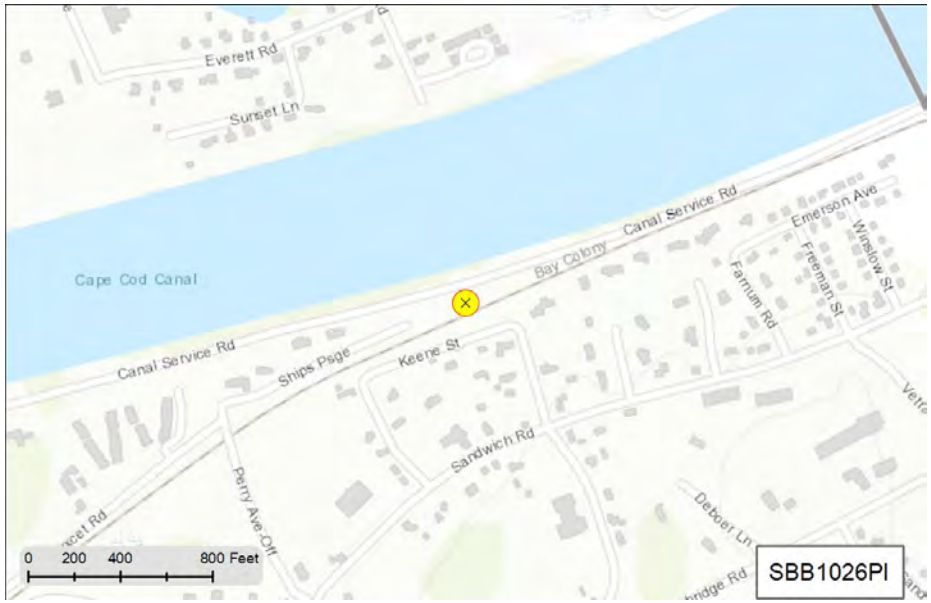
Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 2

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
BO24MAR03-A	3/24/2022	SBB1026PI	pipe	0 hrs	0.78 in	none	8.39	10 C	0.06 ppt	0 ppm	46 ppb	0.88 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
BO24MAR03-A		2000											

Stormwater Report for: SBB1037PI
in the Town of Bourne

Canal Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Cape Cod Canal

MA95-14 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 24 inch Concrete

SNEP Project: Yes

Urbanized: Yes

Sewered:

3 No Flow Observations

Rating by Weather (0-5):

Wet : 4

Dry : 3

Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BO06JUL01-A	7/6/2020	SBB1037PI	pipe	33 hrs	0.07 in	none	8.20	20.8 C	0.09 ppt	0 ppm	0 ppb	6.6 ppm	1.5 ppr
0BN30OCT01-A	10/30/2020	SBB1037PI	pipe	0 hrs	2.24 in	none	8.78	10.1 C	0.04 ppt	0.25 ppm	11 ppb	0.88 ppm	0.25 ppr
0BO01DEC04-A	12/1/2020	SBB1037PI	pipe	0 hrs	1.32 in	none	7.40	15.8 C	0.02 ppt	0.25 ppm	44 ppb		
1BN01APR01-A	4/1/2021	SBB1037PI	pipe	0 hrs	0.93 in	none	9.46	15.4 C	0.12 ppt	0 ppm	0 ppb		
1BN04MAY01-A	5/4/2021	SBB1037PI	pipe	2 hrs	0.53 in	none	9.18	12.6 C	0.16 ppt	0.25 ppm	17 ppb	0.88 ppm	1.5 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BO06JUL01-A	> 400												
0BN30OCT01-A	< 10000												
0BO01DEC04-A	14000												
1BN01APR01-A		30000											
1BN04MAY01-A		400											

Stormwater Report for: SPH1001PI

in the Town of Bourne

Report Created on: 8/15/2022

Shore Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Phinneys Harbor

MA95-15 | Catagory 4A Estuary

Pollutants: Estuarine Bioassessments, Nitrogen (Total), Fecal Coliform

Pipe: Circular 12 inch Corrugated Metal

SNEP Project: No

Urbanized: Yes

Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 2

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
BO24MAR07-A	3/24/2022	SPH1001PI	pipe	1.5 hrs	0.82 in	none	6.98	15.3 C	0.03 ppt	0 ppm	0 ppb	0.88 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
BO24MAR07-A		< 1000				0.32 mg/L		< 0.93 mg/L					

Stormwater Report for: SPH1002PI
in the Town of Bourne

Shore Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Phinneys Harbor

MA95-15 | Catagory 4A Estuary

Pollutants: Estuarine Bioassessments, Nitrogen (Total), Fecal Coliform

Pipe: Circular 12 inch Corrugated Metal

SNEP Project: No

Urbanized: Yes

Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 3

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Stormwater Report for: SPH1002PI

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
BO24MAR06-A	3/24/2022	SPH1002PI	pipe	0 hrs	0.82 in	sheen	7.08	13.5 C	0.03 ppt	0.25 ppm	11 ppb	0.88 ppm	0.5 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
BO24MAR06-A		< 1000				0.32 mg/L		< 0.93 mg/L					

Stormwater Report for: SPH1003PI
in the Town of Bourne

Shore Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Phinneys Harbor

MA95-15 | Catagory 4A Estuary

Pollutants: Estuarine Bioassessments, Nitrogen (Total), Fecal Coliform

Pipe: Circular 12 inch Corrugated Metal

SNEP Project: No

Urbanized: Yes

Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 2

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Stormwater Report for: SPH1003PI

Report Created on: 8/15/2022

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
BO24MAR05-A	3/24/2022	SPH1003PI	pipe	0 hrs	0.81 in	none	7.42	11.8 C	0.03 ppt	0 ppm	48 ppb	0.88 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
BO24MAR05-A		< 1000				0.31 mg/L		< 0.92 mg/L					

Stormwater Report for: SPH1005PI
in the Town of Bourne

Shore Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Phinneys Harbor

MA95-15 | Catagory 4A Estuary

Pollutants: Estuarine Bioassessments, Nitrogen (Total), Fecal Coliform

Pipe: Circular 12 inch Corrugated Metal

SNEP Project: No

Urbanized: Yes

Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 2

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
BO24MAR04-A	3/24/2022	SPH1005PI	pipe	0 hrs	0.81 in	none	8.01	12.5 C	0.08 ppt	0 ppm	120 ppb	0.88 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
BO24MAR04-A		< 1000				0.34 mg/L		< 0.95 mg/L					

Stormwater Report for: SPH1010PI
in the Town of Bourne

North Beach Avenue

2016 Massachusetts Integrated Listed Water

Discharge directly to Eel Pond

MA95-48 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 18 inch HDPE

SNEP Project: Yes

Urbanized: Yes

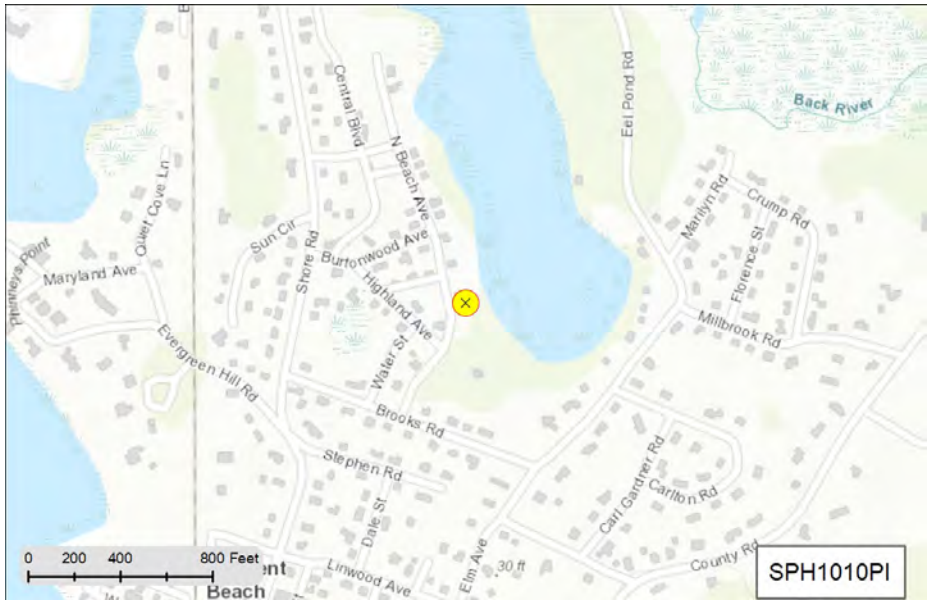
Sewered:

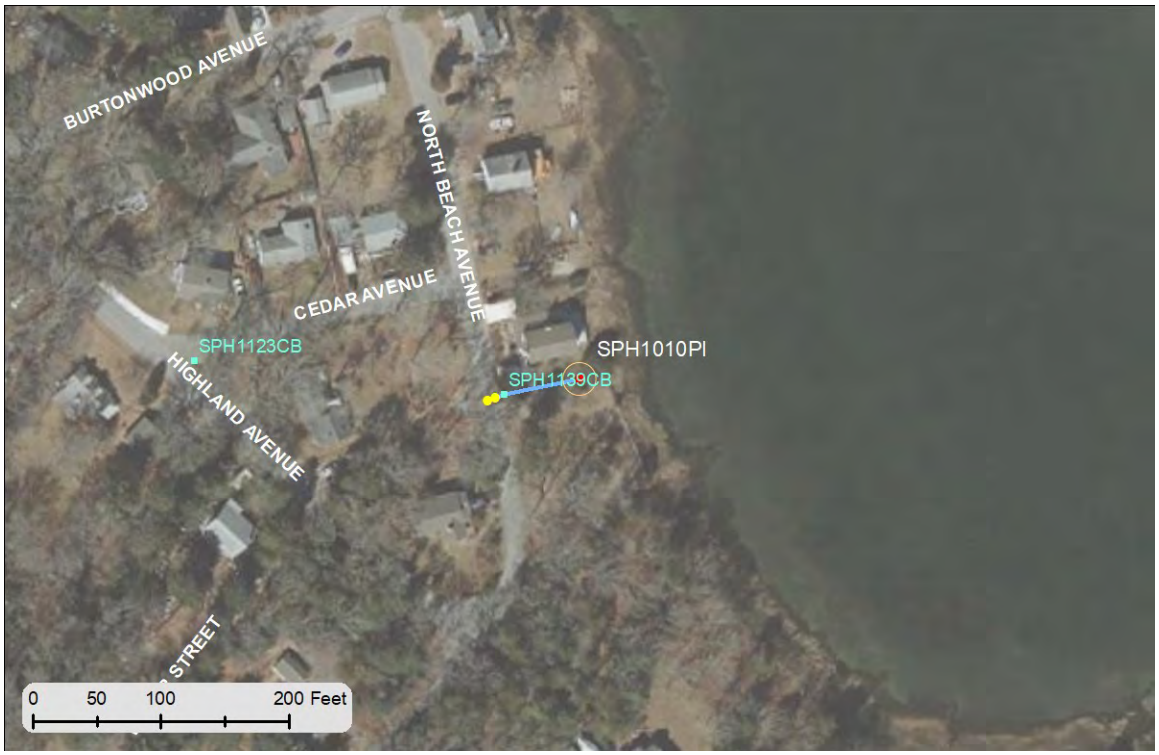
3 No Flow Observations

Rating by Weather (0-5):

Wet : 3

Dry : No Data or No Flow





Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BN30OCT03-A	10/30/2020	SPH1010PI	pipe	0 hrs	2.32 in	none	7.22	10.2 C	0.03 ppt	0 ppm	25 ppb	0.88 ppm	0.25 ppr
0BO01DEC03-A	12/1/2020	SPH1010PI	pipe	0 hrs	1.32 in	none	7.01	15.5 C	0.19 ppt	0.25 ppm	2 ppb		

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BN30OCT03-A	10000			BRL		BRL							
0BO01DEC03-A	28000												

Stormwater Report for: SPH1012PI
in the Town of Bourne

Burtonwood Avenue and North Beach Avenue

2016 Massachusetts Integrated Listed Water

Discharge directly to Eel Pond

MA95-48 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 12 inch Corrugated Metal

SNEP Project: Yes

Urbanized: Yes

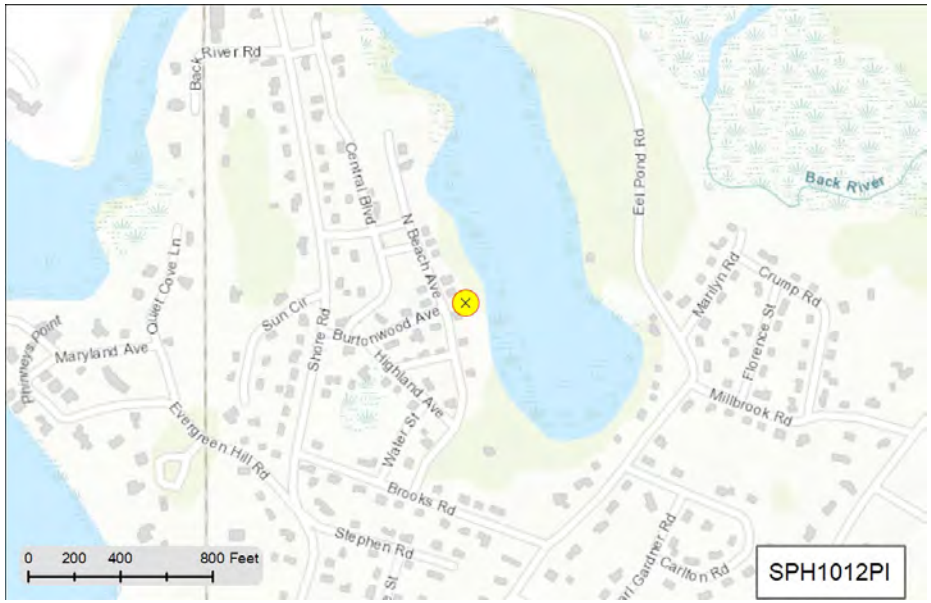
Sewered:

4 No Flow Observations

Rating by Weather (0-5):

Wet : 2

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BN04OCT03-A	10/4/2021	SPH1012PI	pipe	0 hrs	2.11 in	none	8.06	19.8 C	0.01 ppt	0.25 ppm	22 ppb	0.88 ppm	0 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BN04OCT03-A		< 1000											

Stormwater Report for: SPH1013PI
in the Town of Bourne

Report Created on: 8/15/2022

Eel Pond Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Eel Pond

MA95-48 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 10 inch Corrugated Metal

SNEP Project: Yes

Urbanized: Yes

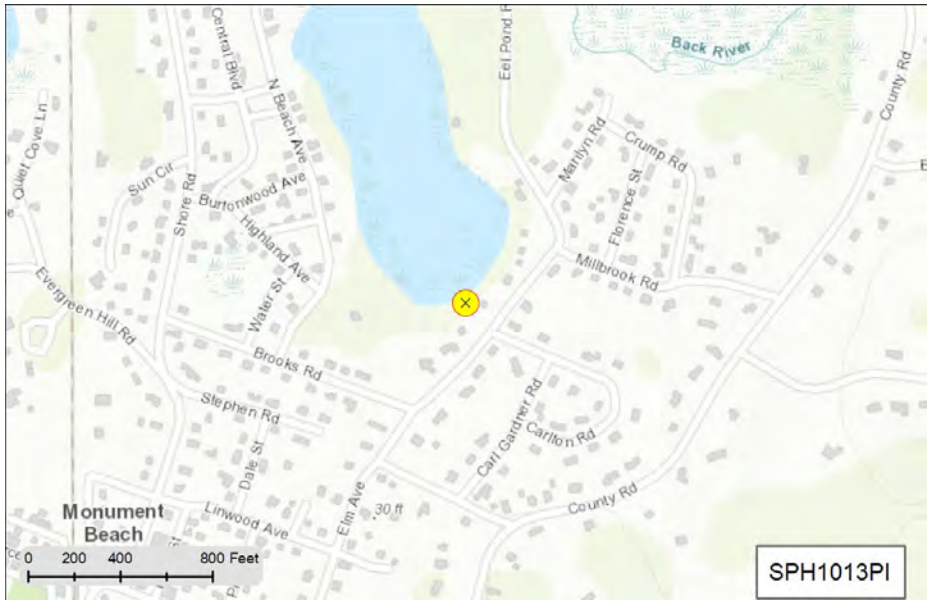
Sewered:

4 No Flow Observations

Rating by Weather (0-5):

Wet : 2

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
BO24MAR08-A	3/24/2022	SPH1013PI	pipe	0 hrs	0.83 in	suds	6.42	14.6 C	0.09 ppt	0 ppm	59 ppb	0.88 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
BO24MAR08-A		< 1000											

Stormwater Report for: SPO1008PI
in the Town of Bourne

Report Created on: 8/15/2022

Spruce Drive

2016 Massachusetts Integrated Listed Water

Discharge directly to Red Brook Harbor

MA95-18 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators, Fecal Coliform

Pipe:

SNEP Project: Yes

Urbanized: Yes

Sewered:

4 No Flow Observations

Rating by Weather (0-5):

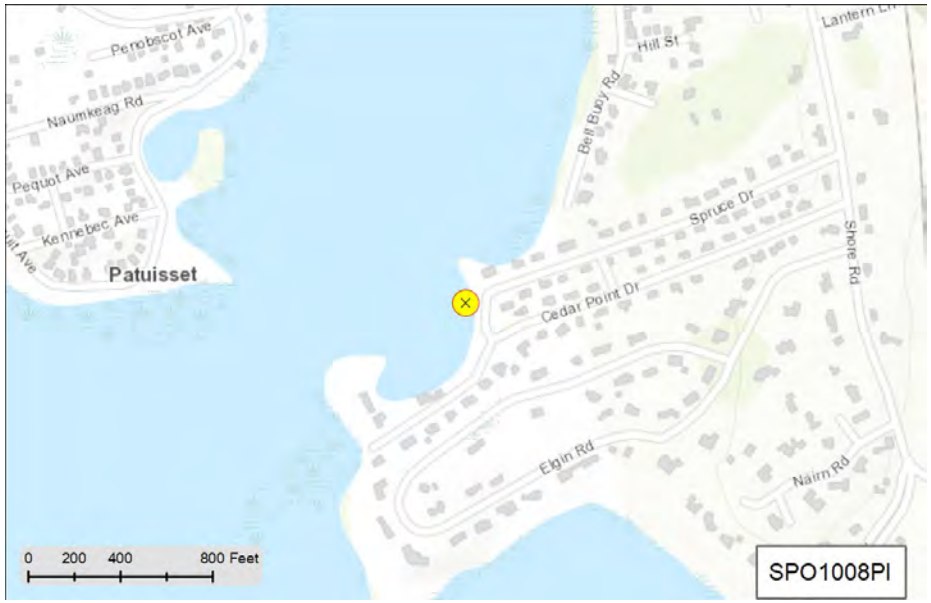
Wet : No Data

Dry : 4

Recommnedation:

MS4 Ranking: High Priority Outfall

Status:



Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BO12NOV01-A	11/12/2020	SPO1008PI	pipe	1.5 hrs	0.42 in	none	8.11	16.5 C	2.33 ppt	0.25 ppm	0 ppb	0.88 ppm	2 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BO12NOV01-A	25000			BRL	BRL	0.14 mg/L							

Stormwater Report for: SPO1010PI
in the Town of Bourne

Report Created on: 8/15/2022

Barlows Landing Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Pocasset Harbor

MA95-17 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Fecal Coliform

Pipe: Circular 12 inch Corrugated Metal

SNEP Project: Yes

Urbanized: Yes

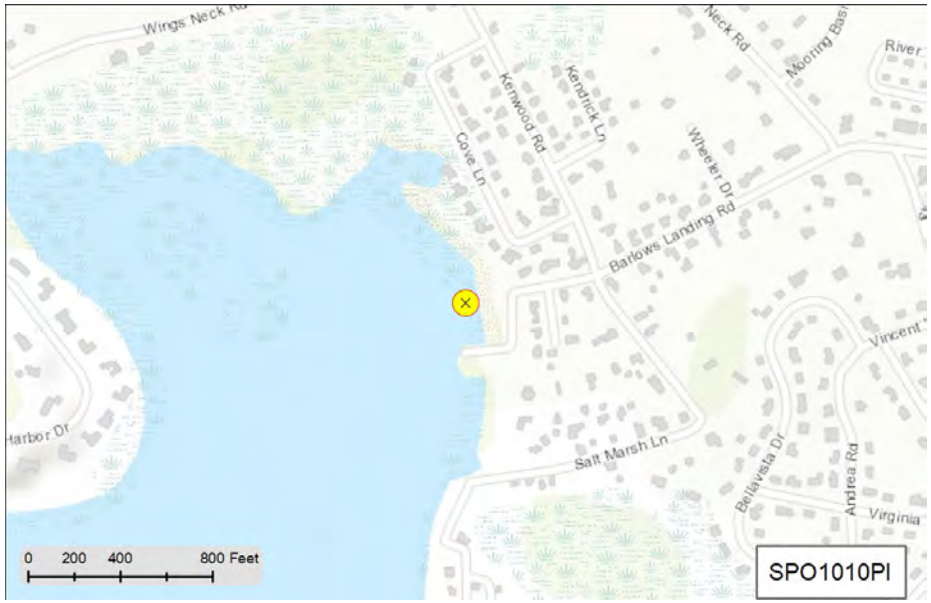
Sewered:

3 No Flow Observations

Rating by Weather (0-5):

Wet : 3

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BN04MAY02-A	5/4/2021	SPO1021CB	surface	0 hrs	0.55 in	none	8.40	15 C	0.03 ppt	0 ppm	0 ppb	0.88 ppm	0.75 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BN04MAY02-A		700											

Stormwater Report for: SPO1013PI
in the Town of Bourne

Red Brook Harbor Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Red Brook Harbor

MA95-18 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators, Fecal Coliform

Pipe: Circular 12 inch Cast Iron

SNEP Project: Yes

Urbanized: Yes

Sewered:

3 No Flow Observations

Rating by Weather (0-5):

Wet : No Data

Dry : 2

Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BO12NOV03-A	11/12/2020	SPO1013PI	pipe	0 hrs	0.43 in	none	6.32	15.4 C	0.01 ppt	0.25 ppm	0 ppb	0.88 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BO12NOV03-A	2000			BRL	0.84 mg/L	0.17 mg/L							

Stormwater Report for: SPO1018RC
in the Town of Bourne

Report Created on: 8/15/2022

Bell Bouy Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Red Brook Harbor

MA95-18 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators, Fecal Coliform

Pipe: Road cut

SNEP Project: No

Urbanized: Yes

Sewered:

0 No Flow Observations

Rating by Weather (0-5):

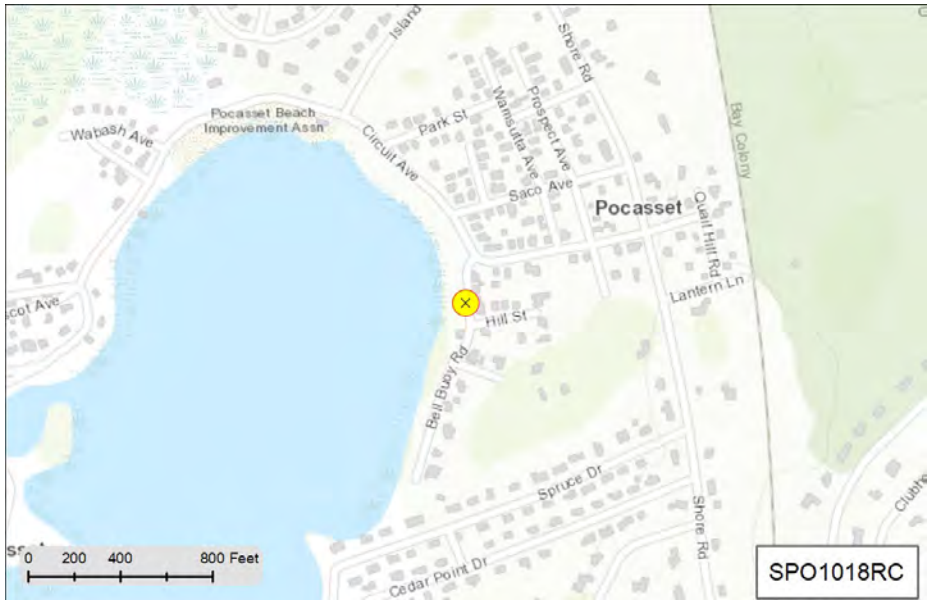
Wet : 2

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: Low Priority Outfall

Status:



Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BO23NOV01-A	11/23/2020	SPO1018RC	surface	0 hrs	0.76 in	none	7.60	18.2 C	0.04 ppt	0 ppm	80 ppb	0 ppm	1 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BO23NOV01-A	4000			1.2 mg/L	BRL	0.13 mg/L							

Stormwater Report for: SPO1019PI
in the Town of Bourne

Circuit Avenue

2016 Massachusetts Integrated Listed Water

Discharge directly to Red Brook Harbor

MA95-18 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators, Fecal Coliform

Pipe: Circular 24 inch HDPE

SNEP Project: No

Urbanized: Yes

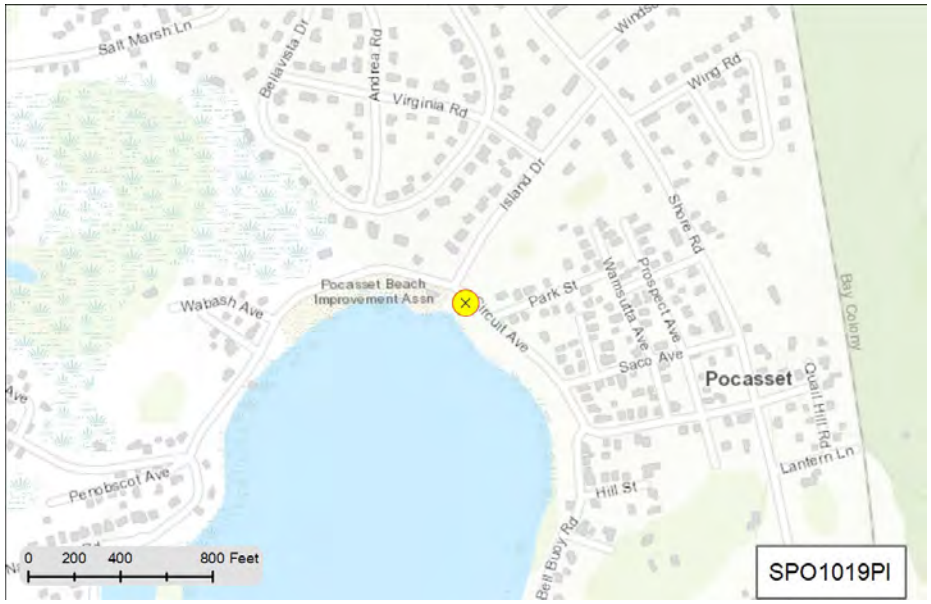
Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : No Data

Dry : 1



Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO15JUL03-A	7/15/2021	SPO1019PI	pipe	80 hrs	0 in	none	6.35	27.1 C	2.55 ppt	0.25 ppm	0 ppb		

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO15JUL03-A	2000												

Stormwater Report for: SPO1021PI
in the Town of Bourne

Report Created on: 8/15/2022

Circuit Avenue

2016 Massachusetts Integrated Listed Water

Discharge directly to Red Brook Harbor

MA95-18 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators, Fecal Coliform

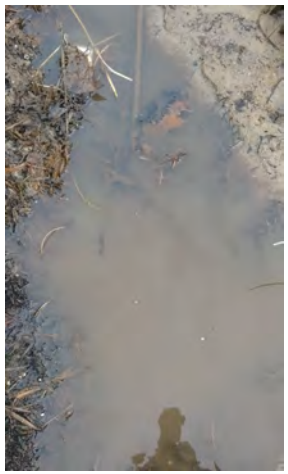
Pipe:

SNEP Project: Yes

Urbanized: Yes

Sewered:

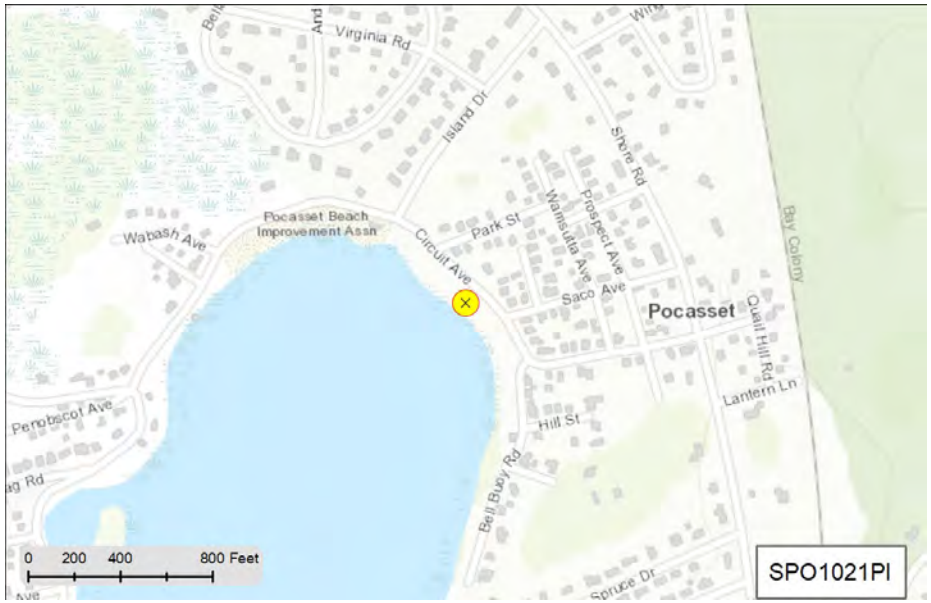
1 No Flow Observations



Rating by Weather (0-5):

Wet : 3

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Stormwater Report for: SPO1021PI

Report Created on: 8/15/2022

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
1BO04MAY02-A	5/4/2021	SPO1021PI	pipe	0 hrs	0.55 in	none	6.85	18.3 C	1.15 ppt	0.25 ppm	45 ppb	0.88 ppm	0.75 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
1BO04MAY02-A		300		BRL		0.94 mg/L	BRL						

Stormwater Report for: SPR1003PI
in the Town of Bourne

Report Created on: 8/15/2022

Shore Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Pocasset River

MA95-16 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 12 inch Concrete

SNEP Project: Yes

Urbanized: Yes

Sewered:

3 No Flow Observations

Rating by Weather (0-5):

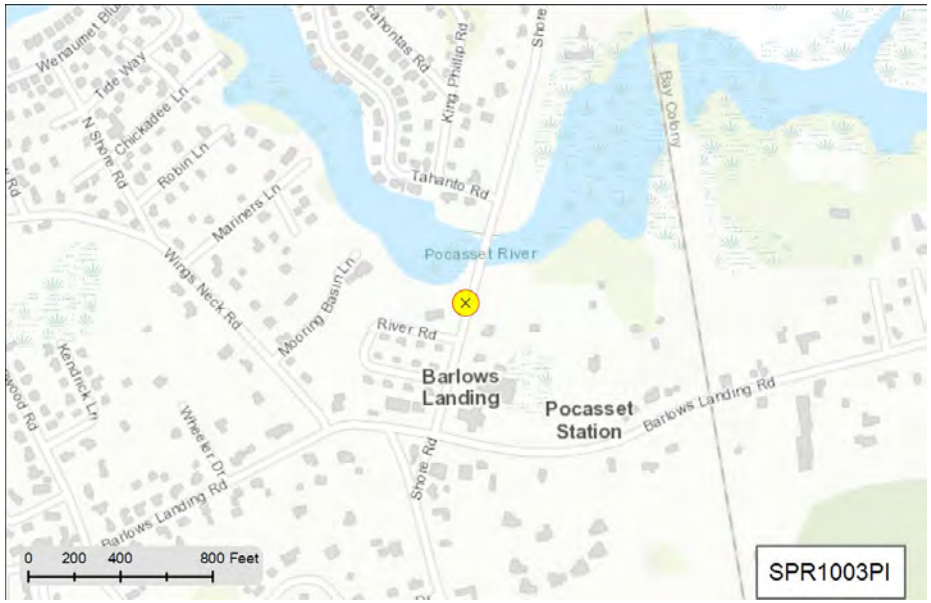
Wet : 3

Dry : 2

Recommnedation:

MS4 Ranking: High Priority Outfall

Status:



Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BO30OCT03-A	10/30/2020	SPR1003PI	pipe	0 hrs	2.34 in	none	7.37	9.6 C	0.03 ppt	0 ppm	65 ppb	0.88 ppm	0.25 ppm
0BO12NOV02-A	11/12/2020	SPR1003PI	pipe	2.5 hrs	0.42 in	none	7.11	16 C	0.08 ppt	0 ppm	8 ppb	4.4 ppm	0 ppm
0BO13NOV02-A	11/13/2020	SPR1003PI	surface	0 hrs	0.65 in	none	7.24	14.1 C	0.06 ppt	0.25 ppm	6 ppb	0 ppm	0.25 ppm
0BO01DEC01-A	12/1/2020	SPR1003PI	pipe	4.5 hrs	1.32 in	none	8.00	16.7 C	0.08 ppt	0.25 ppm	13 ppb		
1BO04MAY01-A	5/4/2021	SPR1003PI	pipe	2.5 hrs	0.54 in	Dead Crabs	8.45	15.5 C	0.05 ppt	0.25 ppm	23 ppb	0.88 ppm	0.25 ppm
1BO04OCT03-A	10/4/2021	SPR1003PI	pipe	0 hrs	1.77 in	none	8.05	17.3 C	0.02 ppt	0.25 ppm	28 ppb	0.88 ppm	0.25 ppm

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BO30OCT03-A	80000												
0BO12NOV02-A	10000												
0BO13NOV02-A	4000												
0BO01DEC01-A	< 1000												
1BO04MAY01-A		200											
1BO04OCT03-A		1000											

Stormwater Report for: SPR1007PI

in the Town of Bourne

Shore Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Pocasset River

MA95-16 | Catagory 4A Estuary

Pollutants: Fecal Coliform

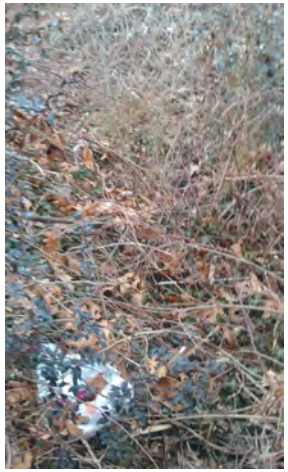
Pipe:

SNEP Project: Yes

Urbanized: Yes

Sewered:

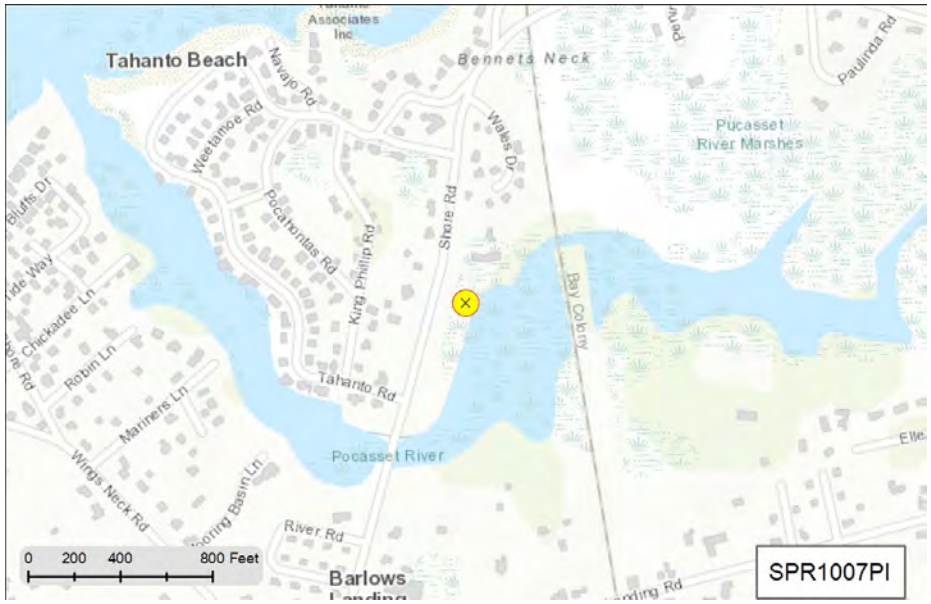
3 No Flow Observations



Rating by Weather (0-5):

Wet : 2

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BO23NOV02-A	11/23/2020	SPR1007PI	pipe	0 hrs	0.82 in	none	6.80	19.5 C	0.02 ppt	0 ppm	40 ppb	0 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BO23NOV02-A	12000												

Stormwater Report for: SPR1018PI
in the Town of Bourne

County Road

2016 Massachusetts Integrated Listed Water

Discharge to tributary of Pocasset River

MA95-16 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 12 inch Concrete

SNEP Project: Yes

Urbanized: Yes

Sewered:

3 No Flow Observations

Rating by Weather (0-5):

Wet : 2

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: Low Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
7BO22SEP01-A	9/22/2017	SPR1018PI	pipe	0 hrs	1.81 in	none	8.01	19.4 C	0.03 ppt	0 ppm		0 ppm	0.25 ppr
0BO30OCT01-A	10/30/2020	SPR1018PI	pipe	0 hrs	2.24 in	none	7.46	12.29 C	0.02 ppt	0.25 ppm	115 ppb	0.88 ppm	0.25 ppr
1BO04OCT01-A	10/4/2021	SPR1018PI	pipe	0 hrs	1.66 in	none	9.40	17.9 C	0.14 ppt	0.25 ppm	8 ppb	0.88 ppm	0 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
7BO22SEP01-A	4500									23 mg/L			
0BO30OCT01-A	10000												
1BO04OCT01-A		7000											

Stormwater Report for: SPR1019PI
in the Town of Bourne

County Road

2016 Massachusetts Integrated Listed Water

Discharge to tributary of Pocasset River

MA95-16 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Circular 18 inch Concrete

SNEP Project: Yes

Urbanized: Yes

Sewered:

3 No Flow Observations

Rating by Weather (0-5):

Wet : 4

Dry : 2

Recommnedation:

MS4 Ranking: Low Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
7BO24JUL01-A	7/24/2017	SPR1019PI	pipe	0 hrs	0.17 in	none	8.74	20.8 C	0.44 ppt	0.25 ppm		3.52 ppm	0.75 ppr
7BO22SEP03-A	9/22/2017	SPR1019PI	pipe	0 hrs	1.8 in	none	7.20	18.7 C	0.02 ppt	0.25 ppm		0 ppm	0.12 ppr
0BO30OCT02-A	10/30/2020	SPR1019PI	pipe	0 hrs	2.27 in	none	7.44	10.3 C	0.02 ppt	0 ppm	5 ppb	0.88 ppm	0.25 ppr
0BO12NOV04-A	11/12/2020	SPR1019PI	pipe	0 hrs	0.47 in	none	6.96	16.4 C	0.06 ppt	0.25 ppm	2 ppb	0.88 ppm	1 ppr
0BO13NOV01-A	11/13/2020	SPR1019PI	pipe	0 hrs	0.63 in	none	7.33	14.7 C	0.07 ppt	0 ppm	22 ppb	0.88 ppm	0.25 ppr
0BO01DEC02-A	12/1/2020	SPR1019PI	pipe	0 hrs	1.32 in	none	7.42	15.1 C	0.06 ppt	0.25 ppm	43 ppb		
1BO04OCT02-A	10/4/2021	SPR1019PI	pipe	0 hrs	1.69 in	none	8.32	17.9 C	0.02 ppt	0.25 ppm	0 ppb	0.88 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
7BO24JUL01-A	28000									100 mg/L			
7BO22SEP03-A	5000									26 mg/L			
0BO30OCT02-A	40000												
0BO12NOV04-A	< 1000												
0BO13NOV01-A	620000												
0BO01DEC02-A	300000												
1BO04OCT02-A		6000											

Stormwater Report for: SPR1022RC
in the Town of Bourne

County Road

2016 Massachusetts Integrated Listed Water

Discharge to tributary of Pocasset River

MA95-16 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Road cut

SNEP Project: No

Urbanized: Yes

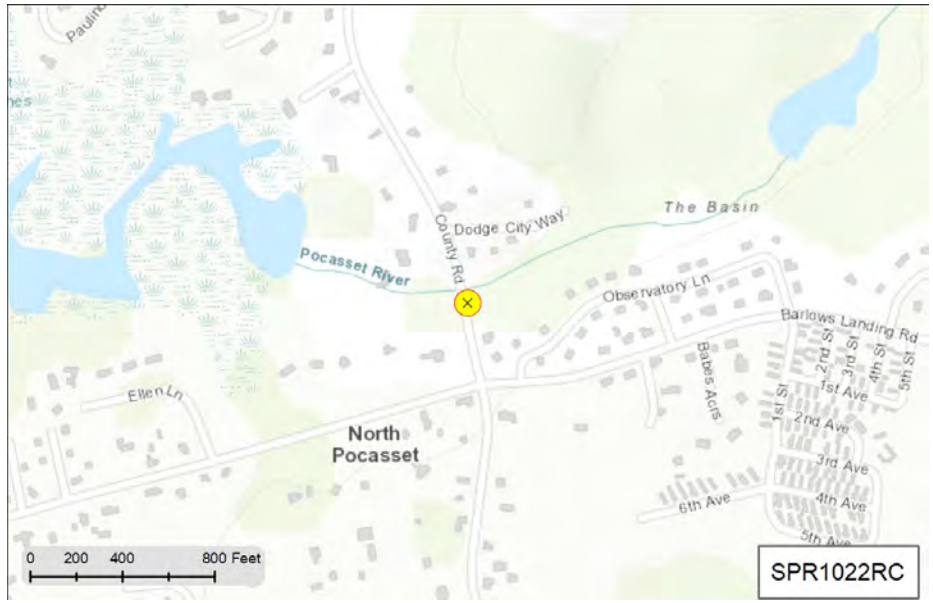
Sewered:

0 No Flow Observations

Rating by Weather (0-5):

Wet : 5

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: Excluded

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
7BO24JUL02-A	7/24/2017	SPR1022RC	surface	0 hrs	0.2 in	none	7.47	19.4 C	0.44 ppt	3 ppm		4.4 ppm	0.5 ppr
7BO22SEP02-A	9/22/2017	SPR1022RC	surface	0 hrs	1.81 in	none	7.60	18.8 C	0.03 ppt	0 ppm		0 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
7BO24JUL02-A	3600												
7BO22SEP02-A	47000									11 mg/L			

Stormwater Report for: SPR1023RC
in the Town of Bourne

Wenaumet Bluffs Drive

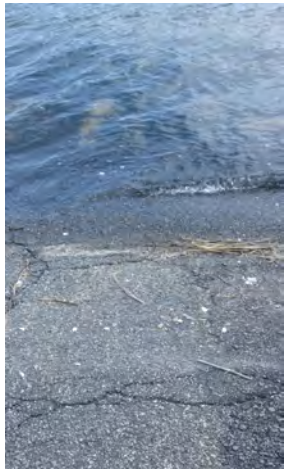
2016 Massachusetts Integrated Listed Water

Discharge directly to Pocasset River

MA95-16 | Catagory 4A Estuary

Pollutants: Fecal Coliform

Pipe: Road cut



SNEP Project: Yes

Urbanized: Yes

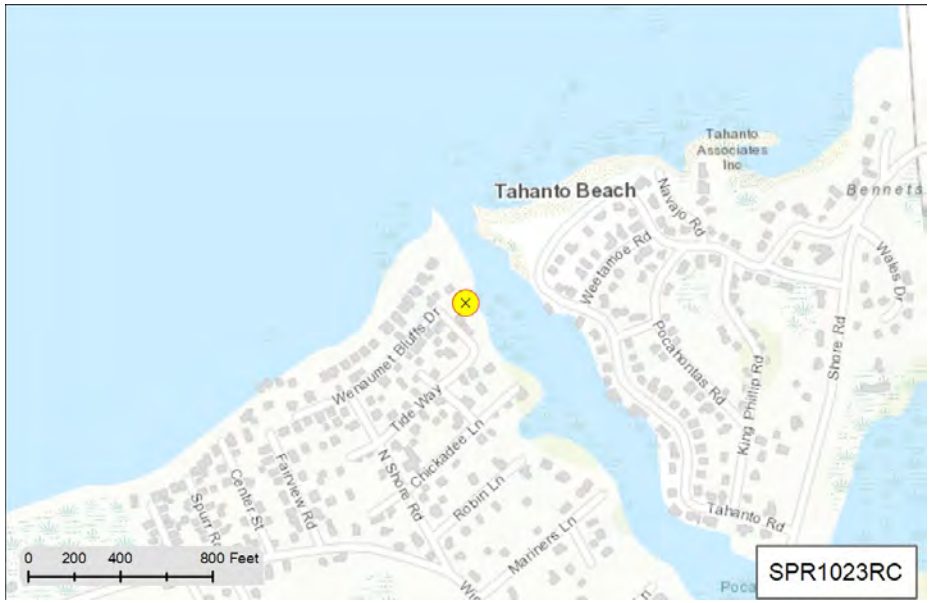
Sewered:

1 No Flow Observations

Rating by Weather (0-5):

Wet : 4

Dry : No Data or No Flow



Recommnedation:

MS4 Ranking: Low Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BO30OCT04-A	10/30/2020	SPR1023RC	surface	0 hrs	2.38 in	none	7.33	9.2 C	0.03 ppt	0 ppm	49 ppb	0.88 ppm	0.25 ppr
0BO12NOV05-A	11/12/2020	SPR1023RC	surface	0 hrs	0.48 in	none	6.99	17.6 C	0.02 ppt	0 ppm	8 ppb	0 ppm	2.5 ppr
0BO13NOV03-A	11/13/2020	SPR1023RC	surface	0 hrs	0.65 in	none	7.00	12.2 C	0.02 ppt	0.25 ppm	32 ppb	0.88 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BO30OCT04-A	150000												
0BO12NOV05-A	19000												
0BO13NOV03-A	10000												

Stormwater Report for: SPO1008PI
in the Town of Bourne

Report Created on: 8/15/2022

Spruce Drive

2016 Massachusetts Integrated Listed Water

Discharge directly to Red Brook Harbor

MA95-18 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators, Fecal Coliform

Pipe:

SNEP Project: Yes

Urbanized: Yes

Sewered:

4 No Flow Observations

Rating by Weather (0-5):

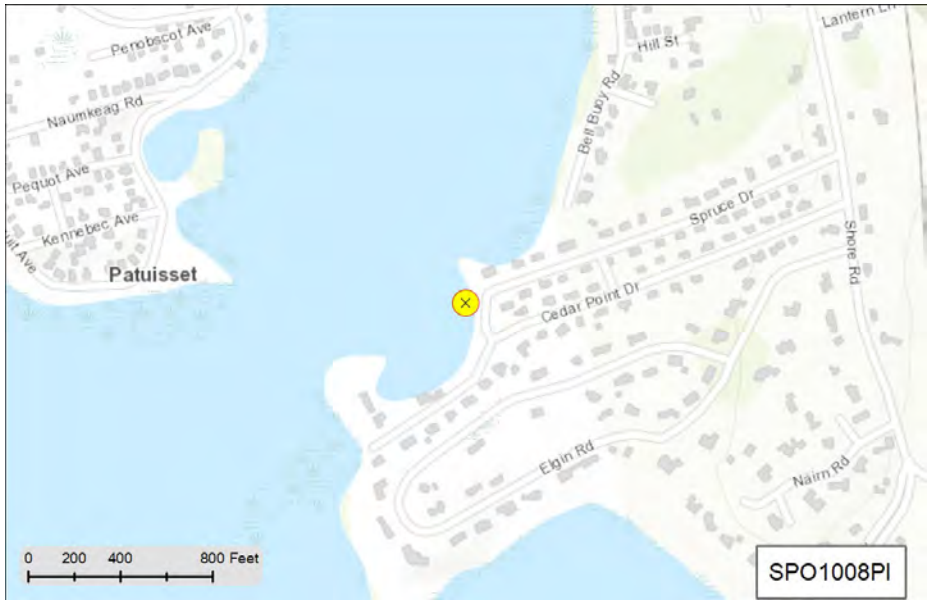
Wet : No Data

Dry : 4

Recommnedation:

MS4 Ranking: High Priority Outfall

Status:



Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BO12NOV01-A	11/12/2020	SPO1008PI	pipe	1.5 hrs	0.42 in	none	8.11	16.5 C	2.33 ppt	0.25 ppm	0 ppb	0.88 ppm	2 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BO12NOV01-A	25000			BRL	BRL	0.14 mg/L							

Stormwater Report for: SPO1013PI
in the Town of Bourne

Red Brook Harbor Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Red Brook Harbor

MA95-18 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators, Fecal Coliform

Pipe: Circular 12 inch Cast Iron

SNEP Project: Yes

Urbanized: Yes

Sewered:

3 No Flow Observations

Rating by Weather (0-5):

Wet : No Data

Dry : 2

Recommnedation:

MS4 Ranking: High Priority Outfall

Status:

Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BO12NOV03-A	11/12/2020	SPO1013PI	pipe	0 hrs	0.43 in	none	6.32	15.4 C	0.01 ppt	0.25 ppm	0 ppb	0.88 ppm	0.25 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BO12NOV03-A	2000			BRL	0.84 mg/L	0.17 mg/L							

Stormwater Report for: SPO1018RC
in the Town of Bourne

Report Created on: 8/15/2022

Bell Bouy Road

2016 Massachusetts Integrated Listed Water

Discharge directly to Red Brook Harbor

MA95-18 | Catagory 5 Estuary

Pollutants: Estuarine Bioassessments, Nutrient/Eutrophication Biological Indicators, Fecal Coliform

Pipe: Road cut

SNEP Project: No

Urbanized: Yes

Sewered:

0 No Flow Observations

Rating by Weather (0-5):

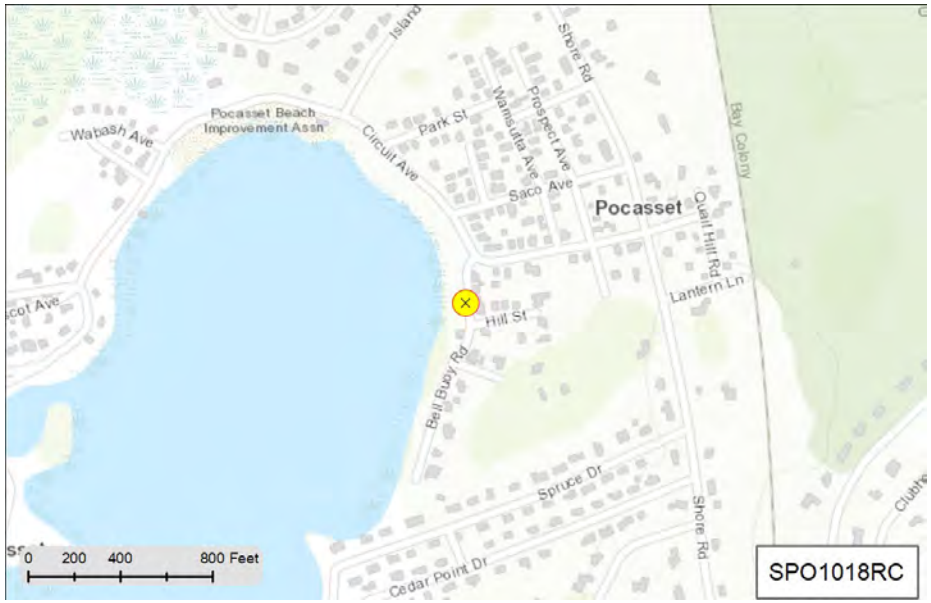
Wet : 2

Dry : No Data or No Flow

Recommnedation:

MS4 Ranking: Low Priority Outfall

Status:



Status and Recommendation based on the opinion of the BBNEP.

Field Results

SampleID	SampleDate	FacilityID	SampleType	Last Rain	48hr Rain	Sensory	pH	Temp.	Salinity	Ammonia	Chlorine	Nitrate	Surfactants
0BO23NOV01-A	11/23/2020	SPO1018RC	surface	0 hrs	0.76 in	none	7.60	18.2 C	0.04 ppt	0 ppm	80 ppb	0 ppm	1 ppr

Certified Laboratory Results

SampleID	Entero.	Fecal C.	E. coli	Kjeldhal N	Ammonia N	Nitrate N	Nitrite N	Total N	Total P	TSS	DO	BOD	HydroCarbo
0BO23NOV01-A	4000			1.2 mg/L	BRL	0.13 mg/L							

APPENDIX B

Nutrient Loading GIS Methodology

ENVIRONMENTAL PARTNERS
— An Apex Company —

NUTRIENT LOADING GIS METHODOLOGY

Introduction

This is an addendum to the Town's Nutrient Source Identification Report. This document explains the methods to produce the information in the report. All actions described were performed using ArcMap 10.6.1 or ArcGIS Pro 2.8.3. This methodology was modified from the *Appendix to Nutrient Source Identification Report: Methods* developed by the Neponset River Watershed Association and Pioneer Valley Planning Commission in consultation with MassDEP and EPA.

The analysis requires 3 existing shapefiles. Information on each of these required shapefiles is provided in Table 1 below.

Table 1. Shapefiles Used in Analysis

Existing Data Set	Origin	Date Published/Updated	Link
2016 Land Cover/Land Use	MassGIS	May 2019	https://docs.digital.mass.gov/dataset/massgis-data-2016- land-coverland-use
Soil Survey Geographic (SSURGO) Database for Norfolk and Suffolk Counties, Massachusetts	USDA	June 2020	Downloaded through Web Soil Survey (https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm).
Town Catchments	Town GIS Files	Current as of September 2021	N/A

Creation of Base Shapefile

To support the analysis, a base shapefile containing pertinent information for land cover, land use, and soil types in the area of interest was created. This was completed by performing a "union" operation with two input shapefiles shown in Table 1 above: the 2016 Land Cover/Land Use shapefile and a shapefile containing the SSURGO soil hydrologic groups. Each record in the resulting shapefile represents areas with specific land cover, land use, and soil types.

Several fields were then added to the resulting shapefile to support later steps of this analysis. Table 2 below lists the added fields and provides a brief description of the data that was added. The complete shapefile is entitled "NSIRBaseShapefile" and is available in the files the Town received upon completion of this project.

Table 2. Summary of Fields Added to "NSIRBaseShapefile"

Added Field	Description
FIRST_PLCR	The phosphorus loading category to which a record was assigned. See Table 1-2 in Attachment 1 of Appendix F of the 2016 Massachusetts Small MS4 General Permit for a full listing of loading categories and rates.
FIRST_NLCR	The nitrogen loading category to which a record was assigned. See Table 1 in Attachment 1 of Appendix H of the 2016 Massachusetts Small MS4 General Permit for a full listing of loading categories and rates
MAX_PLER	The numerical phosphorus loading rate assigned to a record. The value originates from Table 1-2 in Attachment 1 of Appendix F of the 2016 Massachusetts Small MS4 General Permit
MAX_NLER	The numerical nitrogen loading rate assigned to a record. The value originates from Table 1 in Attachment 1 of Appendix H of the 2016 Massachusetts Small MS4 General Permit

MAX_DCIA_M	The multiplier from the applicable Sutherland equation to estimate directly connected impervious area for a record. Note that entry is <Null> for all non-impervious records. For more detailed information about how these values were assigned, see the "DCIA Calculation" section below.
MAX_DCIA_E	The exponent from the applicable Sutherland equation to estimate directly connected impervious area for a record. Note that entry is <Null> for all non-impervious records. For more detailed information about how these values were assigned, see the "DCIA Calculation" section below.

In addition to these fields, other new fields were added as placeholders for later analysis. These fields are entitled "AreaAcre," "ImpAreaAcr," "ImpPercent," "PercentOfC," "DCIAPercen," "DCIAAcre," "PLoadLbYr," and "NLoadLbYr." Values for these fields are all "0" in the "NSIRBaseShapefile" and actual values were calculated later in the process as described in the "Summarized Analysis" section.

Preparation of Final Shapefile

To prepare the Town's parcel shapefile for later analysis, a field titled "ParAreaAcre" was added to the attribute table. The "calculate geometry" function was used to populate this field for each record, measuring the total area of each parcel in acres.

Once the additional field was added, the "Intersect" tool was run with two input datasets: "NSIRBaseShapefile" (described in the last section) and the Town's parcel shapefile. The resulting shapefile was entitled "[TownName]Intersect." The "[TownName]Intersect" shapefile was then clipped to the catchments within the study area and MS4 boundary.

This resulting shapefile limits the information contained in the broader "NSIRBaseShapefile" to what specifically occurs in each of the Town's parcels within the study area, allowing further parcel-level analysis of several criteria.

Summarized Analysis

Operations were then performed on the extra fields that were carried through from "NSIRBaseShapefile" for later analysis. Table 3 below lists the fields, the description of the data they contain, and shows the operations involved in calculating the applicable data. Further details about each calculation can be found in the individual sections below.

Table 3. New Fields Added to "[Town/CityName]Intersect" Shapefile

New Field	Description	Units	Function Used to Calculate	Calculation Method
AreaAcre	The area of a record.	Acres	Calculate Geometry	Calculate the area in acres.
ImpAreaAcr	The area of impervious surfaces occupied by a record.	Acres	Calculate Geometry	Query only records with "Impervious" entry for CoverName, then calculate the area in acres. After removing the query, all non-impervious records will have a "0" listed for this field.
ImpPercent	The amount of impervious area in a record as a percentage of the overall parcel area	Percentage of the total parcel area	Field Calculator	([ImpAreaAcr]/[ParAreaAcr])*100
PercentOfC*	The percentage of the parcel represented by a record.	Percentage of the total parcel area	Field Calculator	([AreaAcre]/[ParAreaAcr])*100
DCIAPercen	An estimate of directly connected impervious area represented by a record	Percentage of the total parcel area.	Field Calculator	([ImpPercent]^[MAX_DCIA_E])*[MAX_DCIA_M]

DCIAAcre	An estimate the amount of directly connected impervious area associated with a record.	Acres	Field Calculator	([DCIAPercen]/100)*[ParAreaAcr]
PLoadLbYr	The estimated phosphorus load from a record	Lbs/Year	Field Calculator	[AreaAcre]*[MAX_PLER]
NLoadLbYr	The estimated nitrogen load from a record	Lbs/Year	Field Calculator	[AreaAcre]*[MAX_NLER]

*PercentOfC was only used as a "check" field and is not described further in this document.

Impervious Calculation

The "[TownName]Intersect" shapefile contains polygons of areas within each parcel with like land cover, land use, and soil type. To begin the analysis for impervious area, the "[TownName]Intersect" attribute table was queried so that only polygons with an entry of "Impervious" for the "CoverName" field were shown. Then, the Calculate Geometry tool was used in the "ImpAreaAcr" field on those queried records to display the area of each impervious polygon in acres. These results were eventually summed for overall parcel totals of impervious area as described in the "Final Preparation of Deliverable Shapefile" section below.

To further illustrate impervious cover statistics and for use in DCIA calculation, the impervious cover in each polygon was also calculated as a percentage of each parcel. For this measurement, the Field Calculator tool was used on the "ImpPercent" field to divide the impervious area of each polygon ("ImpAreaAcr") by the total parcel size ("ParAreaAcr" or "ParAreaA", created when preparing the parcel shapefile). This figure was then multiplied by 100 to obtain a percent.

DCIA Calculation

DCIA estimates were based on the Sutherland equations and an EPA guidance document entitled "Estimating Change in Impervious Area (IA) and Directly Connected Impervious Areas (DCIA) for Massachusetts Small MS4 Permit" (Revised April 2014). Table 4 below shows the relation between various land uses in the watershed, the chosen "connectedness" category, and the associated Sutherland equation used in the DCIA estimate.

Table 4. "Connectedness" Category and Sutherland DCIA Equation for All Land Uses

USEGENNAME	"Connectedness" Category	Sutherland Equation
Agriculture	Mostly Disconnected	DCIA=0.01(IA)2
Commercial	Average	DCIA=0.1(IA)1.5
Forest	Mostly Disconnected	DCIA=0.01(IA)2
Industrial	Average	DCIA=0.1(IA)1.5
Mixed use, other	Average	DCIA=0.1(IA)1.5
Mixed use, primarily commercial	Average	DCIA=0.1(IA)1.5
Mixed use, primarily residential	Average	DCIA=0.1(IA)1.5
Open land	Average	DCIA=0.1(IA)1.5
Recreation	Average	DCIA=0.1(IA)1.5
Residential - multi-family	Highly Connected	DCIA=0.4(IA)1.2
Residential - other	Average	DCIA=0.1(IA)1.5
Residential - single family	Average	DCIA=0.1(IA)1.5
Right-of-way	Average	DCIA=0.1(IA)1.5
Tax exempt	Average	DCIA=0.1(IA)1.5
Unknown	Average	DCIA=0.1(IA)1.5
Water	Average	DCIA=0.1(IA)1.5

NOTE: DCIA and IA are both percentages.

In these equations, the percentage of impervious cover for a given area is used to determine the percentage of DCIA in the same area. Thus, DCIA percent was calculated in the "DCIAPercen" field using Field Calculator. In this calculation, the impervious percentage of the parcel represented by the polygon ("ImpPercent") was raised to the power shown in the appropriate equation (already

entered in the “MAX_DCIA_E” field when preparing the base shapefile) and multiplied by the factor shown (already entered in the “MAX_DCIA_M” field when preparing the base shapefile). Essentially, the Field Calculator equation was “DCIAPercen” = (“ImpPercent” ^ “MAX_DCIA_E”) * “MAX_DCIA_M”. These results were eventually summed for overall parcel totals of impervious area as described in the “Final Preparation of Deliverable Shapefile” section below.

Finally, the estimated acreage of DCIA for each polygon was calculated in the “DCIAAcre” field using Field Calculator. In this calculation, “DCIAPercen” was divided by 100 and multiplied by the overall parcel size (“ParAreaAcr” or “ParAreaA”).

Note that, by default, any records with a “0” in the “ImpPercent” field (such as records with non-impervious land cover) also resulted in an entry of “0” for “DCIAPercen” and “DCIAAcre”, as DCIA only exists where impervious area exists.

Also, please note that, for any catchments located within a watershed with an existing TMDL may use slightly different calculations for DCIA. Thus, the results in the TDML and results from this report may differ somewhat.

Phosphorus Load Calculation

Phosphorus loads were calculated for each record in the “[TownName]Intersect” shapefile by multiplying the area of each polygon (“AreaAcre”) by the phosphorus loading rate assigned to the record’s specific land cover/land use/soil type combination (the “MAX_PLER” field, which was entered during the creation of the base shapefile). The Field Calculator tool was used to complete this calculation in the “PLoadLbYr” field. As the name suggests, the units for the loading estimates are pounds/year. These results are eventually summed for overall parcel totals of impervious area as described in the “Final Preparation of Deliverable Shapefile” section below.

For reference, the phosphorus loading category into which each record is assigned is recorded in the “FIRST_PLCR” field, which stands for Phosphorus Load Crosswalk. The entries in this field correspond to the land uses and phosphorus load export rates shown in Table 1-2 of Attachment 1 to Appendix F of the 2016 Massachusetts Small MS4 General Permit. An abbreviated crosswalk is shown in Table 5 below.

Note that the “CoverName” field was also consulted when assigning phosphorus loading rates. If the polygon was identified as “Impervious,” it was given the loading rates for Directly Connected Impervious for a given land use shown in Table 1-2 of Attachment 1 to Appendix F of the 2016 Massachusetts Small MS4 General Permit. If the polygon was identified as non- impervious, it was given the loading rates for Pervious cover for a given land use shown in the same table. The pervious loading rates often rely on the records’ soil type, so the “HSG_P” field was consulted as necessary when assigning phosphorus loading rates to pervious records.

Also note that in most cases, land use categories were descriptive enough to assign the polygon to a particular phosphorus loading category. However, in the case of some more general land uses (such as “Unknown”), the “CoverName” field was consulted to assign the polygon to an appropriate category.

Table 5. Crosswalk Linking Land Use and Land Cover to the Phosphorus Source Categories

USEGENNAME	Phosphorus Source Category
Agriculture	Agriculture (Ag)
Commercial	Commercial/Industrial (Com-Ind)
Forest	Forest (For)
Industrial	Commercial/Industrial (Com-Ind)
Mixed use, other	Varied based on land cover
Mixed use, primarily commercial	Commercial/Industrial (Com-Ind)
Mixed use, primarily residential	Medium-Density Residential (MDR)
Open land	Varied based on land cover
Recreation	Varied based on land cover
Residential - multi-family	Multi-Family and High-Density Residential (MFR-HDR)
Residential - other	Medium-Density Residential (MDR)
Residential - single family	Medium-Density Residential (MDR)
Right-of-way	Varied based on land cover
Tax exempt	Varied based on land cover
Unknown	Varied based on land cover
Water	Varied based on land cover

Nitrogen Load Calculation

Nitrogen loads were calculated for each record in the "[TownName]Intersect" shapefile by multiplying the area of each polygon ("AreaAcre") by the nitrogen loading rate assigned to the record's specific land cover/land use/soil type combination (the "MAX_NLER" field, which was entered during the creation of the base shapefile). The Field Calculator tool was used to complete this calculation in the "NLoadLbYr" field. As the name suggests, the units for the loading rates are pounds/year. These results are eventually summed for overall parcel totals of impervious area as described in the "Final Preparation of Deliverable Shapefile" section below.

For reference, the nitrogen loading category into which each record is assigned is recorded in the "FIRST_NLCR" field, which stands for Nitrogen Load Crosswalk. The entries in this field correspond to the Nitrogen Source Categories and nitrogen load export rates shown in Table 1 of Attachment 1 to Appendix H of the 2016 Massachusetts Small MS4 General Permit. An abbreviated crosswalk is shown in Table 6 below. Note that this crosswalk only considers the land cover of the record (the "CoverName" field) and, where necessary, the soil type of the record (the "HSG_N" field).

Table 6. Crosswalk Linking Land Cover and Soil Type to the Nitrogen Loading Categories

Land Cover	Soil Type	Nitrogen Source Category
Impervious	All	All Impervious Cover
Non-Impervious	A	Developed Land Pervious (DevPERV)-HSG A
Non-Impervious	B	Developed Land Pervious (DevPERV)-HSG B
Non-Impervious	C	Developed Land Pervious (DevPERV)-HSG C
Non-Impervious	D	Developed Land Pervious (DevPERV)-HSG D
Non-Impervious	A/D	Developed Land Pervious (DevPERV)-HSG A
Non-Impervious	B/D	Developed Land Pervious (DevPERV)-HSG B
Non-Impervious	C/D	Developed Land Pervious (DevPERV)-HSG C/D

APPENDIX C

Detailed Table of Nutrient Loading by Parcels

Little Buttermilk Bay Harbor Catchment Area

Appendix C: Nitrogen Loading Per Parcel
Buttermilk Bay Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
19.3_153.00	M_273490_833683	0.00	Private	18 PURITAN RD	A	Res. - single family	0.00	0.8%	0.00	0%	0.04	22.83
19.3_077.00	M_273262_833566	0.14	Private	29 GARDENIER AVE	A	Res. - single family	0.21	83.5%	0.19	76%	2.93	21.30
23.1_010.01	M_273195_833329	0.19	Private	5 MAIN ST	A	Commercial	0.25	38.3%	0.16	24%	3.84	20.60
19.3_145.00	M_273433_833532	0.08	Private	34 WASHINGTON AVE	A	Res. - single family	0.11	34.4%	0.06	20%	1.56	20.16
23.1_011.00	M_273264_833297	0.14	Private	11 MAIN ST	A	Open land	0.24	59.3%	0.19	46%	2.72	19.56
19.2_079.00	M_274134_834264	0.03	Private	74 PURITAN RD	A	Res. - single family	0.04	7.5%	0.01	2%	0.50	19.35
23.1_002.00	M_273309_833511	0.15	Private	35 LINCOLN AVE	A	Res. - single family	0.20	75.6%	0.17	65%	2.83	19.31
19.3_078.00	M_273253_833584	0.16	Private	27 GARDENIER AVE	A	Res. - single family	0.21	72.9%	0.18	62%	3.05	18.66
23.1_035.00	M_273438_833511	0.01	Private	32 WASHINGTON AVE	A	Res. - single family	0.01	4.8%	0.00	1%	0.21	18.18
19.1_001.00	M_273000_834146	0.10	Private	21 WALLACE POINT RD	A	Res. - single family	0.12	46.3%	0.08	31%	1.78	17.99
19.3_097.00	M_273335_833675	0.12	Private	6 NICK VEDDER RD	A	Res. - single family	0.15	69.8%	0.10	45%	2.15	17.90
19.3_087.00	M_273291_833549	0.13	Private	7 ELECTRIC AVE	A	Res. - single family	0.15	66.7%	0.12	54%	2.16	17.13
23.1_006.00	M_273322_833438	0.13	Private	27 LINCOLN AVE	A	Res. - single family	0.15	62.4%	0.11	49%	2.08	16.08
23.1_010.00	M_273249_833319	0.50	Private	9 MAIN ST	A	Open land	0.71	62.8%	0.40	35%	8.06	16.00
19.3_007.00	M_273022_834050	0.13	Private	1 WALLACE POINT RD	A	Res. - single family	0.14	60.5%	0.11	47%	2.03	15.58
19.1_004.00	M_273041_834161	0.14	Private	27 WALLACE POINT RD	A	Res. - single family	0.13	54.2%	0.08	33%	1.93	14.17
19.3_093.00	M_273327_833613	0.19	Private	38 LINCOLN AVE	A	Res. - single family	0.18	53.7%	0.07	22%	2.57	13.91
19.3_049.00	M_272997_833890	0.14	Private	43 RIP VAN WINKLE WAY	A	Res. - single family	0.13	52.6%	0.09	35%	1.89	13.64
19.3_096.00	M_273354_833689	0.13	Private	4 NICK VEDDER RD	A	Res. - single family	0.13	52.1%	0.09	36%	1.81	13.51
19.3_105.00	M_273300_833745	0.17	Private	8 VAN BUMMEL RD	A	Res. - single family	0.15	51.0%	0.11	36%	2.25	13.30
13.0_018.00	M_272467_835177	0.18	Private	40 BAYHEAD SHORES RD	A	Res. - single family	0.16	49.9%	0.11	35%	2.29	13.01
	M_273009_834065	0.51			A	Res. - single family	0.61	67.2%	0.41	45%	6.56	12.97
23.1_003.00	M_273314_833490	0.19	Private	33 LINCOLN AVE	A	Res. - single family	0.17	50.0%	0.12	33%	2.49	12.96
23.1_022.00	M_273400_833468	0.15	Private	25 WASHINGTON AVE	A	Res. - single family	0.14	45.2%	0.09	30%	2.00	12.95
19.2_092.00	M_274028_834148	0.18	Private	6 ALDERBERRY RD	A	Res. - single family	0.16	49.1%	0.09	29%	2.32	12.83
19.2_103.00	M_273995_834227	0.17	Private	71 PURITAN RD	A	Res. - single family	0.15	48.1%	0.10	33%	2.16	12.65
19.4_081.00	M_273700_833820	0.14	Private	36 PURITAN RD	A	Res. - single family	0.12	25.0%	0.06	12%	1.72	12.63
23.1_017.00	M_273369_833460	0.17	Private	26 LINCOLN AVE	A	Res. - single family	0.15	47.6%	0.10	33%	2.13	12.45
19.3_081.00	M_273256_833613	0.16	Private	18 NICK VEDDER RD	A	Res. - single family	0.14	46.9%	0.09	32%	2.00	12.18
19.2_046.00	M_274055_834488	0.59	Private	21 LEWIS POINT RD	A	Res. - single family	0.49	38.7%	0.31	24%	7.22	12.16
19.3_106.00	M_273285_833734	0.16	Private	6 VAN BUMMEL RD	A	Res. - single family	0.13	46.4%	0.09	31%	1.94	12.14
23.1_004.00	M_273319_833468	0.15	Private	31 LINCOLN AVE	A	Res. - single family	0.12	46.0%	0.08	31%	1.79	11.99

Appendix C: Nitrogen Loading Per Parcel
Buttermilk Bay Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
19.3_069.00	M_273207_833683	0.24	Private	7 RIP VAN WINKLE WAY	A	Res. - single family	0.19	44.8%	0.09	21%	2.78	11.79
19.3_085.00	M_273291_833576	0.14	Private	39 LINCOLN AVE	A	Res. - single family	0.11	44.5%	0.07	28%	1.60	11.71
19.3_035.00	M_273054_833769	0.23	Private	2 BROM DUTCHER RD	A	Res. - single family	0.18	42.6%	0.12	27%	2.73	11.62
23.1_016.00	M_273377_833436	0.28	Private	24 LINCOLN AVE	A	Res. - single family	0.22	44.3%	0.15	29%	3.20	11.56
	M_279231_837215	57.31					59.33	4.2%	4.80	0%	641.79	11.20
14.0_030.00	M_272742_835357	0.20	Private	1 PINE RIDGE RD	A	Res. - single family	0.15	42.4%	0.05	15%	2.18	11.11
19.4_191.00	M_274021_834093	0.19	Private	9 ALDERBERRY RD	A	Res. - single family	0.14	41.2%	0.09	25%	2.07	10.83
19.3_142.00	M_273412_833620	0.25	Private	40 WASHINGTON AVE	A	Res. - single family	0.18	40.7%	0.12	26%	2.66	10.73
19.3_043.00	M_273088_833798	0.17	Private	69 RIP VAN WINKLE WAY	A	Res. - single family	0.12	40.6%	0.07	23%	1.79	10.70
19.3_084.00	M_273287_833592	0.15	Private	41 LINCOLN AVE	A	Res. - single family	0.11	39.9%	0.06	22%	1.56	10.49
19.4_108.00	M_273964_833986	0.22	Private	23 KAYAJAN AVE	A	Res. - single family	0.16	34.2%	0.09	20%	2.34	10.44
19.4_080.00	M_273715_833846	0.27	Private	38 PURITAN RD	A	Res. - single family	0.19	39.0%	0.11	23%	2.80	10.34
13.0_030.00	M_272541_835209	0.56	Private	26 OAKLEY AVE	A	Res. - single family	0.39	38.8%	0.22	22%	5.77	10.32
13.0_005.00	M_272434_835136	0.17	Private	35 BAYHEAD SHORES RD	A	Res. - single family	0.11	38.1%	0.07	23%	1.68	10.05
19.4_074.00	M_273846_834051	0.28	Private	54 PURITAN RD	A	Res. - single family	0.19	37.8%	0.09	18%	2.83	10.04
19.2_081.00	M_274095_834229	0.17	Private	72 PURITAN RD	A	Res. - single family	0.12	36.9%	0.07	22%	1.71	9.96
13.0_019.00	M_272460_835197	0.14	Private	44 BAYHEAD SHORES RD	A	Res. - single family	0.09	37.5%	0.05	21%	1.35	9.89
19.3_052.00	M_273053_833951	0.21	Private	38 RIP VAN WINKLE WAY	A	Res. - single family	0.14	37.4%	0.06	17%	2.04	9.88
19.3_103.00	M_273333_833772	0.25	Private	12 VAN BUMMEL RD	A	Res. - single family	0.17	37.1%	0.08	18%	2.47	9.80
19.4_295.00	M_273784_834048	0.25	Private	53 PURITAN RD	A	Res. - single family	0.16	36.6%	0.10	22%	2.41	9.78
19.3_067.00	M_273176_833724	0.24	Private	11 RIP VAN WINKLE WAY	A	Res. - single family	0.16	36.5%	0.09	21%	2.34	9.71
19.3_068.00	M_273191_833703	0.24	Private	9 RIP VAN WINKLE WAY	A	Res. - single family	0.15	36.2%	0.09	21%	2.29	9.68
19.3_133.00	M_273378_833827	0.31	Private	10 STUDIO DR	A	Open land	0.25	45.9%	0.15	28%	2.94	9.63
19.3_091.00	M_273347_833577	0.23	Private	4 PURITAN RD	A	Res. - single family	0.15	36.2%	0.09	21%	2.18	9.57
19.2_087.00	M_274087_834192	0.16	Private	4 BAYBERRY RD	A	Res. - single family	0.11	31.3%	0.06	17%	1.57	9.52
19.3_174.00	M_273330_833986	0.28	Private	4 WOLF RD	A	Res. - single family	0.18	35.8%	0.11	21%	2.64	9.50
23.1_005.00	M_273323_833452	0.11	Private	29 LINCOLN AVE	A	Res. - single family	0.07	35.9%	0.04	20%	1.01	9.45
19.3_086.00	M_273306_833555	0.14	Private	37 LINCOLN AVE	A	Res. - single family	0.09	34.8%	0.05	19%	1.26	9.22
19.3_038.00	M_273035_833712	0.17	Private	8 BROM DUTCHER RD	A	Res. - single family	0.08	25.0%	0.04	13%	1.57	9.20

Appendix C: Nitrogen Loading Per Parcel
Buttermilk Bay Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
19.3_127.00	M_273292_833949	0.33	Private	19 CROWS NEST DR	A	Res. - single family	0.21	34.6%	0.09	15%	3.06	9.20
19.2_094.00	M_273997_834186	0.20	Private	66 PURITAN RD	A	Res. - single family	0.12	34.3%	0.07	20%	1.80	9.16
19.4_073.00	M_273864_834076	0.27	Private	56 PURITAN RD	A	Res. - single family	0.17	33.9%	0.10	20%	2.49	9.11
19.4_193.00	M_274051_834058	0.03	Private	13 ALDERBERRY RD	A	Res. - single family	0.02	6.5%	0.00	1%	0.30	9.08
19.3_141.00	M_273406_833648	0.21	Private	42 WASHINGTON AVE	A	Res. - single family	0.13	34.1%	0.07	19%	1.87	9.02
19.3_001.00	M_272990_834130	0.13	Private	19 WALLACE POINT RD	A	Res. - single family	0.08	30.0%	0.04	15%	1.18	8.95
19.3_009.00	M_273032_834125	0.09	Private	20 WALLACE POINT RD	A	Res. - single family	0.06	32.9%	0.03	19%	0.83	8.95
23.1_021.00	M_273394_833498	0.28	Private	27 WASHINGTON AVE	A	Res. - single family	0.18	34.8%	0.08	16%	2.50	8.93
23.1_020.00	M_273384_833530	0.17	Private	31 WASHINGTON AVE	A	Res. - single family	0.10	33.2%	0.05	17%	1.50	8.91
19.3_156.00	M_273472_833773	0.32	Private	3 CROWS NEST DR	A	Res. - single family	0.19	33.2%	0.11	19%	2.85	8.87
19.4_076.00	M_273812_834001	0.28	Private	50 PURITAN RD	A	Res. - single family	0.16	32.9%	0.08	17%	2.44	8.86
19.4_070.00	M_273801_834073	0.25	Private	57 PURITAN RD	A	Res. - single family	0.15	33.4%	0.09	19%	2.21	8.85
19.3_164.00	M_273350_833929	0.27	Private	15 CROWS NEST DR	A	Res. - single family	0.16	33.0%	0.09	19%	2.39	8.82
19.3_101.00	M_273345_833723	0.12	Private	5 NICK VEDDER RD	A	Res. - single family	0.07	33.1%	0.03	16%	1.06	8.81
19.2_093.00	M_274012_834167	0.18	Private	4 ALDERBERRY RD	A	Res. - single family	0.11	32.6%	0.06	18%	1.59	8.81
19.2_052.00	M_274170_834387	0.20	Private	95 PURITAN RD	A	Res. - single family	0.12	21.4%	0.05	10%	1.76	8.79
19.3_065.00	M_273148_833775	0.24	Private	78 RIP VAN WINKLE WAY	A	Res. - single family	0.14	32.9%	0.08	19%	2.07	8.78
19.3_042.00	M_273105_833805	0.16	Private	73 RIP VAN WINKLE WAY	A	Res. - single family	0.10	32.5%	0.05	17%	1.43	8.78
19.2_099.00	M_274073_834259	0.16	Private	79 PURITAN RD	A	Res. - single family	0.09	32.6%	0.04	16%	1.39	8.76
19.3_005.00	M_272994_834059	0.12	Private	5 WALLACE POINT RD	A	Res. - single family	0.07	32.6%	0.03	16%	1.05	8.67
14.0_028.00	M_272718_835318	0.23	Private	9 PINE RIDGE RD	A	Res. - single family	0.13	32.1%	0.06	16%	1.96	8.62
19.2_058.00	M_274099_834285	0.20	Private	4 CRANBERRY RD	A	Res. - single family	0.11	32.2%	0.05	14%	1.68	8.57
19.3_044.00	M_273079_833837	0.38	Private	67 RIP VAN WINKLE WAY	A	Res. - single family	0.22	31.9%	0.12	18%	3.23	8.54
19.3_088.00	M_273364_833547	0.34	Private	34 LINCOLN AVE	A	Res. - single family	0.20	32.1%	0.07	12%	2.93	8.54
19.2_090.00	M_274067_834150	0.17	Private	5 BAYBERRY RD	A	Res. - single family	0.10	30.8%	0.05	17%	1.48	8.51
19.3_143.00	M_273433_833598	0.27	Private	38 WASHINGTON AVE	A	Res. - single family	0.15	24.7%	0.08	12%	2.32	8.47
19.2_059.00	M_274079_834308	0.16	Private	2 CRANBERRY RD	A	Res. - single family	0.09	30.8%	0.05	17%	1.33	8.34

Appendix C: Nitrogen Loading Per Parcel
Buttermilk Bay Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
19.3_036.00	M_273044_833750	0.21	Private	4 BROM DUTCHER RD	A	Res. - single family	0.12	27.1%	0.05	11%	1.79	8.34
19.3_076.00	M_273270_833542	0.25	Private	31 GARDENIER AVE	A	Res. - single family	0.14	31.3%	0.06	13%	2.06	8.31
19.3_155.00	M_273490_833737	0.14	Private	1 CROWS NEST DR	A	Res. - single family	0.08	15.4%	0.03	6%	1.19	8.20
23.1_007.00	M_273327_833416	0.31	Private	25 LINCOLN AVE	A	Res. - single family	0.17	30.5%	0.09	17%	2.51	8.18
19.3_092.00	M_273367_833615	0.20	Private	8 PURITAN RD	A	Res. - single family	0.11	30.1%	0.06	16%	1.64	8.14
19.2_104.00	M_273975_834221	0.17	Private	69 PURITAN RD	A	Res. - single family	0.09	29.3%	0.04	15%	1.36	8.06
19.3_079.00	M_273217_833612	0.15	Private	25 GARDENIER AVE	A	Res. - single family	0.08	29.7%	0.04	16%	1.24	8.04
19.3_163.00	M_273372_833912	0.34	Private	13 CROWS NEST DR	A	Res. - single family	0.19	29.9%	0.08	13%	2.76	8.03
19.2_055.00	M_274136_834337	0.18	Private	87 PURITAN RD	A	Res. - single family	0.10	28.0%	0.04	12%	1.45	7.94
19.2_131.00	M_273523_834293	0.47	Private	60 ARLINGTON DR	A	Res. - single family	0.25	29.1%	0.11	13%	3.68	7.89
19.4_005.00	M_273542_833867	0.32	Private	17 CATSKILL RD	A	Res. - single family	0.17	29.0%	0.09	16%	2.52	7.88
14.4_020.00	M_273839_835034	0.67	Private	87 LEWIS POINT RD	A	Res. - single family	0.33	26.9%	0.12	10%	5.29	7.85
13.0_013.00	M_272555_835082	0.20	Private	1 OAKLEY AVE	A	Res. - single family	0.10	29.2%	0.06	16%	1.53	7.82
14.0_011.00	M_272674_835331	0.17	Private	8 PINE RIDGE RD	A	Res. - single family	0.09	28.5%	0.05	15%	1.31	7.82
13.0_029.00	M_272554_835174	0.30	Private	15 RAVINE RD	A	Res. - single family	0.16	28.9%	0.06	11%	2.38	7.81
13.0_006.00	M_272442_835114	0.18	Private	33 BAYHEAD SHORES RD	A	Res. - single family	0.10	28.9%	0.05	15%	1.43	7.81
19.3_107.00	M_273270_833724	0.17	Private	4 VAN BUMMEL RD	A	Res. - single family	0.09	28.5%	0.05	15%	1.33	7.78
19.4_091.00	M_273859_834006	0.28	Private	19 QUEENS BAY LN	A	Res. - single family	0.15	29.0%	0.08	16%	2.18	7.77
13.0_007.00	M_272451_835093	0.19	Private	27 BAYHEAD SHORES RD	A	Res. - single family	0.10	28.9%	0.05	16%	1.51	7.76
19.2_101.00	M_274033_834244	0.19	Private	75 PURITAN RD	A	Res. - single family	0.10	28.1%	0.04	12%	1.49	7.72
13.0_020.00	M_272453_835219	0.21	Private	48 BAYHEAD SHORES RD	A	Res. - single family	0.11	28.6%	0.05	13%	1.57	7.66
19.4_092.00	M_273877_834031	0.27	Private	21 QUEENS BAY LN	A	Res. - single family	0.14	28.6%	0.07	15%	2.06	7.65
19.3_095.00	M_273357_833663	0.19	Private	7 PURITAN RD	A	Res. - single family	0.10	27.8%	0.05	15%	1.47	7.64
19.3_157.00	M_273445_833761	0.32	Private	6 CATSKILL RD	A	Res. - single family	0.16	27.8%	0.07	13%	2.42	7.62
19.3_129.00	M_273313_833905	0.30	Private	20 STUDIO DR	A	Res. - single family	0.15	28.1%	0.05	10%	2.27	7.58
19.3_104.00	M_273315_833757	0.17	Private	10 VAN BUMMEL RD	A	Res. - single family	0.08	27.3%	0.04	14%	1.25	7.56
19.3_110.00	M_273226_833739	0.16	Private	12 RIP VAN WINKLE WAY	A	Res. - single family	0.08	27.7%	0.04	14%	1.21	7.47
19.4_075.00	M_273829_834026	0.28	Private	52 PURITAN RD	A	Res. - single family	0.14	27.7%	0.07	15%	2.09	7.47
19.4_009.00	M_273511_833793	0.30	Private	4 CROWS NEST DR	A	Res. - single family	0.14	26.9%	0.07	14%	2.22	7.44
19.3_032.00	M_273035_833813	0.19	Private	64 RIP VAN WINKLE WAY	A	Res. - single family	0.09	27.7%	0.04	12%	1.37	7.40
14.4_022.00	M_273826_835096	0.56	Private	95 LEWIS POINT RD	A	Res. - single family	0.23	23.1%	0.10	10%	4.12	7.38
13.0_021.00	M_272452_835260	0.22	Private	56 BAYHEAD SHORES RD	A	Res. - single family	0.11	26.9%	0.04	11%	1.60	7.38

Appendix C: Nitrogen Loading Per Parcel
Buttermilk Bay Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
19.2_116.00	M_273741_834403	0.29	Private	22 QUAMHASSET RD	A	Res. - single family	0.14	23.0%	0.07	11%	2.17	7.37
13.0_008.00	M_272463_835073	0.19	Private	23 BAYHEAD SHORES RD	A	Res. - single family	0.09	26.9%	0.05	13%	1.43	7.37
19.4_095.00	M_273946_834048	0.23	Private	9 COLONIAL RD	A	Res. - single family	0.11	27.4%	0.05	13%	1.67	7.36
19.3_166.00	M_273488_833843	0.30	Private	6 CROWS NEST DR	A	Res. - single family	0.15	27.2%	0.08	14%	2.18	7.33
19.2_130.00	M_273545_834329	0.95	Private	54 ARLINGTON DR	A	Res. - single family	0.46	26.5%	0.19	11%	6.91	7.28
19.4_072.00	M_273884_834106	0.38	Private	1 COLONIAL RD	A	Res. - single family	0.18	26.8%	0.06	9%	2.78	7.27
19.4_064.00	M_273698_833922	0.31	Private	41 PURITAN RD	A	Res. - single family	0.15	26.9%	0.08	14%	2.27	7.26
14.0_016.00	M_272632_835203	0.39	Private	34 PINE RIDGE RD	A	Res. - single family	0.18	26.1%	0.09	13%	2.80	7.22
19.3_003.00	M_272967_834093	0.20	Private	11 WALLACE POINT RD	A	Res. - single family	0.09	25.0%	0.04	12%	1.41	7.21
19.3_162.00	M_273389_833892	0.34	Private	11 CROWS NEST DR	A	Res. - single family	0.16	26.6%	0.07	11%	2.46	7.18
19.4_069.00	M_273767_834025	0.24	Private	49 PURITAN RD	A	Res. - single family	0.11	26.1%	0.06	13%	1.72	7.11
19.3_062.00	M_273115_833850	0.32	Private	25 RIP VAN WINKLE WAY	A	Res. - single family	0.15	25.7%	0.07	12%	2.31	7.11
19.2_098.00	M_274055_834281	0.16	Private	1 CRANBERRY RD	A	Res. - single family	0.07	25.4%	0.04	13%	1.16	7.09
19.3_132.00	M_273361_833847	0.31	Private	12 STUDIO DR	A	Res. - single family	0.14	26.0%	0.07	13%	2.17	7.09
19.3_125.00	M_273242_833764	0.17	Private	5 VAN BUMMEL RD	A	Res. - single family	0.08	25.8%	0.04	13%	1.17	7.07
19.4_192.00	M_274036_834075	0.18	Private	11 ALDERBERRY RD	A	Res. - single family	0.08	25.9%	0.04	12%	1.25	7.07
19.3_135.00	M_273403_833802	0.28	Private	3 CATSKILL RD	A	Res. - single family	0.13	25.9%	0.07	13%	1.97	7.05
19.2_113.00	M_273826_834382	0.39	Private	18 QUAMHASSET RD	A	Res. - single family	0.18	22.3%	0.06	7%	2.76	7.05
19.3_108.00	M_273243_833715	0.15	Private	10 RIP VAN WINKLE WAY	A	Res. - single family	0.07	26.1%	0.04	13%	1.08	7.02
19.3_028.00	M_272947_833870	0.21	Private	54 RIP VAN WINKLE WAY	A	Res. - single family	0.10	24.3%	0.05	11%	1.46	7.01
19.4_296.00	M_273577_834000	0.60	Private	7 SHAMROCK LN	A	Res. - single family	0.28	25.6%	0.14	13%	4.19	6.99
19.2_043.00	M_273951_834658	7.14	Private	27 LEWIS POINT RD	A	Commercial	2.76	21.1%	1.09	8%	49.83	6.98
19.3_140.00	M_273436_833659	0.25	Private	10 PURITAN RD	A	Res. - single family	0.11	24.9%	0.05	10%	1.73	6.93
19.2_096.00	M_273963_834157	0.40	Private	62 PURITAN RD	A	Res. - single family	0.18	25.1%	0.09	13%	2.74	6.93

* Only Parcels with nitrogen loads greater than 6.90 lb/yr/acre are shown on this table

APPENDIX C

Detailed Table of Nutrient Loading by Parcels

Buttermilk Bay Harbor Catchment Area

Appendix C: Nitrogen Loading Per Parcel
Little Buttermilk Bay Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
15.3_013.00	M_274442_834757	0.18	Private	2 FABYAN WAY	A	Res. - single family	0.16	31.2%	0.09	17%	2.32	12.72
20.1_026.00	M_274525_834457	0.02	Private	152 PURITAN RD	A	Res. - single family	0.01	1.9%	0.00	0%	0.20	12.32
15.3_016.00	M_274537_834814	0.26	Private	22 LITTLE BAY LN	A	Res. - single family	0.21	45.6%	0.14	31%	3.05	11.90
14.4_010.00	M_273948_834923	0.54	Private	72 LEWIS POINT RD	A	Res. - single family	0.43	43.7%	0.28	29%	6.22	11.46
20.1_031.00	M_274740_834589	0.07	Private	185 PURITAN RD	A	Res. - single family	0.06	41.4%	0.04	27%	0.82	10.94
19.2_008.00	M_274345_834460	0.16	Private	120 PURITAN RD	A	Res. - single family	0.12	17.9%	0.05	8%	1.71	10.54
19.2_022.00	M_274358_834516	0.25	Private	129 PURITAN RD	A	Res. - single family	0.17	37.5%	0.10	23%	2.47	9.90
15.3_025.00	M_274539_834775	0.28	Private	3 COTE CIR	A	Res. - single family	0.19	36.8%	0.09	17%	2.76	9.87
15.3_015.00	M_274513_834795	0.25	Private	18 LITTLE BAY LN	A	Res. - single family	0.17	36.5%	0.10	21%	2.46	9.67
20.1_018.00	M_274439_834476	0.12	Private	140 PURITAN RD	A	Res. - single family	0.08	20.8%	0.04	9%	1.18	9.46
15.3_004.00	M_274587_834936	0.37	Private	35 LITTLE BAY LN	A	Res. - single family	0.23	25.0%	0.12	13%	3.42	9.25
15.3_020.00	M_274636_834856	0.24	Private	4 VENN LN	A	Res. - single family	0.15	33.7%	0.08	20%	2.19	9.07
20.1_015.00	M_274485_834527	0.26	Private	147 PURITAN RD	A	Res. - single family	0.16	34.0%	0.08	17%	2.36	9.04
20.1_001.00	M_274484_834727	0.32	Private	2 COTE CIR	A	Res. - single family	0.18	31.7%	0.10	18%	2.75	8.51
15.3_012.00	M_274426_834780	0.24	Private	4 FABYAN WAY	A	Res. - single family	0.13	31.4%	0.07	17%	1.98	8.42
15.3_014.00	M_274492_834774	0.27	Private	14 LITTLE BAY LN	A	Res. - single family	0.15	30.8%	0.08	17%	2.26	8.22
20.1_006.00	M_274510_834605	0.31	Private	4 LITTLE BAY LN	A	Res. - single family	0.17	30.7%	0.08	15%	2.54	8.21
19.2_025.00	M_274281_834505	0.28	Private	115 PURITAN RD	A	Res. - single family	0.15	30.3%	0.08	16%	2.26	8.14
14.4_008.00	M_274052_835056	0.49	Private	21 NYE LN	A	Res. - single family	0.27	30.2%	0.11	12%	3.95	8.05
20.1_005.00	M_274506_834640	0.27	Private	6 LITTLE BAY LN	A	Res. - single family	0.14	29.2%	0.07	15%	2.18	7.96
20.1_074.00	M_274734_834612	0.18	Private	187 PURITAN RD	A	Res. - single family	0.10	29.4%	0.04	12%	1.44	7.86
19.2_007.00	M_274377_834463	0.13	Private	128 PURITAN RD	A	Res. - single family	0.07	12.1%	0.02	4%	0.99	7.78
15.3_024.00	M_274566_834796	0.25	Private	4 VICKI CIR	A	Res. - single family	0.13	28.0%	0.07	15%	1.93	7.68
20.1_016.00	M_274460_834526	0.26	Private	143 PURITAN RD	A	Res. - single family	0.13	28.3%	0.06	13%	1.94	7.58
20.1_004.00	M_274503_834679	0.67	Private	8 LITTLE BAY LN	A	Res. - single family	0.33	26.9%	0.10	9%	4.97	7.37
15.3_018.00	M_274594_834860	0.27	Private	28 LITTLE BAY LN	A	Res. - single family	0.13	26.5%	0.06	12%	1.99	7.37
15.3_008.00	M_274514_834869	0.08	Private	25 LITTLE BAY LN	A	Res. - single family	0.04	4.1%	0.01	1%	0.57	7.24
14.4_005.00	M_274343_834782	0.42	Private	9 FABYAN WAY	A	Res. - single family	0.20	15.5%	0.08	6%	2.98	7.03
15.3_006.00	M_274567_834912	0.22	Private	33 LITTLE BAY LN	A	Res. - single family	0.10	15.5%	0.03	5%	1.53	6.94
19.2_028.00	M_274212_834462	0.27	Private	105 PURITAN RD	A	Res. - single family	0.12	25.1%	0.05	10%	1.86	6.91
20.1_009.00	M_274427_834666	0.37	Private	9 LITTLE BAY LN	A	Res. - single family	0.17	19.5%	0.07	9%	2.58	6.91
19.2_005.00	M_274411_834519	0.24	Private	135 PURITAN RD	A	Res. - single family	0.11	25.0%	0.04	9%	1.67	6.81
15.3_007.00	M_274544_834891	0.21	Private	31 LITTLE BAY LN	A	Res. - single family	0.09	10.6%	0.03	3%	1.40	6.81
19.2_001.00	M_274389_834729	0.26	Private	3 FABYAN WAY	A	Res. - single family	0.11	16.5%	0.04	6%	1.73	6.68
20.1_012.00	M_274439_834563	0.37	Private	5 SNOW CIR	A	Res. - single family	0.16	24.6%	0.06	9%	2.47	6.65
19.2_021.00	M_274386_834517	0.29	Private	133 PURITAN RD	A	Res. - single family	0.13	24.5%	0.05	9%	1.94	6.64
15.3_003.00	M_274611_834967	0.43	Private	37 LITTLE BAY LN	A	Res. - single family	0.18	19.8%	0.08	8%	2.77	6.49
19.2_006.00	M_274407_834467	0.09	Private	132 PURITAN RD	A	Res. - single family	0.04	9.4%	0.01	3%	0.58	6.35
19.2_034.00	M_274132_834542	0.49	Private	14 LEWIS POINT RD	A	Res. - single family	0.20	22.7%	0.10	11%	3.10	6.31
19.2_026.00	M_274255_834495	0.26	Private	111 PURITAN RD	A	Res. - single family	0.10	22.3%	0.05	10%	1.64	6.27
20.1_032.00	M_274755_834621	0.43	Private	189 PURITAN RD	A	Res. - single family	0.18	22.6%	0.06	7%	2.69	6.25

Appendix C: Nitrogen Loading Per Parcel
Little Buttermilk Bay Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
20.1_017.00	M_274435_834523	0.26	Private	141 PURITAN RD	A	Res. - single family	0.10	22.7%	0.04	9%	1.58	6.19
19.2_009.00	M_274311_834464	0.17	Private	118 PURITAN RD	A	Res. - single family	0.07	14.7%	0.02	6%	1.04	6.17
20.1_013.00	M_274478_834567	0.41	Private	3 LITTLE BAY LN	A	Res. - single family	0.16	21.6%	0.07	10%	2.48	6.00
14.4_006.00	M_273947_835002	1.34	Private	82 LEWIS POINT RD	A	Res. - single family	0.50	20.9%	0.13	6%	7.87	5.87
19.2_139.00	M_274373_834750	0.27	Private	5 FABYAN WAY	A	Res. - single family	0.09	15.1%	0.04	6%	1.48	5.60
14.4_009.00	M_274022_835005	0.54	Private	15 NYE LN	A	Res. - single family	0.19	19.7%	0.08	9%	3.01	5.53
15.3_001.00	M_274638_834994	0.60	Private	41 LITTLE BAY LN	A	Res. - single family	0.20	16.0%	0.08	6%	3.14	5.25
14.4_039.00	M_274098_835096	0.36	Private	24 NYE LN	A	Res. - single family	0.11	16.6%	0.05	7%	1.86	5.22
15.0_012.00	M_274858_834992	0.59	Private	225 HEAD OF THE BAY RD	A	Res. - single family	0.19	17.8%	0.08	8%	3.06	5.19
14.0_047.03	M_273803_835490	0.62	Private	625 HEAD OF THE BAY RD	A	Res. - single family	0.20	17.7%	0.08	7%	3.20	5.16
15.0_013.00	M_274842_834953	0.30	Private	215 HEAD OF THE BAY RD	A	Res. - single family	0.09	17.8%	0.03	6%	1.52	5.15
20.1_011.00	M_274451_834617	0.36	Private	2 SNOW CIR	A	Res. - single family	0.11	17.8%	0.05	8%	1.83	5.12
15.0_014.00	M_274815_834914	0.49	Private	201 HEAD OF THE BAY RD	A	Res. - single family	0.16	18.0%	0.05	6%	2.48	5.07
20.1_034.00	M_274786_834629	0.32	Private	75 HEAD OF THE BAY RD	A	Res. - single family	0.10	17.8%	0.03	6%	1.61	4.99
20.1_007.00	M_274411_834697	0.56	Private	11 LITTLE BAY LN	A	Res. - single family	0.17	11.2%	0.06	4%	2.75	4.94
14.4_046.00	M_274016_834905	0.42	Private	10 NYE LN	A	Res. - single family	0.13	16.6%	0.04	5%	2.09	4.94
20.1_029.00	M_274653_834548	0.82	Private	171 PURITAN RD	A	Res. - single family	0.24	15.5%	0.09	6%	4.00	4.88
19.2_060.00	M_274242_834403	0.01	Private	100 PURITAN RD	A	Res. - single family	0.00	0.2%	0.00	0%	0.02	4.83
14.4_031.00	M_274007_835113	0.53	Private	50 NYE LN	A	Res. - single family	0.15	15.6%	0.04	4%	2.55	4.82
20.1_014.00	M_274513_834521	0.33	Private	151 PURITAN RD	A	Res. - single family	0.10	16.7%	0.03	5%	1.59	4.76
15.0_008.00	M_274852_835147	0.32	Private	271 HEAD OF THE BAY RD	A	Res. - single family	0.09	16.3%	0.04	7%	1.51	4.69
15.3_019.00	M_274619_834882	0.29	Private	30 LITTLE BAY LN	A	Res. - single family	0.08	15.6%	0.03	6%	1.36	4.67
14.4_010.01	M_273981_834957	0.53	Private	9 NYE LN	A	Res. - single family	0.15	16.0%	0.06	6%	2.44	4.62
19.2_024.00	M_274301_834533	0.53	Private	119 PURITAN RD	A	Res. - single family	0.15	15.5%	0.05	5%	2.41	4.57
14.4_030.00	M_273979_835103	0.73	Private	52 NYE LN	A	Res. - single family	0.20	14.4%	0.07	5%	3.31	4.54
14.4_034.00	M_274053_835239	0.70	Private	40 NYE LN	A	Res. - single family	0.17	10.8%	0.06	4%	3.14	4.48
14.0_040.02	M_274046_835610	1.33	Private	0 HEAD OF THE BAY RD			0.01	0.3%	0.00	0%	5.91	4.45
14.4_032.00	M_274028_835141	0.57	Private	44 NYE LN	A	Res. - single family	0.15	13.1%	0.05	5%	2.49	4.34
15.0_030.00	M_274884_835362	0.24	Private	314 HEAD OF THE BAY RD	A	Res. - single family	0.06	10.9%	0.02	4%	1.05	4.31
19.2_029.00	M_274197_834434	0.34	Private	103 PURITAN RD	A	Res. - single family	0.09	14.9%	0.03	6%	1.44	4.28
15.3_022.00	M_274620_834823	0.39	Private	3 VICKI CIR	A	Res. - single family	0.10	13.9%	0.03	5%	1.63	4.22
19.2_020.00	M_274261_834444	0.27	Private	108 PURITAN RD	A	Res. - single family	0.07	10.5%	0.02	3%	1.14	4.20
15.3_026.00	M_274554_834746	0.37	Private	7 COTE CIR	A	Res. - single family	0.09	13.5%	0.03	5%	1.55	4.19

Appendix C: Nitrogen Loading Per Parcel
Little Buttermilk Bay Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
15.0_001.01	M_274935_835847	0.08	Private	400 HEAD OF THE BAY RD	A	Res. - other	0.02	0.0%	0.00	0%	0.34	4.17
14.4_003.00	M_274406_834824	0.74	Private	6 FABYAN WAY	A	Res. - single family	0.18	12.4%	0.06	4%	3.04	4.09
14.0_044.00	M_273923_835531	0.74	Private	611 HEAD OF THE BAY RD	A	Res. - single family	0.17	12.6%	0.05	4%	2.99	4.06
15.0_231.00	M_274419_835440	1.91	Private	33 OLD HEAD OF THE BAY RD	A	Res. - single family	0.45	7.9%	0.11	2%	7.73	4.05
15.0_016.00	M_274755_834805	0.38	Private	181 HEAD OF THE BAY RD	A	Res. - single family	0.09	12.9%	0.02	4%	1.55	4.05
19.2_027.00	M_274229_834484	0.28	Private	107 PURITAN RD	A	Res. - single family	0.07	12.9%	0.02	3%	1.14	4.02
19.2_031.00	M_274199_834545	0.64	Private	5 LEWIS POINT WAY	A	Res. - single family	0.14	12.3%	0.05	4%	2.53	3.95
15.3_023.00	M_274594_834781	0.38	Private	5 VICKI CIR	A	Res. - single family	0.09	13.3%	0.03	5%	1.51	3.94
20.1_010.00	M_274432_834642	0.48	Private	7 LITTLE BAY LN	A	Res. - single family	0.11	11.1%	0.04	4%	1.87	3.90
14.4_036.00	M_274120_835199	0.57	Private	36 NYE LN	A	Res. - single family	0.13	12.4%	0.03	3%	2.15	3.80
19.2_040.00	M_274073_834734	0.61	Private	42 LEWIS POINT RD	A	Res. - single family	0.13	11.5%	0.04	4%	2.27	3.71
14.4_043.00	M_274099_834998	0.65	Private	18 NYE LN	A	Res. - single family	0.14	10.5%	0.04	3%	2.39	3.70
19.2_035.00	M_274113_834569	0.43	Private	20 LEWIS POINT RD	A	Res. - single family	0.09	11.9%	0.03	4%	1.58	3.67
14.4_044.00	M_274071_834956	0.94	Private	14 NYE LN	A	Res. - single family	0.19	10.0%	0.06	3%	3.42	3.66
14.4_007.00	M_274006_835036	0.48	Private	51 NYE LN	A	Res. - single family	0.10	11.2%	0.03	4%	1.73	3.57
15.0_011.00	M_274874_835044	0.74	Private	235 HEAD OF THE BAY RD	A	Res. - single family	0.16	11.8%	0.05	3%	2.64	3.56
15.0_003.01	M_274705_835688	1.18	Private	1 OLD HEAD OF THE BAY RD	A	Res. - single family	0.24	11.1%	0.07	3%	4.20	3.55
14.4_038.00	M_274142_835130	0.80	Private	30 NYE LN	A	Res. - single family	0.16	7.9%	0.03	2%	2.80	3.52
15.0_009.00	M_274865_835102	0.81	Private	263 HEAD OF THE BAY RD	A	Res. - single family	0.16	11.2%	0.04	3%	2.72	3.37
19.2_032.00	M_274168_834530	0.64	Private	3 LEWIS POINT WAY	A	Res. - single family	0.12	10.4%	0.03	3%	2.15	3.34
15.0_007.00	M_274799_835272	1.91	Private	295 HEAD OF THE BAY RD	A	Res. - single family	0.36	10.3%	0.06	2%	6.15	3.21
19.2_023.00	M_274326_834540	0.54	Private	125 PURITAN RD	A	Res. - single family	0.10	10.1%	0.03	3%	1.73	3.18
15.0_004.00	M_274812_835378	1.34	Private	321 HEAD OF THE BAY RD	A	Res. - single family	0.23	9.5%	0.05	2%	4.03	3.01
15.0_027.00	M_274907_835194	0.43	Private	270 HEAD OF THE BAY RD	A	Res. - single family	0.07	4.2%	0.01	1%	1.28	2.97
14.0_046.00	M_273849_835500	1.12	Private	623 HEAD OF THE BAY RD	A	Res. - single family	0.18	8.6%	0.05	2%	3.33	2.96
19.2_039.00	M_274106_834696	0.71	Private	40 LEWIS POINT RD	A	Res. - single family	0.11	8.4%	0.03	2%	2.09	2.96
14.4_045.00	M_274036_834926	0.45	Private	12 NYE LN	A	Res. - single family	0.06	7.5%	0.01	2%	1.27	2.80
15.0_003.00	M_274758_835641	2.71	Private	5 OLD HEAD OF THE BAY RD	A	Res. - single family	0.35	7.2%	0.06	1%	7.60	2.80
19.2_004.00	M_274357_834560	0.61	Private	7 SNOW CIR	A	Res. - single family	0.09	7.8%	0.02	2%	1.66	2.72

Appendix C: Nitrogen Loading Per Parcel
Little Buttermilk Bay Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
14.4_001.00	M_274331_834841	1.07	Private	10 FABYAN WAY	A	Res. - single family	0.14	5.3%	0.03	1%	2.86	2.68
19.2_033.00	M_274156_834488	0.56	Private	12 LEWIS POINT RD	A	Res. - single family	0.07	7.2%	0.02	2%	1.45	2.60
14.4_040.00	M_274105_835054	0.56	Private	22 NYE LN	A	Res. - single family	0.07	5.6%	0.02	1%	1.41	2.50
14.0_055.00	M_274322_835555	1.21	Private	70 OLD HEAD OF THE BAY RD	A	Res. - single family	0.14	6.6%	0.03	2%	2.97	2.46
15.0_026.00	M_274886_835289	1.35	Private	294 HEAD OF THE BAY RD	A	Res. - single family	0.14	4.1%	0.03	1%	2.97	2.20
14.4_027.00	M_273892_835099	0.62	Private	92 LEWIS POINT RD	A	Res. - single family	0.05	4.8%	0.01	1%	1.20	1.94
14.4_025.00	M_273889_835252	1.67	Private	110 LEWIS POINT RD	A	Res. - single family	0.12	3.7%	0.02	1%	3.19	1.92
14.0_040.01	M_274284_835642	7.60	Private	74 OLD HEAD OF THE BAY RD	A	Res. - other	0.50	2.9%	0.07	0%	13.25	1.74
14.4_033.00	M_274064_835172	1.22	Private	40 NYE LN	A	Open land	0.09	4.2%	0.01	1%	2.11	1.73
14.0_043.00	M_273974_835555	1.07	Private	601 HEAD OF THE BAY RD	A	Res. - single family	0.07	3.8%	0.01	1%	1.85	1.73
14.0_045.00	M_273892_835515	0.42	Private	621 HEAD OF THE BAY RD	A	Res. - single family	0.02	3.1%	0.00	1%	0.71	1.70
20.1_036.00	M_274746_834483	0.26	Private	162 PURITAN RD	A	Res. - single family	0.02	0.1%	0.00	0%	0.42	1.58
15.0_042.00	M_274878_834894	0.13	Private	4 KNOB LN	A	Res. - single family	0.01	0.3%	0.00	0%	0.20	1.57
20.1_019.00	M_274475_834475	0.13	Private	144 WALL ST	A	Res. - single family	0.01	1.2%	0.00	0%	0.20	1.54
15.0_002.00	M_274557_835495	14.21	Private	21 OLD HEAD OF THE BAY RD		Res. - single family	0.50	1.7%	0.05	0%	20.92	1.47
14.0_052.00	M_274283_835513	0.33	Private	0 OLD HEAD OF THE BAY RD		Open land	0.00	0.2%	0.00	0%	0.43	1.30
15.0_032.00	M_274504_835679	6.70	Private	30 OLD HEAD OF THE BAY RD	A	Res. - single family	0.22	1.8%	0.02	0%	8.33	1.24
20.1_035.00	M_274811_834573	0.23	Private	0 HEAD OF THE BAY RD	A	Tax exempt	0.01	1.2%	0.00	0%	0.27	1.20
15.0_003.02	M_274708_835420	16.45	Private	0 HEAD OF THE BAY RD	A	Agriculture	0.00	0.0%	0.00	0%	19.40	1.18
14.4_050.00	M_274029_834783	1.32	Private	50 LEWIS POINT RD	A	Open land	0.03	1.4%	0.00	0%	1.54	1.16
19.2_003.00	M_274376_834591	0.38	TOWN OF BOURNE	6 SNOW CIR		Open land	0.00	0.0%	0.00	0%	0.40	1.06
14.4_026.00	M_273884_835169	0.55	Private	100 LEWIS POINT RD	A/D	Open land	0.00	0.0%	0.00	0%	0.54	0.98
15.3_021.00	M_274654_834836	0.27	TOWN OF BOURNE	6 VENN LN	A	Open land	0.00	0.2%	0.00	0%	0.25	0.93
15.0_006.00	M_274689_835170	9.21	TOWN OF BOURNE	285 HEAD OF THE BAY RD	A	Open land	0.02	0.1%	0.00	0%	8.41	0.91
14.4_051.00	M_274001_834883	0.42	Private	0 NYE LN	A	Open land	0.00	0.1%	0.00	0%	0.38	0.91
15.0_045.00	M_275211_835348	0.85	TOWN OF BOURNE	0 BOURNEDALE RD	A	Open land	0.00	0.0%	0.00	0%	0.77	0.90
20.0_001.00	M_274683_834725	24.03	TOWN OF BOURNE	0 PURITAN RD	B/D	Open land	0.01	0.0%	0.00	0%	21.64	0.90

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Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
15.0_035.00	M_275136_834999	0.11	TOWN OF BOURNE	0 HEAD OF THE BAY RD	A	Res. - single family	0.00	0.0%	0.00	0%	0.09	0.90
15.3_009.00	M_274490_834851	0.04	Private	21 LITTLE BAY LN	A/D	Res. - single family	0.00	0.0%	0.00	0%	0.03	0.90
15.3_010.00	M_274470_834832	0.18	Private	19 LITTLE BAY LN	A/D	Res. - single family	0.00	0.0%	0.00	0%	0.16	0.90
19.2_037.00	M_274109_834653	0.30	TOWN OF BOURNE	32 LEWIS POINT RD	A	Open land	0.00	0.0%	0.00	0%	0.27	0.90
15.3_011.00	M_274445_834820	0.37	TOWN OF BOURNE	15 LITTLE BAY LN	A/D	Open land	0.00	0.0%	0.00	0%	0.34	0.89
20.0_037.00	M_274884_834567	0.02	Private	1 KETTLE LN	A	Open land	0.00	0.0%	0.00	0%	0.02	0.89
15.0_029.00	M_275041_835115	0.03	Private	236 HEAD OF THE BAY RD	A	Res. - single family	0.00	0.0%	0.00	0%	0.02	0.89
19.2_036.00	M_274106_834619	0.27	Private	30 LEWIS POINT RD	A	Open land	0.00	0.0%	0.00	0%	0.23	0.87
14.0_047.05	M_273753_835358	6.42	Private	0 HEAD OF THE BAY RD	A	Open land	0.01	0.1%	0.00	0%	5.56	0.87
14.4_037.00	M_274168_835177	0.67	Private	34 NYE LN	A	Open land	0.00	0.0%	0.00	0%	0.58	0.86
14.4_035.00	M_274106_835243	0.66	Private	40 NYE LN	A	Open land	0.00	0.0%	0.00	0%	0.57	0.86
19.2_030.00	M_274257_834549	0.62	Private	7 LEWIS POINT WAY	A	Open land	0.00	0.0%	0.00	0%	0.53	0.86
14.4_047.00	M_273981_834844	1.13	Private	60 LEWIS POINT RD	A	Res. - multi-family	0.00	0.2%	0.00	0%	0.97	0.86
20.0_041.00	M_274831_834706	0.19	Private	5 KETTLE LN	A	Res. - single family	0.00	0.0%	0.00	0%	0.16	0.83
15.0_032.01	M_274511_835814	0.03	Private	430 HEAD OF THE BAY RD	A	Open land	0.00	0.0%	0.00	0%	0.02	0.81
20.1_033.00	M_274763_834687	0.84	Private	85 HEAD OF THE BAY RD	A	Open land	0.00	0.0%	0.00	0%	0.68	0.81
15.0_039.00	M_274839_834800	0.09	Private	1 KNOB LN	A	Res. - single family	0.00	0.0%	0.00	0%	0.07	0.79
20.1_030.00	M_274706_834588	0.64	Private	181 PURITAN RD	A	Res. - multi-family	0.15	12.9%	0.09	8%	0.50	0.78
19.2_002.00	M_274404_834610	0.38	Private	4 SNOW CIR	A	Res. - multi-family	0.18	23.6%	0.13	18%	0.29	0.77
14.0_042.00	M_274367_835489	0.95	Private	55 OLD HEAD OF THE BAY RD	A	Res. - multi-family	0.38	17.2%	0.25	11%	0.71	0.75
14.4_028.00	M_273934_835104	1.40	Private	62 NYE LN	A	Res. - multi-family	0.21	8.4%	0.11	5%	0.99	0.71
20.1_002.00	M_274518_834715	0.28	Private	4 COTE CIR	A	Open land	0.00	0.0%	0.00	0%	0.20	0.70
15.3_017.00	M_274560_834832	0.24	Private	0 LITTLE BAY LN	A	Open land	0.00	0.2%	0.00	0%	0.15	0.64
14.0_065.00	M_274389_835780	0.00	Private	500 HEAD OF THE BAY RD	A	Res. - single family	0.00	0.0%	0.00	0%	0.00	0.54

* All parcels are shown in this table

APPENDIX C

Detailed Table of Nutrient Loading by Parcels

Pocasset Harbor Catchment Area

Appendix C: Nitrogen Loading Per Parcel
Pocasset Harbor Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
38.3_085.00	M_272895_827950	0.01	Private	23 WENAUMET BLUFFS DR	A	Res. - single family	0.02	10.1%	0.01	3%	0.26	25.13
37.4_049.00	M_272540_827745	0.06	Private	24 RICHMOND RD	A/D	Res. - single family	0.10	97.1%	0.10	94%	1.48	24.63
37.4_050.00	M_272552_827750	0.06	Private	47 BUENA VISTA RD	A	Res. - single family	0.10	89.7%	0.07	61%	1.35	22.76
43.3_087.01	M_272653_826540	0.06	Private	33 MASSASOIT AVE	A	Res. - single family	0.09	88.9%	0.09	84%	1.30	22.55
37.4_046.00	M_272562_827711	0.08	Private	14 RICHMOND RD	A	Res. - single family	0.12	88.7%	0.12	83%	1.74	22.50
38.3_092.00	M_272908_827917	0.01	Private	14 ARROWHEAD LN	A	Res. - single family	0.01	3.3%	0.00	1%	0.18	22.07
43.1_088.00	M_272771_826959	0.08	Private	65 SALT MARSH LN	A	Res. - single family	0.13	85.5%	0.10	64%	1.82	21.76
38.3_006.00	M_272593_827774	0.09	Private	34 BUENA VISTA RD	A	Res. - single family	0.13	84.2%	0.12	77%	1.86	21.41
43.3_130.00	M_272869_826430	0.03	Private	271 CIRCUIT AVE	A	Res. - single family	0.05	80.0%	0.04	72%	0.66	20.35
38.3_097.00	M_272834_827858	0.12	Private	46 NORTH SHORE RD	A	Res. - single family	0.18	79.7%	0.16	71%	2.50	20.28
37.4_051.00	M_272564_827755	0.06	Private	43 BUENA VISTA RD	A	Res. - single family	0.09	78.8%	0.08	70%	1.21	20.06
43.3_100.00	M_272686_826499	0.09	Private	320 CIRCUIT AVE	A	Res. - single family	0.13	75.7%	0.11	66%	1.81	19.32
42.4_012.00	M_272584_826526	0.11	Private	349 CIRCUIT AVE	A	Res. - single family	0.15	75.2%	0.13	65%	2.16	19.18
43.3_057.00	M_272991_826674	0.13	Private	16 WABASH AVE	A	Res. - single family	0.17	71.5%	0.11	45%	2.52	18.74
38.3_008.00	M_272607_827758	0.09	Private	28 SPURR RD	A	Res. - single family	0.12	73.1%	0.10	62%	1.66	18.64
37.4_040.00	M_272536_827686	0.07	Private	9 RICHMOND RD	A/D	Res. - single family	0.09	69.2%	0.08	58%	1.36	18.23
37.4_048.00	M_272552_827733	0.08	Private	20 RICHMOND RD	A	Res. - single family	0.10	71.1%	0.05	37%	1.38	18.15
37.4_059.00	M_272585_827721	0.07	Private	19 SPURR RD	A	Res. - single family	0.09	70.5%	0.07	50%	1.34	18.01
43.3_131.00	M_272884_826433	0.03	Private	265 CIRCUIT AVE	A	Res. - single family	0.03	70.0%	0.03	59%	0.47	17.88
38.3_007.00	M_272606_827788	0.18	Private	29 BUENA VISTA RD	A	Res. - single family	0.22	69.9%	0.19	58%	3.19	17.86
37.0_024.00	M_272211_827519	0.15	Private	165 WINGS NECK RD	A	Res. - single family	0.19	17.7%	0.08	7%	2.66	17.83
43.3_094.00	M_272608_826550	0.16	Private	344 CIRCUIT AVE	A	Res. - single family	0.19	69.8%	0.16	56%	2.77	17.81
38.3_084.00	M_272887_827941	0.07	Private	25 WENAUMET BLUFFS DR	A	Res. - single family	0.08	50.2%	0.05	33%	1.15	17.66
37.4_045.00	M_272567_827699	0.08	Private	10 RICHMOND RD	A	Res. - single family	0.10	68.9%	0.08	57%	1.42	17.61
38.3_083.00	M_272879_827933	0.08	Private	29 WENAUMET BLUFFS DR	A	Res. - single family	0.10	67.6%	0.08	55%	1.36	17.44
43.3_107.00	M_272878_826461	0.11	Private	270 CIRCUIT AVE	A	Res. - single family	0.13	67.2%	0.11	55%	1.92	17.21
37.4_052.00	M_272575_827762	0.07	Private	31 SPURR RD	A	Res. - single family	0.08	67.2%	0.06	55%	1.14	17.18
38.3_038.00	M_272699_827765	0.09	Private	27 FAIRVIEW RD	A	Res. - single family	0.11	66.8%	0.09	52%	1.58	17.10
37.4_047.00	M_272557_827722	0.08	Private	18 RICHMOND RD	A	Res. - single family	0.09	64.9%	0.07	52%	1.34	16.61
37.4_039.00	M_272531_827697	0.09	Private	15 RICHMOND RD	A/D	Res. - single family	0.10	61.3%	0.07	48%	1.43	16.46
38.3_039.00	M_272694_827777	0.10	Private	31 FAIRVIEW RD	A	Res. - single family	0.11	63.7%	0.07	42%	1.58	16.31

Appendix C: Nitrogen Loading Per Parcel
Pocasset Harbor Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
38.3_002.00	M_272595_827699	0.07	Private	9 SPURR RD	A	Res. - single family	0.08	63.2%	0.07	50%	1.19	16.20
38.3_073.00	M_272792_827862	0.16	Private	51 WENAUMET BLUFFS DR	A	Res. - single family	0.19	63.1%	0.14	47%	2.65	16.17
38.3_001.00	M_272590_827710	0.08	Private	15 SPURR RD	A	Res. - single family	0.08	62.4%	0.07	49%	1.21	16.01
38.3_071.00	M_272757_827847	0.10	Private	59 WENAUMET BLUFFS DR	A	Res. - single family	0.12	62.3%	0.08	40%	1.66	15.98
43.3_079.00	M_272598_826610	0.11	Private	5 MASSASOIT AVE	A	Res. - single family	0.12	61.4%	0.09	48%	1.72	15.88
38.3_003.00	M_272600_827688	0.08	Private	5 SPURR RD	A	Res. - single family	0.09	61.3%	0.07	48%	1.22	15.72
38.3_046.00	M_272674_827892	0.07	Private	56 FAIRVIEW RD	A	Res. - single family	0.08	33.8%	0.03	14%	1.10	15.70
43.1_030.00	M_272843_827377	0.28	Private	6 KENDRICK LN	A	Res. - single family	0.30	60.5%	0.23	47%	4.30	15.61
38.3_122.00	M_272875_827788	0.26	Private	30 NORTH SHORE RD	A	Res. - single family	0.28	60.4%	0.22	47%	4.00	15.56
38.3_020.00	M_272634_827760	0.20	Private	33 CENTER ST	A	Res. - single family	0.21	60.0%	0.16	46%	3.02	15.45
43.3_101.00	M_272704_826498	0.14	Private	316 CIRCUIT AVE	A	Res. - single family	0.15	60.1%	0.09	38%	2.09	15.43
38.3_024.00	M_272637_827826	0.11	Private	42 CENTER ST	A	Res. - single family	0.12	59.3%	0.09	46%	1.67	15.24
43.3_129.00	M_272845_826425	0.09	Private	273 CIRCUIT AVE	A	Res. - single family	0.09	58.9%	0.06	39%	1.29	15.12
43.1_013.00	M_272781_827244	0.29	Private	446 BARLOWS LANDING RD	A	Res. - single family	0.30	58.7%	0.23	44%	4.36	15.08
38.3_005.00	M_272613_827673	0.07	Private	1 SPURR RD	A	Res. - single family	0.08	58.2%	0.06	43%	1.12	14.95
38.3_041.00	M_272687_827791	0.11	Private	35 FAIRVIEW RD	A	Res. - single family	0.12	57.7%	0.07	35%	1.69	14.84
38.3_047.00	M_272685_827898	0.10	Private	54 FAIRVIEW RD	A	Res. - single family	0.11	31.3%	0.04	12%	1.52	14.83
43.1_089.00	M_272783_826961	0.07	Private	63 SALT MARSH LN	A	Res. - single family	0.07	56.7%	0.06	43%	1.08	14.72
38.3_010.00	M_272621_827724	0.08	Private	16 SPURR RD	A	Res. - single family	0.08	56.5%	0.04	28%	1.10	14.54
43.1_020.00	M_272782_827319	0.24	Private	2 COVE LN	A	Res. - single family	0.24	56.3%	0.18	42%	3.50	14.51
38.3_070.00	M_272744_827841	0.12	Private	61 WENAUMET BLUFFS DR	A	Res. - single family	0.12	55.8%	0.09	42%	1.68	14.37
42.4_002.00	M_272572_826583	0.10	Private	41 MASSASOIT AVE	A	Res. - single family	0.10	55.4%	0.07	41%	1.44	14.25
37.4_044.00	M_272572_827687	0.09	Private	8 RICHMOND RD	A	Res. - single family	0.09	55.3%	0.07	41%	1.27	14.23
43.1_115.00	M_273276_827197	0.04	Private	2 VINCENT DR	A	Res. - single family	0.04	6.6%	0.01	2%	0.57	14.22
38.3_050.00	M_272697_827906	0.08	Private	62 WENAUMET BLUFFS DR	A	Res. - single family	0.07	27.0%	0.03	10%	1.07	14.13
38.3_030.00	M_272696_827687	0.09	Private	86 WINGS NECK RD	A	Res. - single family	0.09	54.5%	0.06	40%	1.24	14.04
43.1_214.00	M_273053_826921	0.35	Private	100 BELLAVISTA DR	A	Res. - single family	0.33	53.3%	0.23	36%	4.84	13.90
37.4_038.00	M_272525_827712	0.11	Private	21 RICHMOND RD	A/D	Res. - single family	0.11	52.7%	0.08	38%	1.55	13.77
37.4_043.00	M_272574_827667	0.08	Private	4 RICHMOND RD	A	Res. - single family	0.08	52.8%	0.05	35%	1.09	13.61
38.3_100.00	M_272754_827725	0.17	Private	10 FAIRVIEW RD	A	Res. - single family	0.16	50.8%	0.08	26%	2.24	13.13
38.3_009.00	M_272614_827740	0.15	Private	20 SPURR RD	A	Res. - single family	0.14	50.3%	0.10	36%	2.00	13.00
43.1_057.00	M_272808_827143	0.22	Private	7 SHERMAN LN	A	Res. - single family	0.19	49.7%	0.14	35%	2.80	12.94

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43.3_099.00	M_272697_826517	0.09	Private	15 MASSASOIT AVE	A	Res. - single family	0.08	49.9%	0.06	35%	1.21	12.91
38.3_080.00	M_272822_827879	0.22	Private	48 NORTH SHORE RD	A	Res. - single family	0.20	49.4%	0.14	35%	2.82	12.77
38.3_035.00	M_272715_827728	0.08	Private	15 FAIRVIEW RD	A	Res. - single family	0.07	49.2%	0.05	34%	1.03	12.72
38.3_056.00	M_272791_827919	0.16	Private	44 WENAUMET BLUFFS DR	A	Res. - single family	0.14	41.7%	0.06	19%	1.98	12.68
43.3_092.00	M_272579_826563	0.09	Private	350 CIRCUIT AVE	A	Res. - single family	0.08	48.6%	0.05	34%	1.13	12.57
37.0_014.00	M_271345_827546	0.20	Private	24 EASTWARD AVE	A	Res. - single family	0.17	36.7%	0.11	22%	2.50	12.55
	M_271720_827022	24.17				Res. - single family	27.97	28.8%	4.45	5%	301.16	12.46
37.4_007.00	M_271917_827639	0.24	Private	26 BEVERLY RD	A	Res. - single family	0.21	47.7%	0.14	31%	3.03	12.42
38.3_142.00	M_272929_827688	0.05	Private	6 NORTH SHORE RD	A	Res. - single family	0.04	15.4%	0.01	5%	0.60	12.24
38.3_013.00	M_272633_827680	0.09	Private	104 WINGS NECK RD	A	Res. - single family	0.08	47.2%	0.05	30%	1.16	12.22
38.3_099.00	M_272744_827748	0.16	Private	14 FAIRVIEW RD	A	Res. - single family	0.14	47.0%	0.08	26%	2.00	12.18
38.3_069.00	M_272730_827835	0.11	Private	63 WENAUMET BLUFFS DR	A	Res. - single family	0.10	46.6%	0.05	25%	1.39	12.10
38.3_051.00	M_272716_827901	0.19	Private	60 WENAUMET BLUFFS DR	A	Res. - single family	0.16	33.7%	0.09	19%	2.32	12.06
38.3_012.00	M_272631_827702	0.08	Private	8 SPURR RD	A	Res. - single family	0.07	46.2%	0.04	31%	0.95	12.03
38.3_124.01	M_272828_827724	0.22	Private	4 CHICKADEE LN	A	Res. - single family	0.18	45.9%	0.12	31%	2.62	12.02
37.4_055.00	M_272557_827627	0.01	Private	115 WINGS NECK RD	A	Res. - single family	0.00	1.6%	0.00	0%	0.10	12.02
43.1_087.00	M_272754_826956	0.15	Private	67 SALT MARSH LN	A	Res. - single family	0.12	45.4%	0.08	28%	1.81	11.97
38.3_004.00	M_272593_827668	0.16	Private	108 WINGS NECK RD	A	Res. - single family	0.13	46.0%	0.09	31%	1.92	11.92
38.3_055.00	M_272777_827910	0.19	Private	50 WENAUMET BLUFFS DR	A	Res. - single family	0.15	39.3%	0.07	18%	2.23	11.92
42.0_094.00	M_271364_827415	0.25	Private	9 EASTWARD AVE	A	Res. - single family	0.20	45.6%	0.14	31%	2.96	11.91
43.1_039.00	M_272912_827298	0.25	Private	424 BARLOWS LANDING RD	A	Res. - single family	0.21	45.8%	0.14	31%	3.03	11.91
43.1_019.00	M_272771_827341	0.24	Private	17 KENWOOD RD	A	Res. - single family	0.19	45.7%	0.10	23%	2.80	11.85
43.3_056.00	M_272974_826679	0.14	Private	18 WABASH AVE	A	Res. - single family	0.11	42.4%	0.07	27%	1.68	11.77
37.0_017.00	M_271391_827456	0.27	Private	14 EASTWARD AVE	A	Res. - single family	0.22	44.8%	0.14	29%	3.18	11.72
38.3_182.00	M_272659_827644	0.16	Private	101 WINGS NECK RD	A	Res. - single family	0.13	44.8%	0.08	29%	1.86	11.64
43.1_017.00	M_272748_827385	0.23	Private	25 KENWOOD RD	A	Res. - single family	0.18	44.6%	0.12	30%	2.66	11.59
38.3_108.00	M_272859_827815	0.23	Private	24 TIDE WAY RD	A	Res. - single family	0.18	44.1%	0.12	29%	2.65	11.57
43.1_012.00	M_272814_827253	0.32	Private	440 BARLOWS LANDING RD	A	Res. - single family	0.26	44.4%	0.17	29%	3.74	11.56
43.3_106.00	M_272855_826458	0.23	Private	274 CIRCUIT AVE	A	Res. - single family	0.17	41.6%	0.11	27%	2.63	11.53

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43.1_162.00	M_273114_827028	0.28	Private	122 BELLAVISTA DR	A	Res. - single family	0.22	43.9%	0.13	27%	3.17	11.50
43.3_075.00	M_272598_826631	0.24	Private	7 MASSASOIT AVE EXT	A	Res. - single family	0.19	40.2%	0.12	26%	2.80	11.48
43.1_015.00	M_272726_827428	0.23	Private	37 KENWOOD RD	A	Res. - single family	0.18	44.1%	0.08	20%	2.61	11.45
38.3_021.00	M_272624_827781	0.10	Private	35 CENTER ST	A	Res. - single family	0.08	44.0%	0.05	29%	1.11	11.44
42.4_013.00	M_272581_826512	0.14	Private	353 CIRCUIT AVE	A	Res. - single family	0.11	43.6%	0.07	29%	1.61	11.44
38.3_028.00	M_272690_827717	0.08	Private	10 CENTER ST	A	Res. - single family	0.06	43.9%	0.04	29%	0.92	11.42
38.3_112.00	M_272916_827868	0.01	Private	40 TIDE WAY RD	A	Res. - single family	0.01	1.4%	0.00	0%	0.07	11.38
38.3_127.00	M_272866_827682	0.12	Private	58 WINGS NECK RD	A	Res. - single family	0.09	43.3%	0.06	29%	1.37	11.38
43.3_110.00	M_272925_826473	0.12	Private	260 CIRCUIT AVE	A	Res. - single family	0.09	42.8%	0.06	28%	1.34	11.37
43.3_090.00	M_272710_826550	0.12	Private	10 MASSASOIT AVE	A	Res. - single family	0.09	42.8%	0.04	18%	1.34	11.34
43.1_059.00	M_272798_827200	0.19	Private	3 SHERMAN LN	A	Res. - single family	0.15	43.0%	0.09	27%	2.17	11.29
38.3_093.00	M_272879_827901	0.12	Private	9 ARROWHEAD LN	A	Res. - single family	0.09	42.3%	0.04	20%	1.31	11.28
43.1_071.00	M_272851_827044	0.15	Private	52 SALT MARSH LN	A	Res. - single family	0.12	43.1%	0.08	28%	1.67	11.22
43.1_058.00	M_272804_827171	0.16	Private	5 SHERMAN LN	A	Res. - single family	0.12	42.7%	0.08	28%	1.77	11.15
38.3_052.00	M_272719_827870	0.15	Private	66 WENAUMET BLUFFS DR	A	Res. - single family	0.12	42.8%	0.07	24%	1.68	11.15
43.3_117.00	M_272705_826445	0.12	Private	305 CIRCUIT AVE	A	Res. - single family	0.09	41.2%	0.05	23%	1.34	11.08
43.3_095.00	M_272628_826539	0.27	Private	340 CIRCUIT AVE	A	Res. - single family	0.20	41.9%	0.13	26%	2.97	11.02
38.3_053.00	M_272737_827896	0.18	Private	58 WENAUMET BLUFFS DR	A	Res. - single family	0.13	34.3%	0.08	20%	2.01	10.99
43.1_053.00	M_272715_827157	0.72	TOWN OF BOURNE	0 BARLOWS LANDING RD	A	Tax exempt	0.74	35.7%	0.43	21%	7.95	10.98
38.3_174.00	M_272648_827498	0.25	Private	48 COVE LN	A	Res. - single family	0.19	42.1%	0.09	20%	2.75	10.98
43.1_056.00	M_272768_827130	0.21	Private	8 SHERMAN LN	A	Res. - single family	0.16	42.1%	0.07	19%	2.26	10.97
38.3_178.00	M_272715_827450	0.23	Private	41 KENWOOD RD	A	Res. - single family	0.17	41.4%	0.11	26%	2.46	10.80
43.1_158.00	M_273130_826961	0.29	Private	22 VIRGINIA RD	A	Res. - single family	0.22	41.3%	0.14	26%	3.16	10.79
38.3_036.00	M_272707_827746	0.19	Private	19 FAIRVIEW RD	A	Res. - single family	0.14	41.2%	0.09	25%	2.03	10.78
43.3_058.00	M_273006_826667	0.10	Private	10 WABASH AVE	A	Res. - single family	0.07	40.4%	0.05	26%	1.07	10.78
38.3_042.00	M_272681_827806	0.10	Private	39 FAIRVIEW RD	A	Res. - single family	0.08	41.3%	0.04	20%	1.09	10.78
38.3_095.00	M_272871_827872	0.06	Private	33 TIDE WAY RD	A	Res. - single family	0.04	40.9%	0.03	26%	0.62	10.75
38.3_129.00	M_272899_827672	0.10	Private	1 NORTH SHORE RD	A	Res. - single family	0.07	41.0%	0.04	24%	1.06	10.73
38.3_141.00	M_272912_827727	0.25	Private	14 NORTH SHORE RD	A	Res. - single family	0.18	31.0%	0.10	17%	2.68	10.73
38.3_185.00	M_272684_827646	0.18	Private	93 WINGS NECK RD	A	Res. - single family	0.13	41.0%	0.07	20%	1.91	10.70
43.3_064.00	M_272963_826608	0.09	Private	11 CANONICUS AVE	A	Res. - single family	0.06	35.9%	0.03	20%	1.00	10.67
43.1_067.00	M_272898_827042	0.33	Private	44 SALT MARSH LN	A	Res. - single family	0.24	40.4%	0.10	17%	3.54	10.61
38.3_094.00	M_272887_827885	0.09	Private	39 TIDE WAY RD	A	Res. - single family	0.07	29.0%	0.03	12%	0.96	10.55

Appendix C: Nitrogen Loading Per Parcel
Pocasset Harbor Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
43.3_085.00	M_272642_826583	0.13	Private	30 MASSASOIT AVE	A/D	Res. - single family	0.09	39.5%	0.04	19%	1.35	10.53
37.4_053.00	M_272578_827738	0.15	Private	23 SPURR RD	A	Res. - single family	0.11	39.7%	0.06	23%	1.60	10.37
38.3_194.00	M_272685_827596	0.06	Private	70 KENWOOD RD	A	Res. - single family	0.05	39.6%	0.03	24%	0.67	10.35
43.3_061.00	M_273000_826629	0.11	Private	9 WABASH AVE	A	Res. - single family	0.08	39.2%	0.04	17%	1.18	10.32
38.3_075.00	M_272779_827823	0.14	Private	11 TIDE WAY RD	A	Res. - single family	0.10	39.4%	0.05	21%	1.43	10.30
43.1_014.00	M_272741_827232	0.17	Private	450 BARLOWS LANDING RD	A	Res. - single family	0.12	23.4%	0.05	9%	1.75	10.26
38.3_060.00	M_272833_827976	0.27	Private	28 WENAUMET BLUFFS DR	A	Res. - single family	0.19	30.3%	0.07	12%	2.73	10.23
42.0_011.00	M_271345_827395	0.25	Private	12 BEACON POINT RD	A	Res. - single family	0.17	39.0%	0.11	24%	2.52	10.20
42.0_010.00	M_271320_827415	0.34	Private	16 BEACON POINT RD	A	Res. - single family	0.24	38.2%	0.15	24%	3.50	10.17
43.1_168.00	M_273231_827075	0.25	Private	22 BELLAVISTA DR	A	Res. - single family	0.17	38.6%	0.11	24%	2.50	10.12
43.3_071.00	M_272611_826651	0.30	Private	9 MASSASOIT AVE	A/D	Res. - single family	0.20	35.5%	0.08	15%	3.02	10.09
37.4_037.00	M_272514_827738	0.23	Private	25 RICHMOND RD	A/D	Res. - single family	0.14	33.9%	0.08	20%	2.28	10.08
38.3_111.00	M_272898_827852	0.13	Private	34 TIDE WAY RD	A	Res. - single family	0.09	32.0%	0.05	16%	1.33	10.07
43.1_215.00	M_273090_826917	0.28	Private	25 VIRGINIA RD	A	Res. - single family	0.19	38.3%	0.11	23%	2.78	10.05
38.3_048.00	M_272695_827861	0.18	Private	50 FAIRVIEW RD	A	Res. - single family	0.12	38.1%	0.06	19%	1.81	10.01
37.4_041.00	M_272540_827675	0.08	Private	5 RICHMOND RD	A/D	Res. - single family	0.04	30.4%	0.02	17%	0.76	10.00
38.3_068.00	M_272710_827826	0.20	Private	42 FAIRVIEW RD	A	Res. - single family	0.14	37.5%	0.07	20%	2.01	9.98
43.3_093.00	M_272593_826559	0.14	Private	346 CIRCUIT AVE	A	Res. - single family	0.10	38.1%	0.04	15%	1.40	9.98
38.3_015.00	M_272670_827686	0.14	Private	1 CENTER ST	A	Res. - single family	0.09	38.1%	0.05	23%	1.35	9.97
43.3_013.00	M_272711_826818	0.08	Private	114 SALT MARSH LN	A/D	Res. - single family	0.05	37.1%	0.02	13%	0.76	9.94
43.3_097.00	M_272662_826522	0.16	Private	326 CIRCUIT AVE	A	Res. - single family	0.11	37.5%	0.05	19%	1.55	9.92
43.1_029.00	M_272815_827362	0.38	Private	20 KENWOOD RD	A	Res. - single family	0.25	36.7%	0.15	22%	3.73	9.75
43.1_155.00	M_273153_827022	0.29	Private	15 ANDREA RD	A	Res. - single family	0.19	36.7%	0.11	22%	2.81	9.74
43.1_163.00	M_273117_827062	0.29	Private	128 BELLAVISTA DR	A	Res. - single family	0.19	37.0%	0.09	17%	2.82	9.73
43.3_098.00	M_272676_826515	0.15	Private	322 CIRCUIT AVE	A	Res. - single family	0.10	37.1%	0.06	22%	1.50	9.72
43.1_009.00	M_272729_827255	0.11	Private	11 COVE LN	A	Res. - single family	0.07	12.4%	0.02	4%	1.03	9.69

* Only Parcels with nitrogen loads greater than 9.60 lb/yr/acre are shown on this table

APPENDIX C

Detailed Table of Nutrient Loading by Parcels

Red Brook Harbor Catchment Area

Appendix C: Nitrogen Loading Per Parcel
Red Brook Harbor Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
44.2_132.00	M_275650_826824	0.80	Private	802 MACARTHUR BLVD	A	Commercial	1.41	98.0%	1.11	77%	21.17	26.41
44.0_020.02	M_275451_826358	0.49	Private	27 FOSTER HOWARD RD	C/D	Commercial	0.86	97.5%	0.75	85%	12.89	26.28
48.0_033.03	M_275395_826152	0.65	Private	10 LONG HILL RD	A	Commercial	1.11	95.4%	1.08	93%	16.65	25.71
47.4_014.00	M_273785_825288	0.15	Private	68 RED BROOK HARBOR RD	A	Commercial	0.25	21.1%	0.11	9%	3.69	25.00
39.0_081.00	M_275932_827518	0.65	Private	694 MACARTHUR BLVD	A	Commercial	1.08	91.8%	1.03	88%	16.23	24.79
44.2_024.00	M_275795_827157	0.33	Private	730 MACARTHUR BLVD	A	Commercial	0.52	89.0%	0.49	84%	7.90	24.07
43.3_225.00	M_273441_826592	0.07	Private	7 CAPE COD LN	A	Res. - single family	0.12	94.6%	0.12	92%	1.69	23.97
43.3_269.00	M_273438_826382	0.04	Private	20 BELL BUOY RD	A	Res. - single family	0.07	92.5%	0.06	86%	0.98	23.47
44.2_132.01	M_275666_826857	0.51	Private	804 MACARTHUR BLVD	A	Commercial	0.79	86.2%	0.54	58%	11.95	23.34
48.0_074.00	M_275106_825684	0.70	Private	0 LONG HILL RD	A	Industrial	1.07	84.8%	0.99	78%	16.15	22.96
39.0_080.02	M_275940_827567	0.80	Private	692 MACARTHUR BLVD	A	Commercial	1.20	84.0%	1.10	77%	18.11	22.77
43.3_229.00	M_273451_826565	0.07	Private	46 SACO AVE	A	Res. - single family	0.10	88.5%	0.10	83%	1.47	22.47
43.4_006.00	M_273518_826688	0.11	Private	24 PARK ST	A	Res. - single family	0.18	88.4%	0.17	83%	2.50	22.42
47.1_002.00	M_272623_826196	0.08	Private	445 CIRCUIT AVE	A	Res. - single family	0.13	87.8%	0.12	82%	1.83	22.27
44.4_021.00	M_275612_826762	0.56	Private	810 MACARTHUR BLVD	A	Commercial	0.82	82.0%	0.71	71%	12.41	22.24
44.0_020.00	M_275441_826238	1.35	Private	43 ROUTE 28A	A	Commercial	1.94	80.2%	1.33	55%	29.40	21.75
47.1_009.00	M_272632_826184	0.09	Private	451 CIRCUIT AVE	A	Res. - single family	0.13	82.5%	0.12	75%	1.88	20.97
47.0_011.00	M_273639_825538	7.22	Private	1 SHIPYARD LN			9.87	64.2%	5.16	34%	150.43	20.82
44.0_020.03	M_275423_826330	0.56	Private	29 FOSTER HOWARD RD	C/D	Commercial	0.75	74.6%	0.49	49%	11.34	20.30
47.4_013.01	M_273781_825314	0.01	Private	68 RED BROOK HARBOR RD	A	Open land	0.01	18.4%	0.01	8%	0.16	20.27
43.4_008.00	M_273551_826703	0.07	Private	72 PROSPECT AVE	A	Res. - single family	0.10	79.2%	0.09	67%	1.43	20.17
43.4_018.00	M_273524_826653	0.11	Private	38 WAMSUTTA AVE	A	Res. - single family	0.16	79.1%	0.14	70%	2.24	20.15
44.2_025.00	M_275774_827100	0.98	Private	750 MACARTHUR BLVD	A	Commercial	1.30	73.7%	1.12	63%	19.73	20.08
44.4_020.00	M_275634_826789	0.57	Private	808 MACARTHUR BLVD	A	Commercial	0.75	73.3%	0.51	50%	11.46	19.96
44.4_022.00	M_275601_826736	0.31	Private	820 MACARTHUR BLVD	A	Commercial	0.39	71.1%	0.33	60%	5.95	19.41
43.3_185.00	M_272727_826253	0.12	Private	20 PEQUOT AVE	A	Res. - single family	0.16	75.9%	0.13	63%	2.25	19.33
47.1_035.00	M_272733_826130	0.14	Private	27 KENNEBEC AVE	A	Res. - single family	0.19	75.9%	0.16	64%	2.73	19.32

Appendix C: Nitrogen Loading Per Parcel
Red Brook Harbor Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
44.0_020.05	M_275407_826262	0.51	Private	41 ROUTE 28A	A	Open land	0.87	95.1%	0.84	92%	9.81	19.32
44.0_021.00	M_275341_826253	0.54	Private	44 ROUTE 28A	A	Commercial	0.68	70.3%	0.36	37%	10.38	19.19
48.0_034.00	M_275429_826178	0.85	Private	4 LONG HILL RD	A	Commercial	1.06	69.5%	0.74	48%	16.21	18.98
43.4_042.00	M_273517_826509	0.12	Private	52 CIRCUIT AVE	A	Res. - single family	0.15	74.2%	0.13	64%	2.20	18.90
43.4_009.00	M_273567_826711	0.07	Private	47 PARK ST	A	Res. - single family	0.09	71.7%	0.08	61%	1.27	18.30
48.0_093.XXXX	M_275389_826042	0.99	Private	15 LONG HILL RD	A	Commercial	1.18	66.8%	0.70	39%	18.07	18.27
51.2_045.00	M_274055_824653	0.67	Private	55 DEPOT RD	A	Industrial	0.80	66.0%	0.65	54%	12.16	18.07
43.3_216.00	M_273402_826635	0.12	Private	14 PARK ST	A	Res. - single family	0.15	70.4%	0.13	59%	2.20	18.05
43.4_054.00	M_273635_826524	0.05	Private	24 CIRCUIT AVE	A	Res. - single family	0.07	69.5%	0.05	49%	0.94	17.76
47.1_044.00	M_272797_826189	0.07	Private	8 KENNEBEC AVE	A	Res. - single family	0.08	69.2%	0.07	58%	1.21	17.69
47.1_034.00	M_272748_826138	0.12	Private	25 KENNEBEC AVE	A	Res. - single family	0.15	69.0%	0.12	57%	2.10	17.62
47.2_052.00	M_273665_825772	0.90	Private	15 NAIRN RD	A	Res. - single family	1.10	68.4%	0.91	57%	15.80	17.57
43.1_149.00	M_273461_827088	0.69	Private	897 SHORE RD	A	Mixed use, primarily Res.	0.83	66.7%	0.61	49%	11.85	17.11
43.3_168.00	M_272597_826229	0.13	Private	435 CIRCUIT AVE	A	Res. - single family	0.16	66.5%	0.13	54%	2.27	17.04
43.2_031.00	M_273629_826937	0.25	Private	10 WING RD	A	Res. - single family	0.30	66.4%	0.24	54%	4.26	17.00
47.2_022.00	M_273631_826121	0.19	Private	19 CEDAR POINT DR	A	Res. - single family	0.22	66.1%	0.18	54%	3.22	17.00
43.4_053.00	M_273620_826519	0.06	Private	28 CIRCUIT AVE	A	Res. - single family	0.07	66.1%	0.06	54%	1.05	16.94
43.3_227.00	M_273447_826579	0.05	Private	1 CAPE COD LN	A	Res. - single family	0.06	64.6%	0.05	52%	0.81	16.67
47.2_009.00	M_273630_826190	0.16	Private	21 SPRUCE DR	B	Res. - single family	0.17	61.1%	0.13	46%	2.57	16.25
47.1_069.00	M_273467_826126	0.19	Private	43 SPRUCE DR	A	Res. - single family	0.22	63.3%	0.17	50%	3.13	16.24
43.3_234.00	M_273483_826573	0.12	Private	38 SACO AVE	A	Res. - single family	0.13	62.5%	0.11	49%	1.91	16.02
42.4_032.00	M_272569_826309	0.10	Private	411 CIRCUIT AVE	A	Res. - single family	0.12	62.4%	0.06	34%	1.68	16.00
47.1_045.00	M_272816_826194	0.07	Private	4 KENNEBEC AVE	A	Res. - single family	0.08	62.3%	0.06	49%	1.15	15.96
43.4_020.00	M_273541_826637	0.11	Private	36 WAMSUTTA AVE	A	Res. - single family	0.13	61.4%	0.08	39%	1.79	15.74
43.3_160.00	M_272796_826348	0.12	Private	6 NAUMKEAG AVE	A	Res. - single family	0.13	60.9%	0.08	38%	1.89	15.68
43.4_045.00	M_273569_826569	0.12	Private	19 SACO AVE	A	Res. - single family	0.13	60.6%	0.10	47%	1.91	15.61
43.3_176.00	M_272737_826288	0.18	Private	21 NAUMKEAG AVE	A	Res. - single family	0.19	60.1%	0.15	47%	2.78	15.48
43.4_038.00	M_273492_826537	0.12	Private	39 SACO AVE	A	Res. - single family	0.13	60.2%	0.08	38%	1.88	15.45
43.3_240.00	M_273478_826494	0.15	Private	68 CIRCUIT AVE	A	Res. - single family	0.16	60.0%	0.12	46%	2.25	15.40
43.4_087.00	M_273645_826460	0.34	Private	12 PROSPECT AVE	A	Res. - single family	0.37	59.8%	0.26	42%	5.27	15.40
43.3_195.00	M_272789_826233	0.10	Private	539 CIRCUIT AVE	A	Res. - single family	0.11	59.8%	0.07	38%	1.52	15.34
43.4_019.00	M_273539_826659	0.11	Private	23 PARK ST	A	Res. - single family	0.11	59.7%	0.09	46%	1.64	15.33
43.3_235.00	M_273492_826645	0.12	Private	41 WAMSUTTA AVE	A	Res. - single family	0.12	58.9%	0.08	37%	1.78	15.13
43.3_226.00	M_273425_826572	0.12	Private	90 CIRCUIT AVE	A	Res. - single family	0.12	58.6%	0.09	45%	1.76	15.07
43.3_159.00	M_272811_826352	0.11	Private	4 NAUMKEAG AVE	A	Res. - single family	0.12	58.5%	0.09	43%	1.72	15.05
43.4_039.00	M_273507_826541	0.13	Private	35 SACO AVE	A	Res. - single family	0.14	58.1%	0.11	44%	1.99	14.94
47.1_021.00	M_272697_826124	0.19	Private	469 CIRCUIT AVE	A	Res. - single family	0.20	58.1%	0.15	44%	2.80	14.93
43.3_217.00	M_273416_826641	0.11	Private	18 PARK ST	A	Res. - single family	0.12	58.0%	0.09	44%	1.67	14.93

Appendix C: Nitrogen Loading Per Parcel
Red Brook Harbor Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
47.1_028.00	M_272786_826114	0.14	Private	495 CIRCUIT AVE	A	Res. - single family	0.14	58.0%	0.11	44%	2.06	14.91
43.3_228.00	M_273433_826559	0.08	Private	86 CIRCUIT AVE	A	Res. - single family	0.09	57.9%	0.07	44%	1.25	14.87
43.4_007.00	M_273549_826719	0.11	Private	76 PROSPECT AVE	A	Res. - single family	0.11	57.4%	0.07	35%	1.65	14.83
43.4_031.00	M_273607_826669	0.17	Private	954 SHORE RD	A	Res. - single family	0.17	57.4%	0.12	41%	2.48	14.75
43.3_230.00	M_273466_826634	0.17	Private	10 CAPE COD LN	A	Res. - single family	0.18	60.3%	0.11	38%	2.45	14.74
48.0_038.00	M_275238_825752	1.33	Private	0 ROUTE 28A	A	Industrial	1.25	52.4%	0.90	38%	19.32	14.55
43.3_211.00	M_273499_826728	0.11	Private	60 WAMSUTTA AVE	A	Res. - single family	0.11	56.3%	0.07	37%	1.56	14.48
51.2_027.00	M_274308_824788	0.18	Private	1206 COUNTY RD	A	Res. - single family	0.18	55.7%	0.10	30%	2.66	14.43
44.1_057.00	M_275089_827048	0.18	Private	30 MARJORIE AVE	A	Res. - single family	0.18	55.8%	0.14	42%	2.63	14.43
43.3_155.00	M_272866_826367	0.18	Private	573 CIRCUIT AVE	A	Res. - single family	0.18	55.8%	0.13	42%	2.59	14.39
42.4_022.00	M_272566_826408	0.14	Private	385 CIRCUIT AVE	A	Res. - single family	0.14	55.2%	0.07	27%	1.97	14.20
43.4_086.00	M_273638_826489	0.12	Private	25 CIRCUIT AVE	A	Res. - single family	0.12	54.9%	0.05	25%	1.66	14.13
43.3_210.00	M_273492_826742	0.10	Private	62 WAMSUTTA AVE	A	Res. - single family	0.10	54.5%	0.07	35%	1.48	14.10
43.3_179.00	M_272759_826294	0.17	Private	15 NAUMKEAG AVE	A	Res. - single family	0.17	54.4%	0.12	40%	2.40	14.08
47.2_023.00	M_273656_826131	0.20	Private	15 CEDAR POINT DR	A	Res. - single family	0.19	53.1%	0.10	28%	2.83	14.05
47.1_036.00	M_272718_826130	0.11	Private	33 KENNEBEC AVE	A	Res. - single family	0.11	54.5%	0.08	40%	1.60	14.02
44.0_020.01	M_275483_826313	1.65	Private	25 FOSTER HOWARD RD	C/D	Commercial	1.49	50.3%	1.00	34%	23.10	13.99
43.4_043.00	M_273533_826512	0.13	Private	48 CIRCUIT AVE	A	Res. - single family	0.13	54.3%	0.07	31%	1.80	13.98
43.3_149.00	M_272846_826393	0.11	Private	23 PENOBSCOT AVE	A	Res. - single family	0.10	54.1%	0.06	30%	1.49	13.96
43.3_248.00	M_273458_826357	0.22	Private	29 BELL BUOY RD	A	Res. - single family	0.21	53.3%	0.13	31%	3.09	13.76
42.4_026.00	M_272572_826355	0.11	Private	399 CIRCUIT AVE	A	Res. - single family	0.10	53.4%	0.05	25%	1.50	13.75
44.4_019.00	M_275574_826807	0.18	Private	23 HANDY RD	A	Res. - single family	0.17	53.2%	0.13	39%	2.52	13.75
43.3_224.00	M_273415_826584	0.12	Private	96 CIRCUIT AVE	A	Res. - single family	0.12	53.2%	0.07	33%	1.71	13.71
43.3_039.00	M_273335_826803	0.25	Private	16 ISLAND DR	A	Res. - single family	0.24	52.9%	0.17	39%	3.45	13.66
47.1_029.00	M_272802_826118	0.15	Private	497 CIRCUIT AVE	A	Res. - single family	0.14	52.9%	0.11	39%	2.08	13.65
43.3_231.00	M_273470_826617	0.13	Private	8 CAPE COD LN	A	Res. - single family	0.12	53.2%	0.08	36%	1.77	13.60
43.3_158.00	M_272825_826356	0.10	Private	563 CIRCUIT AVE	A	Res. - single family	0.10	52.7%	0.07	38%	1.42	13.59
43.3_171.00	M_272637_826252	0.13	Private	52 PEQUOT AVE	A	Res. - single family	0.12	52.6%	0.08	36%	1.79	13.59
47.2_020.00	M_273546_826087	0.22	Private	33 CEDAR POINT DR	A	Res. - single family	0.20	52.3%	0.14	37%	2.93	13.58
42.4_035.00	M_272568_826279	0.10	Private	421 CIRCUIT AVE	A	Res. - single family	0.09	52.6%	0.07	38%	1.34	13.57
42.4_030.00	M_272569_826324	0.11	Private	405 CIRCUIT AVE	A	Res. - single family	0.11	52.6%	0.05	23%	1.54	13.57
47.1_087.00	M_273458_826054	0.28	Private	45 CEDAR POINT DR	A	Res. - single family	0.26	52.0%	0.13	27%	3.77	13.55
44.2_023.01	M_275825_827264	1.08	Private	1 WILLIAMS AVE	A	Commercial	0.94	48.3%	0.65	34%	14.60	13.46
43.3_151.00	M_272891_826405	0.11	Private	9 PENOBSCOT AVE	A	Res. - single family	0.10	51.7%	0.07	37%	1.43	13.37
44.2_124.00	M_275604_826958	0.23	Private	49 LAKE DR	A	Res. - single family	0.21	51.2%	0.11	25%	3.11	13.33
43.3_246.00	M_273477_826383	0.28	Private	2 HILL ST	A	Res. - single family	0.26	51.2%	0.15	30%	3.71	13.29
43.4_074.00	M_273497_826425	0.11	Private	15 HILL ST	A	Res. - single family	0.10	50.8%	0.07	36%	1.42	13.29

Appendix C: Nitrogen Loading Per Parcel
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Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
43.3_201.00	M_273406_826683	0.11	Private	25 PARK ST	A	Res. - single family	0.10	50.5%	0.07	36%	1.39	13.16
47.2_024.00	M_273681_826142	0.20	Private	9 CEDAR POINT DR	B	Res. - single family	0.18	48.5%	0.12	34%	2.67	13.15
47.1_025.00	M_272743_826103	0.08	Private	485 CIRCUIT AVE	A	Res. - single family	0.07	50.4%	0.05	34%	1.06	13.02
47.2_008.00	M_273605_826179	0.16	Private	25 SPRUCE DR	B	Res. - single family	0.14	47.0%	0.09	32%	2.10	12.96
43.3_186.00	M_272712_826249	0.11	Private	24 PEQUOT AVE	A	Res. - single family	0.10	49.4%	0.07	35%	1.47	12.77
47.2_019.00	M_273517_826077	0.21	Private	35 CEDAR POINT DR	A	Res. - single family	0.19	49.0%	0.10	25%	2.73	12.74
44.2_050.00	M_275642_827058	0.19	Private	6 MERCURY AVE	A	Res. - single family	0.17	48.7%	0.12	34%	2.43	12.73
48.0_033.02	M_275334_826132	0.52	Private	50 ROUTE 28A	A	Commercial	0.42	45.5%	0.29	31%	6.61	12.73
47.2_018.00	M_273689_826189	0.18	Private	6 CEDAR POINT DR	B	Res. - single family	0.15	46.5%	0.10	31%	2.25	12.72
43.4_093.00	M_273711_826485	0.24	Private	985 SHORE RD	A	Res. - single family	0.21	48.9%	0.15	34%	3.06	12.71
43.3_241.00	M_273463_826457	0.10	Private	1 BELL BUOY RD	A	Res. - single family	0.09	48.9%	0.06	34%	1.28	12.70
43.3_244.00	M_273463_826419	0.18	Private	11 BELL BUOY RD	A	Res. - single family	0.15	49.0%	0.10	33%	2.22	12.68
44.1_131.00	M_275240_827020	0.18	Private	113 WILLIAMS AVE	A	Res. - single family	0.16	48.3%	0.11	34%	2.31	12.59
43.3_161.00	M_272780_826344	0.12	Private	10 NAUMKEAG AVE	A	Res. - single family	0.10	48.5%	0.07	31%	1.47	12.54
47.2_017.00	M_273665_826178	0.17	Private	10 CEDAR POINT DR	B	Res. - single family	0.14	45.0%	0.09	30%	2.16	12.54
43.3_032.00	M_273291_826804	0.21	Private	47 BELLAVISTA DR	A	Res. - single family	0.18	48.1%	0.13	33%	2.62	12.49
39.0_079.00	M_275972_827649	0.28	Private	688 MACARTHUR BLVD	A	Commercial	0.22	14.1%	0.08	5%	3.51	12.48
43.3_132.00	M_272603_826389	0.17	Private	30 HOPE AVE	A	Res. - single family	0.15	48.1%	0.10	33%	2.10	12.46
47.2_044.00	M_273664_825868	1.02	Private	10 NAIRN RD	A	Res. - single family	0.87	47.5%	0.60	33%	12.62	12.38
48.0_073.00	M_275171_825714	1.49	Private	0 COUNTY RD	A	Res. - single family	1.18	44.0%	0.70	26%	18.48	12.38
47.1_122.00	M_272777_826147	0.34	Private	15 KENNEBEC AVE	A	Res. - single family	0.29	47.7%	0.20	32%	4.24	12.37
43.3_170.00	M_272634_826266	0.11	Private	56 PEQUOT AVE	A	Res. - single family	0.10	47.5%	0.06	28%	1.39	12.33
43.3_040.00	M_273350_826823	0.22	Private	14 ISLAND DR	A	Res. - single family	0.19	47.6%	0.13	33%	2.74	12.33
43.3_245.00	M_273482_826423	0.12	Private	7 HILL ST	A	Res. - single family	0.10	47.2%	0.07	32%	1.46	12.31
47.1_001.00	M_272612_826211	0.13	Private	441 CIRCUIT AVE	A	Res. - single family	0.11	47.1%	0.07	30%	1.58	12.25
47.4_009.25	M_274407_825526	0.24	Private	1090 COUNTY RD	A	Res. - single family	0.20	46.6%	0.10	23%	2.95	12.25
47.1_023.00	M_272725_826102	0.11	Private	479 CIRCUIT AVE	A	Res. - single family	0.09	47.3%	0.05	25%	1.33	12.24
43.3_259.00	M_272950_826372	0.13	Private	584 CIRCUIT AVE	A	Res. - single family	0.11	42.9%	0.07	28%	1.63	12.21
44.2_033.00	M_275756_827157	0.18	Private	84 HANDY RD	A	Res. - single family	0.15	46.4%	0.10	31%	2.16	12.18
47.2_011.00	M_273504_826114	0.17	Private	36 CEDAR POINT DR	A	Res. - single family	0.15	46.7%	0.10	32%	2.11	12.16
43.4_035.00	M_273675_826616	0.13	Private	967 SHORE RD	A	Res. - single family	0.11	46.6%	0.07	30%	1.53	12.13
43.4_005.00	M_273508_826708	0.21	Private	52 WAMSUTTA AVE	A	Res. - single family	0.18	46.4%	0.11	30%	2.58	12.04
44.2_099.00	M_275447_827123	0.19	Private	15 LAKE DR	A	Res. - single family	0.15	45.8%	0.10	31%	2.25	12.03
47.1_064.00	M_273327_826063	0.33	Private	65 SPRUCE DR	A	Res. - single family	0.27	46.2%	0.18	31%	3.94	12.00
47.1_070.00	M_273475_826103	0.18	Private	40 CEDAR POINT DR	A	Res. - single family	0.15	46.1%	0.09	28%	2.12	11.98
	M_273511_825886	44.45					49.36	61.8%	11.30	14%	530.73	11.94
43.4_060.00	M_273720_826557	0.14	Private	6 CIRCUIT AVE	A	Res. - single family	0.12	45.4%	0.08	31%	1.70	11.93
47.1_076.00	M_273167_825872	0.29	Private	93 CEDAR POINT DR	A	Res. - single family	0.23	45.7%	0.14	26%	3.40	11.91

Appendix C: Nitrogen Loading Per Parcel
Red Brook Harbor Catchment Area
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Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
43.3_207.00	M_273460_826712	0.11	Private	59 WAMSUTTA AVE	A	Res. - single family	0.09	45.7%	0.06	31%	1.32	11.87
43.4_014.00	M_273600_826770	0.15	Private	945 SHORE RD	A	Res. - single family	0.12	45.5%	0.06	22%	1.77	11.85
43.2_044.00	M_273550_826896	0.27	Private	927 SHORE RD	A	Res. - single family	0.22	45.2%	0.15	30%	3.24	11.84
47.1_022.00	M_272707_826104	0.11	Private	475 CIRCUIT AVE	A	Res. - single family	0.09	45.3%	0.05	28%	1.29	11.77
43.3_120.00	M_272594_826441	0.20	Private	20 HOPE AVE	A	Res. - single family	0.16	45.2%	0.08	21%	2.35	11.76
43.3_237.00	M_273451_826536	0.12	Private	80 CIRCUIT AVE	A	Res. - single family	0.10	45.2%	0.06	26%	1.42	11.74
47.1_027.00	M_272771_826111	0.12	Private	491 CIRCUIT AVE	A	Res. - single family	0.10	45.2%	0.06	27%	1.46	11.73
42.4_034.00	M_272569_826294	0.10	Private	415 CIRCUIT AVE	A	Res. - single family	0.08	45.2%	0.04	21%	1.22	11.72
43.2_023.00	M_273711_826963	0.24	Private	21 WING RD	A	Res. - single family	0.19	44.5%	0.11	27%	2.76	11.65
42.4_025.00	M_272573_826371	0.13	Private	395 CIRCUIT AVE	A	Res. - single family	0.10	44.3%	0.04	18%	1.45	11.50
47.1_077.00	M_273196_825888	0.20	Private	87 CEDAR POINT DR	A	Res. - single family	0.16	44.0%	0.08	22%	2.31	11.49
42.4_038.00	M_272582_826248	0.14	Private	425 CIRCUIT AVE	A	Res. - single family	0.11	44.2%	0.07	29%	1.62	11.49
43.3_183.00	M_272756_826262	0.11	Private	10 PEQUOT AVE	A	Res. - single family	0.08	43.6%	0.06	29%	1.24	11.47
44.4_001.00	M_275359_826726	0.40	Private	98 LAKE DR	A	Res. - single family	0.31	43.5%	0.21	29%	4.60	11.45
44.2_131.00	M_275588_826831	0.18	Private	31 HANDY RD	A	Res. - single family	0.14	43.8%	0.09	29%	2.04	11.45
47.1_079.00	M_273249_825928	0.22	Private	79 CEDAR POINT DR	A	Res. - single family	0.18	44.0%	0.11	27%	2.57	11.44
43.1_233.00	M_273322_826845	0.21	Private	41 BELLAVISTA DR	A	Res. - single family	0.16	43.9%	0.11	29%	2.36	11.41
47.1_055.00	M_273281_826100	0.20	Private	66 SPRUCE DR	A	Res. - single family	0.16	43.8%	0.10	29%	2.25	11.40
43.3_140.00	M_272640_826327	0.33	Private	45 HOPE AVE	A	Res. - single family	0.26	43.4%	0.17	29%	3.77	11.39
44.2_021.00	M_275846_827326	0.49	Private	2 WILLIAMS AVE	A	Commercial	0.36	40.3%	0.23	26%	5.63	11.38
44.1_118.00	M_274925_826930	0.26	Private	1 OLD COUNTY RD	A	Res. - single family	0.21	43.5%	0.12	26%	2.99	11.34
43.3_236.00	M_273497_826629	0.11	Private	37 WAMSUTTA AVE	A	Res. - single family	0.09	43.4%	0.06	29%	1.28	11.32
42.4_028.00	M_272570_826339	0.11	Private	401 CIRCUIT AVE	A	Res. - single family	0.09	43.5%	0.04	20%	1.29	11.31
43.4_108.00	M_273680_826212	0.16	Private	7 SPRUCE DR	B	Res. - single family	0.12	40.7%	0.07	24%	1.82	11.31
47.1_080.00	M_273273_825950	0.23	Private	75 CEDAR POINT DR	A	Res. - single family	0.18	43.3%	0.11	28%	2.56	11.28
43.3_209.00	M_273484_826761	0.17	Private	66 WAMSUTTA AVE	A	Res. - single family	0.13	43.1%	0.06	20%	1.87	11.28
44.1_130.00	M_275217_827012	0.18	Private	117 WILLIAMS AVE	A	Res. - single family	0.14	43.1%	0.08	25%	2.01	11.26
44.0_020.04	M_275415_826299	0.53	Private	39 ROUTE 28A	C/D	Commercial	0.38	39.7%	0.18	19%	5.98	11.24
44.1_077.00	M_274957_827015	0.17	Private	6 MARJORIE AVE	A	Res. - single family	0.13	42.6%	0.07	25%	1.86	11.20
44.1_122.00	M_275031_826958	0.18	Private	149 WILLIAMS AVE	A	Res. - single family	0.14	42.4%	0.07	21%	2.05	11.20
43.3_193.00	M_272756_826217	0.11	Private	15 PEQUOT AVE	A	Res. - single family	0.09	43.1%	0.04	20%	1.27	11.20
43.3_067.00	M_272984_826557	0.13	Private	230 CIRCUIT AVE	A	Res. - single family	0.10	40.9%	0.06	25%	1.45	11.16
47.1_072.00	M_273409_826080	0.17	Private	50 CEDAR POINT DR	A	Res. - single family	0.13	42.8%	0.07	22%	1.88	11.14
43.3_190.00	M_272642_826237	0.12	Private	50 PEQUOT AVE	A	Res. - single family	0.09	42.5%	0.05	25%	1.34	11.12
44.4_023.00	M_275584_826710	0.25	Private	824 MACARTHUR BLVD	A	Commercial	0.17	39.3%	0.11	25%	2.73	11.11
43.3_189.00	M_272667_826237	0.11	Private	36 PEQUOT AVE	A	Res. - single family	0.08	41.7%	0.05	27%	1.19	11.05
44.1_100.00	M_274898_826990	0.20	Private	30 LEEN RD	A	Res. - single family	0.15	42.3%	0.10	27%	2.25	11.04

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Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
43.4_080.00	M_273544_826374	0.11	Private	30 HILL ST	A	Res. - single family	0.08	41.8%	0.05	27%	1.20	11.02
44.2_049.00	M_275664_827035	0.21	Private	2 MERCURY AVE	A	Res. - single family	0.16	42.0%	0.10	26%	2.28	10.98
43.3_275.00	M_273458_826522	0.11	Private	76 CIRCUIT AVE	A	Res. - single family	0.09	42.0%	0.05	25%	1.24	10.93
43.4_025.00	M_273561_826595	0.13	Private	22 WAMSUTTA AVE	A	Res. - single family	0.10	41.5%	0.06	26%	1.47	10.91
43.4_065.00	M_273784_826544	0.24	Private	25 QUAIL HILL RD	A	Res. - single family	0.18	41.1%	0.11	26%	2.60	10.91
43.4_011.00	M_273576_826735	0.34	Private	946 SHORE RD	A	Res. - single family	0.25	41.3%	0.13	21%	3.68	10.89
43.2_037.00	M_273584_826910	0.27	Private	4 WING RD	A	Res. - single family	0.20	41.4%	0.12	25%	2.91	10.87
43.3_218.00	M_273433_826647	0.16	Private	22 PARK ST	A	Res. - single family	0.12	41.1%	0.07	26%	1.70	10.87
47.1_030.00	M_272814_826132	0.11	Private	509 CIRCUIT AVE	A	Res. - single family	0.08	41.7%	0.05	27%	1.16	10.87
47.1_103.00	M_273449_825954	0.41	Private	122 ELGIN RD	A	Res. - single family	0.30	41.5%	0.20	27%	4.44	10.86
47.2_016.00	M_273640_826167	0.17	Private	14 CEDAR POINT DR	B	Res. - single family	0.11	37.6%	0.07	23%	1.83	10.83
47.1_086.00	M_273425_826042	0.30	Private	47 CEDAR POINT DR	A	Res. - single family	0.22	40.9%	0.14	25%	3.21	10.80
44.2_117.00	M_275516_826861	0.20	Private	66 LAKE DR	A	Res. - single family	0.14	40.7%	0.09	26%	2.12	10.77
43.4_033.00	M_273597_826690	0.18	Private	952 SHORE RD	A	Res. - single family	0.13	41.2%	0.08	26%	1.89	10.75
43.2_033.00	M_273668_826927	0.23	Private	24 WING RD	A	Res. - single family	0.17	41.0%	0.11	26%	2.45	10.75
43.4_026.00	M_273569_826677	0.19	Private	66 PROSPECT AVE	A	Res. - single family	0.14	40.8%	0.09	26%	2.04	10.75
43.4_064.00	M_273779_826571	0.22	Private	21 QUAIL HILL RD	A	Res. - single family	0.16	40.4%	0.08	21%	2.38	10.70
43.3_023.00	M_273222_826807	0.24	Private	52 BELLAVISTA DR	A	Res. - single family	0.18	41.0%	0.11	26%	2.55	10.70
43.3_219.00	M_273460_826666	0.19	Private	30 PARK ST	A	Res. - single family	0.14	40.3%	0.08	23%	2.00	10.67
43.4_027.00	M_273579_826656	0.17	Private	60 PROSPECT AVE	A	Res. - single family	0.13	40.5%	0.08	25%	1.83	10.56
43.3_239.00	M_273472_826509	0.16	Private	72 CIRCUIT AVE	A	Res. - single family	0.11	40.4%	0.06	22%	1.64	10.55
43.4_022.00	M_273494_826593	0.24	Private	4 CAPE COD LN	A	Res. - single family	0.18	40.1%	0.08	18%	2.57	10.55
44.1_061.00	M_275183_827073	0.18	Private	46 MARJORIE AVE	A	Res. - single family	0.13	40.0%	0.08	25%	1.92	10.54
43.3_153.00	M_272917_826387	0.13	Private	585 CIRCUIT AVE	A	Res. - single family	0.09	40.1%	0.06	25%	1.38	10.47
43.3_199.00	M_273362_826666	0.15	Private	9 PARK ST	A	Res. - single family	0.10	36.7%	0.05	18%	1.53	10.41
47.2_006.00	M_273554_826157	0.19	Private	33 SPRUCE DR	A	Res. - single family	0.13	39.2%	0.08	25%	1.93	10.37
43.4_061.00	M_273740_826563	0.16	Private	4 CIRCUIT AVE	A	Res. - single family	0.11	38.9%	0.07	24%	1.63	10.34
47.1_078.00	M_273222_825907	0.25	Private	83 CEDAR POINT DR	A	Res. - single family	0.17	39.3%	0.10	23%	2.54	10.31
47.4_012.00	M_273814_825343	0.16	Private	66 RED BROOK HARBOR RD	A	Res. - single family	0.11	35.5%	0.07	21%	1.66	10.31
47.1_065.00	M_273349_826084	0.16	Private	59 SPRUCE DR	A	Res. - single family	0.11	39.0%	0.07	23%	1.67	10.26
47.1_081.00	M_273294_825973	0.30	Private	71 CEDAR POINT DR	A	Res. - single family	0.21	39.1%	0.10	19%	3.03	10.25
43.2_018.00	M_273629_826990	0.24	Private	11 WING RD	A	Res. - single family	0.17	38.8%	0.11	24%	2.49	10.25
43.3_192.00	M_272742_826213	0.11	Private	19 PEQUOT AVE	A	Res. - single family	0.08	39.2%	0.05	23%	1.14	10.24
43.3_139.00	M_272595_826276	0.10	Private	58 PEQUOT AVE	A	Res. - single family	0.07	39.1%	0.04	24%	1.03	10.22
43.3_242.00	M_273464_826442	0.10	Private	5 BELL BUOY RD	A	Res. - single family	0.07	39.0%	0.04	24%	1.00	10.21
43.3_147.00	M_272817_826385	0.11	Private	31 PENOBSCOT AVE	A	Res. - single family	0.08	39.0%	0.05	23%	1.13	10.20
47.1_007.00	M_272657_826158	0.17	Private	457 CIRCUIT AVE	A	Res. - single family	0.12	38.7%	0.05	17%	1.72	10.11

Appendix C: Nitrogen Loading Per Parcel
Red Brook Harbor Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
43.3_205.00	M_273447_826742	0.15	Private	67 WAMSUTTA AVE	A	Res. - single family	0.10	38.3%	0.06	23%	1.50	10.08
47.2_002.00	M_273541_826192	0.18	Private	30 SPRUCE DR	A	Res. - single family	0.12	37.9%	0.08	23%	1.85	10.05
43.1_249.00	M_273425_827033	0.29	Private	899 SHORE RD	A	Res. - single family	0.20	38.3%	0.12	24%	2.87	10.03
43.2_025.00	M_273719_826914	0.23	Private	25 WING RD	A	Res. - single family	0.16	38.2%	0.10	24%	2.30	10.03
47.2_045.00	M_273636_825830	0.48	Private	14 NAIRN RD	A	Res. - single family	0.33	38.2%	0.19	22%	4.81	9.99
47.2_015.00	M_273615_826156	0.17	Private	20 CEDAR POINT DR	B	Res. - single family	0.11	34.6%	0.04	14%	1.71	9.97
44.0_018.00	M_275496_826440	1.12	Private	21 FOSTER HOWARD RD	A	Commercial	0.70	34.8%	0.27	14%	11.13	9.95
47.1_066.00	M_273375_826093	0.16	Private	57 SPRUCE DR	A	Res. - single family	0.11	38.0%	0.06	21%	1.62	9.95
47.1_057.00	M_273337_826120	0.15	Private	58 SPRUCE DR	A	Res. - single family	0.10	37.8%	0.06	23%	1.50	9.91
43.3_238.00	M_273477_826534	0.13	Private	41 SACO AVE	A	Res. - single family	0.08	37.8%	0.05	23%	1.24	9.90
43.3_154.00	M_272891_826374	0.21	Private	579 CIRCUIT AVE	A	Res. - single family	0.14	37.2%	0.07	19%	2.10	9.88
44.4_010.00	M_275510_826778	0.18	Private	79 LAKE DR	A	Res. - single family	0.12	37.2%	0.06	17%	1.81	9.87
43.3_134.00	M_272601_826353	0.11	Private	38 HOPE AVE	A	Res. - single family	0.08	37.7%	0.05	23%	1.10	9.87
47.1_040.00	M_272720_826176	0.12	Private	28 KENNEBEC AVE	A	Res. - single family	0.08	37.2%	0.04	17%	1.13	9.77
43.3_250.00	M_273436_826321	0.23	Private	35 BELL BUOY RD	A	Res. - single family	0.15	36.7%	0.07	18%	2.22	9.77
47.1_074.00	M_273357_826062	0.16	Private	56 CEDAR POINT DR	A	Res. - single family	0.11	37.0%	0.06	21%	1.60	9.74
43.3_203.00	M_273431_826706	0.40	Private	35 PARK ST	A	Res. - single family	0.26	36.6%	0.16	22%	3.89	9.74
47.2_005.00	M_273525_826147	0.18	Private	35 SPRUCE DR	A	Res. - single family	0.12	37.0%	0.07	21%	1.79	9.71

* Only Parcels with nitrogen loads greater than 9.70 lb/yr/acre are shown on this table

APPENDIX C

Detailed Table of Nutrient Loading by Parcels

Squeteague Harbor Catchment Area

Appendix C: Nitrogen Loading Per Parcel
Squeteague Harbor Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
52.0_082.00	M_274967_824735	1.14	Private	12 MILLENNIUM DR	A	Commercial	1.68	82.4%	1.21	59%	25.43	22.32
52.0_081.00	M_274973_824686	1.11	Private	10 MILLENNIUM DR	A	Commercial	1.63	82.2%	1.05	53%	24.62	22.27
52.0_080.00	M_274950_824636	0.93	Private	8 MILLENNIUM DR	A	Commercial	1.37	81.9%	0.88	53%	20.75	22.20
52.0_036.00	M_274833_824705	0.85	Private	1235 ROUTE 28A	A	Industrial	1.24	80.6%	0.80	52%	18.68	21.86
52.0_029.00	M_274510_824162	3.32	Private	1280 ROUTE 28A	A	Commercial	4.77	80.2%	2.96	50%	72.14	21.76
52.0_079.00	M_274839_824655	0.98	Private	1237 ROUTE 28A	A	Commercial	1.41	79.8%	0.99	56%	21.27	21.64
52.0_027.00	M_274586_824218	0.46	Private	1270 ROUTE 28A	A	Commercial	0.65	79.4%	0.58	70%	9.82	21.55
54.0_052.00	M_274223_823721	1.02	Private	1356 COUNTY RD	A	Commercial	1.42	77.8%	0.92	50%	21.52	21.12
54.0_056.01	M_274275_823614	1.11	Private	1379 ROUTE 28A	A	Commercial	1.53	77.3%	1.04	53%	23.23	21.00
54.0_063.00	M_274186_823400	0.03	Private	22 JAMES WEST RD	A	Res. - single family	0.04	62.5%	0.03	49%	0.54	20.60
48.0_047.02	M_274972_825169	0.55	Private	1134 ROUTE 28A	A	Commercial	0.74	74.5%	0.53	54%	11.19	20.27
54.0_064.00	M_274198_823394	0.01	Private	22 JAMES WEST RD	A	Open land	0.01	50.5%	0.01	36%	0.11	20.26
51.0_039.00	M_274305_823808	1.14	Private	1337 COUNTY RD	A	Commercial	1.50	73.2%	0.98	48%	22.79	19.94
48.0_047.00	M_275008_825233	0.63	Private	1130 ROUTE 28A	A	Industrial	0.78	68.4%	0.64	56%	11.86	18.68
52.0_094.00	M_274941_824548	1.06	Private	3 CRANE CIR	A	Commercial	1.28	67.7%	0.98	52%	19.56	18.51
51.0_039.03	M_274431_823901	0.31	Private	1352 ROUTE 28A	A	Commercial	0.37	65.0%	0.29	52%	5.57	17.80
52.0_092.XXXX	M_274833_824518	1.14	Private	4 CRANE CIR	A	Commercial	1.32	64.4%	1.06	52%	20.10	17.65
52.0_037.XXXX	M_274954_824858	1.99	Private	1227-A ROUTE 28A	A	Commercial	2.24	62.8%	1.47	41%	34.30	17.22
52.0_005.XXXX	M_274658_824510	2.14	Private	1248 ROUTE 28A	A	Commercial	2.40	62.6%	1.90	49%	36.68	17.16
51.0_042.00	M_274360_823858	0.52	Private	1358 ROUTE 28A	A	Commercial	0.55	60.0%	0.43	46%	8.50	16.50
48.0_047.04	M_275028_825134	0.52	Private	1135 ROUTE 28A	A	Commercial	0.55	59.6%	0.43	46%	8.50	16.40
48.0_042.00	M_275113_825477	2.32	Private	1104 ROUTE 28A	A	Commercial	2.40	57.7%	1.65	40%	36.91	15.90
54.0_053.00	M_274206_823760	0.94	Private	1340 COUNTY RD	A	Commercial	0.96	57.4%	0.73	43%	14.81	15.81
52.0_014.00	M_274628_824317	0.59	Private	1268 ROUTE 28	A	Commercial	0.61	57.0%	0.42	39%	9.32	15.73
48.0_066.00	M_274776_825538	0.14	Private	8 WARD SWIFT RD	A	Res. - single family	0.15	59.1%	0.10	41%	2.13	15.16
52.0_095.00	M_274943_824594	1.02	Private	1 CRANE CIR	A	Commercial	1.00	54.5%	0.61	34%	15.37	15.07
51.0_043.00	M_274382_823871	0.44	Private	1356 ROUTE 28A	A	Commercial	0.43	53.9%	0.31	39%	6.60	14.91
54.0_045.00	M_274170_823684	1.34	Private	1370 ROUTE 28A	A	Commercial	1.27	53.0%	0.68	29%	19.59	14.67
48.0_047.01	M_274990_825199	0.54	Private	1132 ROUTE 28A	A	Commercial	0.50	52.4%	0.23	24%	7.79	14.52
52.0_087.00	M_274604_824249	0.28	Private	1 SCRAGGY NECK EXT	A	Commercial	0.25	48.5%	0.13	27%	3.82	13.50
52.0_008.00	M_274419_824505	0.11	Private	1243 COUNTY RD	A	Res. - single family	0.10	51.4%	0.07	36%	1.48	13.43
51.3_059.00	M_273464_824084	0.27	Private	47 SQUETEAGUE HARBOR RD	A	Res. - single family	0.25	50.1%	0.17	36%	3.57	13.06
54.0_033.00	M_273761_823645	0.22	Private	15 PINE HILL RD	A	Res. - single family	0.20	49.8%	0.14	35%	2.82	12.92
54.0_021.00	M_273671_823554	0.37	Private	130-A MEGANSETT RD	A	Res. - single family	0.32	48.3%	0.22	34%	4.64	12.64
54.0_056.00	M_274226_823608	0.51	Private	1383 ROUTE 28A	A	Commercial	0.41	44.4%	0.26	28%	6.38	12.45
52.0_078.00	M_274866_824766	1.14	Private	1231 ROUTE 28A	A	Industrial	0.87	42.6%	0.36	17%	13.71	11.98
52.0_061.00	M_274748_824457	0.51	Private	1251 ROUTE 28A	A	Commercial	0.40	43.1%	0.13	14%	6.13	11.95
48.0_068.01	M_274745_825524	0.03	Private	0 WARD SWIFT RD	A	Open land	0.03	56.6%	0.02	43%	0.36	11.71

Appendix C: Nitrogen Loading Per Parcel
Squeteague Harbor Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
52.0_063.00	M_274801_824457	0.86	Private	3 ANASTASIA RD	A	Commercial	0.64	41.5%	0.41	27%	9.91	11.55
51.4_015.00	M_273792_824211	0.15	Private	14 OAK AVE	A	Res. - single family	0.12	43.0%	0.07	24%	1.74	11.24
51.4_035.00	M_273835_824154	0.38	Private	19 OAK AVE	A	Res. - single family	0.29	42.5%	0.19	28%	4.24	11.17
54.0_045.02	M_274088_823532	0.93	Private	1400 ROUTE 28A	A	Industrial	0.64	38.4%	0.34	20%	10.09	10.89
52.0_085.00	M_274948_824767	0.99	Private	0 MILLENNIUM DR	A	Open land	0.89	50.3%	0.53	30%	10.46	10.56
52.0_076.00	M_274810_824939	2.24	Private	1220 ROUTE 28A	A	Commercial	1.50	37.2%	0.56	14%	23.70	10.56
52.0_017.00	M_274475_824277	0.21	Private	8 SCRAGGY NECK RD EXT	A	Res. - single family	0.13	36.3%	0.07	19%	2.10	10.17
	M_273010_824141	13.77			A	Res. - single family	12.80	13.3%	3.14	3%	140.11	10.17
54.0_037.00	M_273836_823533	0.24	Private	2 PINE HILL RD	A	Res. - single family	0.17	38.1%	0.06	13%	2.43	10.07
51.3_051.00	M_273337_824178	0.27	Private	26 SQUETEAGUE HARBOR RD	A	Res. - single family	0.18	36.9%	0.11	22%	2.67	9.81
55.0_031.00	M_274457_823351	0.31	Private	16 WHIMBREL DR	A	Res. - single family	0.20	36.5%	0.12	22%	3.04	9.74
51.0_039.01	M_274291_823867	0.56	Private	1335 COUNTY RD	A	Mixed use, primarily Res.	0.36	35.6%	0.15	15%	5.28	9.42
54.0_040.00	M_273830_823591	0.26	Private	8 PINE HILL RD	A	Res. - single family	0.16	34.6%	0.09	20%	2.35	9.18
54.0_039.00	M_273832_823572	0.23	Private	6 PINE HILL RD	A	Res. - single family	0.14	34.5%	0.07	18%	2.09	9.15
55.0_012.00	M_274569_823470	0.33	Private	25 SANDERLING DR	A	Res. - single family	0.19	33.2%	0.11	19%	2.92	8.96
52.0_016.00	M_274521_824286	0.42	Private	6 SCRAGGY NECK RD EXT	A	Res. - single family	0.25	33.2%	0.12	17%	3.72	8.86
55.0_018.00	M_274443_823406	0.33	Private	15 WHIMBREL DR	A	Res. - single family	0.19	31.8%	0.10	16%	2.87	8.64
52.0_026.00	M_274570_824246	0.20	Private	3 SCRAGGY NECK RD EXT	A	Res. - single family	0.11	31.7%	0.05	14%	1.67	8.52
51.4_039.00	M_273838_823952	0.40	Private	45 OAK AVE	A	Res. - single family	0.22	31.5%	0.13	18%	3.32	8.39
52.0_025.00	M_274540_824214	0.21	Private	3 MEADOW LN	A	Res. - single family	0.11	29.8%	0.06	16%	1.74	8.16
54.0_043.00	M_273825_823651	0.45	Private	14 PINE HILL RD	A	Res. - single family	0.24	29.7%	0.13	16%	3.61	8.09
52.0_084.00	M_274884_824707	0.78	Private	1233 ROUTE 28A	A	Open land	0.52	37.3%	0.32	23%	6.30	8.04
51.4_017.00	M_273514_824166	0.14	Private	25 MYSTERY LN	A	Res. - single family	0.07	29.2%	0.04	16%	1.09	8.03
54.0_082.00	M_274376_823484	0.33	Private	1 PINTAIL CIR	A	Res. - single family	0.17	28.9%	0.09	16%	2.60	7.94
51.0_038.01	M_274288_823933	0.61	Private	1323 COUNTY RD	A	Res. - single family	0.32	29.1%	0.15	14%	4.78	7.86
52.0_071.00	M_274897_824439	1.13	Private	7 ANASTASIA RD	A	Commercial	0.55	27.1%	0.09	4%	8.72	7.74
51.3_058.00	M_273480_824054	0.42	Private	51 SQUETEAGUE HARBOR RD	A	Res. - single family	0.22	28.5%	0.11	15%	3.28	7.73
51.3_046.00	M_273477_824271	0.23	Private	5 THAYER LN	A	Res. - single family	0.12	28.1%	0.06	15%	1.78	7.67
48.0_063.00	M_274770_825578	0.34	Private	1039 COUNTY RD	A	Res. - single family	0.18	28.8%	0.07	11%	2.60	7.66
52.0_001.01	M_274771_824839	1.29	Private	1230 ROUTE 28A	A	Commercial	0.60	25.7%	0.19	8%	9.80	7.57
51.0_040.00	M_274424_823775	0.86	Private	1355 ROUTE 28A	A	Commercial	0.40	23.6%	0.18	11%	6.50	7.56
54.0_051.00	M_274099_823558	0.24	Private	1396 ROUTE 28A	A	Tax exempt	0.16	37.8%	0.06	13%	1.81	7.54
54.0_076.00	M_274282_823423	0.42	Private	8 WHIMBREL DR	A	Res. - single family	0.21	27.4%	0.11	14%	3.20	7.53
48.0_067.00	M_274773_825511	0.15	Private	10 WARD SWIFT RD	A	Res. - single family	0.08	27.8%	0.03	13%	1.12	7.43
52.0_001.00	M_274790_824882	1.01	Private	1224 ROUTE 28A	A	Commercial	0.45	24.7%	0.16	9%	7.40	7.33

Appendix C: Nitrogen Loading Per Parcel
Squeteague Harbor Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
52.0_018.00	M_274436_824269	0.19	Private	10 SCRAGGY NECK RD EXT	A	Res. - single family	0.09	26.4%	0.05	13%	1.38	7.26
48.0_076.00	M_275063_825639	0.08	Private	1005 COUNTY RD	A	Res. - single family	0.04	25.7%	0.02	13%	0.57	7.18
54.0_059.00	M_274136_823494	0.69	Private	1403 ROUTE 28A	A	Res. - single family	0.32	26.0%	0.09	7%	4.91	7.15
52.0_083.00	M_274427_824471	0.03	Private	0 COUNTY RD	A	Open land	0.02	32.1%	0.01	13%	0.19	7.11
54.0_080.00	M_274385_823420	0.32	Private	3 PINTAIL CIR	A	Res. - single family	0.15	25.6%	0.07	13%	2.27	7.09
52.0_074.00	M_274485_823993	2.85	Private	1318 ROUTE 28A	A	Commercial	1.22	23.8%	0.41	8%	20.18	7.08
48.0_047.03	M_274938_825144	1.79	Private	1138 ROUTE 28A	A	Commercial	0.76	23.7%	0.32	10%	12.55	7.02
54.0_078.00	M_274350_823382	0.31	Private	10 WHIMBREL DR	A	Res. - single family	0.14	25.5%	0.07	13%	2.17	7.02
55.0_019.00	M_274481_823403	0.29	Private	17 WHIMBREL DR	A	Res. - single family	0.13	24.7%	0.06	11%	2.00	6.92
52.0_086.00	M_274541_824242	0.21	Private	5 SCRAGGY NECK RD EXT	A	Res. - single family	0.09	24.4%	0.03	9%	1.41	6.84
54.0_070.00	M_274341_823553	0.32	Private	7 SANDERLING DR	A	Res. - single family	0.14	24.1%	0.07	12%	2.15	6.71
51.4_025.00	M_273563_824024	0.67	Private	53 MEGANSETT RD	A	Res. - single family	0.30	24.6%	0.09	7%	4.50	6.71
51.4_064.00	M_274225_824174	0.79	Private	9 SCRAGGY NECK RD	A	Res. - single family	0.34	23.8%	0.12	8%	5.30	6.71
55.0_020.00	M_274509_823393	0.29	Private	19 WHIMBREL DR	A	Res. - single family	0.12	24.0%	0.06	12%	1.93	6.70
51.4_031.00	M_273815_824330	0.79	Private	71 SCRAGGY NECK RD	A	Res. - single family	0.34	23.9%	0.12	9%	5.25	6.66
51.4_087.00	M_273703_823965	0.30	Private	8 FALMOUTH AVE	A	Open land	0.16	29.8%	0.06	12%	2.00	6.64
54.0_048.00	M_273984_823487	1.04	Private	1412 ROUTE 28A	A	Commercial	0.41	20.7%	0.14	7%	6.86	6.58
54.0_027.00	M_273698_823545	0.28	Private	132 MEGANSETT RD	A	Res. - single family	0.12	23.5%	0.06	11%	1.84	6.53
51.4_008.01	M_273608_824298	0.52	Private	101 SCRAGGY NECK RD	A	Res. - single family	0.22	23.8%	0.08	9%	3.39	6.49
54.0_055.00	M_274349_823663	3.47	Private	1375 ROUTE 28A	A	Commercial	1.33	21.4%	0.36	6%	22.35	6.45
51.4_125.00	M_274092_823896	0.49	Private	4 PUFFIN CIR	A	Res. - single family	0.20	22.9%	0.08	9%	3.17	6.44
51.4_119.00	M_273977_823922	0.48	Private	8 WILLETT CIR	A	Res. - single family	0.20	22.8%	0.09	10%	3.11	6.41
54.0_081.00	M_274365_823452	0.32	Private	2 PINTAIL CIR	A	Res. - single family	0.13	22.8%	0.04	8%	2.03	6.40
52.0_011.00	M_274442_824566	0.77	Private	1235 COUNTY RD	A	Res. - single family	0.31	22.6%	0.15	11%	4.93	6.38
51.3_041.00	M_273351_824303	0.52	Private	5 SQUETEAGUE HARBOR RD	A	Res. - single family	0.21	21.3%	0.08	8%	3.35	6.38
51.4_105.00	M_274227_823854	0.46	Private	1 SHEARWATER DR	A	Res. - single family	0.19	22.9%	0.09	11%	2.90	6.34
51.4_048.00	M_274121_824378	0.47	Private	7 PARTRIDGE LN	A	Res. - single family	0.19	22.5%	0.09	11%	2.98	6.32
51.4_063.00	M_274191_824186	0.52	Private	17 SCRAGGY NECK RD	A	Res. - single family	0.21	22.7%	0.08	9%	3.26	6.31
51.4_084.00	M_273968_824175	0.55	Private	5 SANDPIPER LN	A	Res. - single family	0.22	21.9%	0.06	6%	3.43	6.25
51.2_036.00	M_274072_824410	0.45	Private	4 PHEASANT LN	A	Res. - single family	0.18	22.2%	0.08	10%	2.81	6.22
51.2_037.00	M_274043_824434	0.46	Private	6 PHEASANT LN	A	Res. - single family	0.18	22.1%	0.09	10%	2.85	6.19
51.4_107.00	M_274150_823836	0.50	Private	5 SHEARWATER DR	A	Res. - single family	0.20	22.1%	0.06	6%	3.09	6.17
54.0_073.00	M_274300_823517	0.34	Private	2 WHIMBREL DR	A	Res. - single family	0.13	21.6%	0.06	10%	2.07	6.15

Appendix C: Nitrogen Loading Per Parcel
Squeteague Harbor Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
55.0_007.00	M_274432_823534	0.29	Private	15 SANDERLING DR	A	Res. - single family	0.11	21.6%	0.05	9%	1.75	6.13
51.0_011.00	M_273502_823923	0.75	Private	66 MEGANSETT RD	A	Res. - single family	0.29	18.4%	0.08	5%	4.57	6.12
55.0_013.00	M_274545_823441	0.32	Private	27 SANDERLING DR	A	Res. - single family	0.13	21.6%	0.05	8%	1.96	6.06
51.0_029.00	M_274374_824328	0.39	Private	1265 COUNTY RD	A/D	Res. - single family	0.13	19.0%	0.03	4%	2.33	6.02
54.0_074.00	M_274290_823487	0.31	Private	4 WHIMBREL DR	A	Res. - single family	0.12	21.2%	0.05	10%	1.85	6.00
54.0_072.00	M_274403_823539	0.31	Private	11 SANDERLING DR	A	Res. - single family	0.12	20.8%	0.05	9%	1.86	5.98
51.0_038.00	M_274285_823901	0.30	Private	1325 COUNTY RD	A	Res. - single family	0.11	21.6%	0.05	9%	1.77	5.96
51.4_095.00	M_274036_824220	0.56	Private	39 SCRAGGY NECK RD	A	Res. - single family	0.21	20.8%	0.09	9%	3.30	5.95
48.0_048.00	M_274886_825058	3.99	Private	1140 ROUTE 28A	A	Tax exempt	2.03	28.4%	0.72	10%	23.57	5.90
51.4_018.00	M_273506_824093	0.62	Private	53 OCEAN AVE	A	Res. - single family	0.23	20.5%	0.08	7%	3.65	5.86
51.4_067.00	M_273951_824066	0.70	Private	5 OLOFSON DR	A	Res. - single family	0.26	20.9%	0.11	9%	4.10	5.85
51.4_082.00	M_273940_823973	0.58	Private	8 OLOFSON DR	A	Res. - single family	0.21	20.2%	0.09	9%	3.37	5.78
54.0_038.00	M_273833_823554	0.24	Private	4 PINE HILL RD	A	Res. - single family	0.09	21.0%	0.03	7%	1.38	5.78
51.4_106.00	M_274184_823842	0.45	Private	3 SHEARWATER DR	A	Res. - single family	0.16	20.1%	0.07	9%	2.59	5.74
55.0_014.00	M_274507_823448	0.32	Private	29 SANDERLING DR	A	Res. - single family	0.11	19.9%	0.04	8%	1.83	5.74
51.0_031.00	M_274355_824282	0.55	Private	1275 COUNTY RD	A/D	Res. - single family	0.19	18.9%	0.06	6%	3.17	5.72
51.4_069.00	M_274030_824071	0.71	Private	3 OLOFSON DR	A	Res. - single family	0.26	20.4%	0.09	7%	4.04	5.72
51.4_062.00	M_274135_824203	0.32	Private	25 SCRAGGY NECK RD	A	Res. - single family	0.11	20.0%	0.04	6%	1.82	5.72
51.2_043.02	M_274042_824564	0.15	Private	67 DEPOT RD	A	Open land	0.07	24.9%	0.03	9%	0.87	5.71
51.4_027.00	M_273719_823984	0.40	Private	6 FALMOUTH AVE	A	Res. - single family	0.15	20.3%	0.05	7%	2.27	5.70
51.4_093.00	M_273905_824117	0.47	Private	8 SANDPIPER LN	A	Res. - single family	0.17	19.5%	0.06	7%	2.67	5.66
54.0_041.00	M_273828_823619	0.54	Private	10 PINE HILL RD	A	Res. - single family	0.19	20.2%	0.07	7%	3.04	5.64
51.4_009.02	M_273674_824311	0.56	Private	26 OCEAN AVE	A	Res. - single family	0.20	19.8%	0.07	7%	3.14	5.59
51.0_039.04	M_274404_823885	0.36	Private	1354 ROUTE 28A	A	Commercial	0.12	18.0%	0.05	7%	2.00	5.58
55.0_008.00	M_274462_823528	0.31	Private	17 SANDERLING DR	A	Res. - single family	0.11	19.4%	0.03	5%	1.74	5.56
51.3_049.00	M_273340_824241	0.50	Private	15 SQUETEAGUE HARBOR RD	A	Res. - single family	0.17	19.1%	0.07	8%	2.78	5.54
51.4_100.00	M_274098_824170	0.50	Private	2 BOBWHITE LN	A	Res. - single family	0.17	19.4%	0.07	8%	2.77	5.54
51.0_041.00	M_274339_823843	0.62	Private	1360 ROUTE 28A	A	Commercial	0.20	17.8%	0.08	7%	3.41	5.52
51.4_108.00	M_274101_823842	0.46	Private	1 TATTLER CIR	A	Res. - single family	0.16	19.8%	0.07	8%	2.52	5.52
51.3_050.00	M_273310_824190	0.19	Private	20 SQUETEAGUE HARBOR RD	A	Res. - single family	0.07	18.9%	0.03	8%	1.06	5.50
51.2_059.00	M_274314_824491	0.93	Private	4 OLD CATAUMET PASSAGE	A	Res. - single family	0.32	19.3%	0.09	5%	5.07	5.47
51.0_012.00	M_273483_823886	0.45	Private	68 MEGANSETT RD	A	Res. - single family	0.16	14.8%	0.06	6%	2.46	5.46
51.4_046.00	M_273949_824344	0.46	Private	54 SCRAGGY NECK RD	A	Res. - single family	0.15	18.7%	0.05	6%	2.48	5.38
51.4_008.00	M_273570_824290	0.76	Private	105 SCRAGGY NECK RD	A	Res. - single family	0.26	19.1%	0.08	6%	4.09	5.38

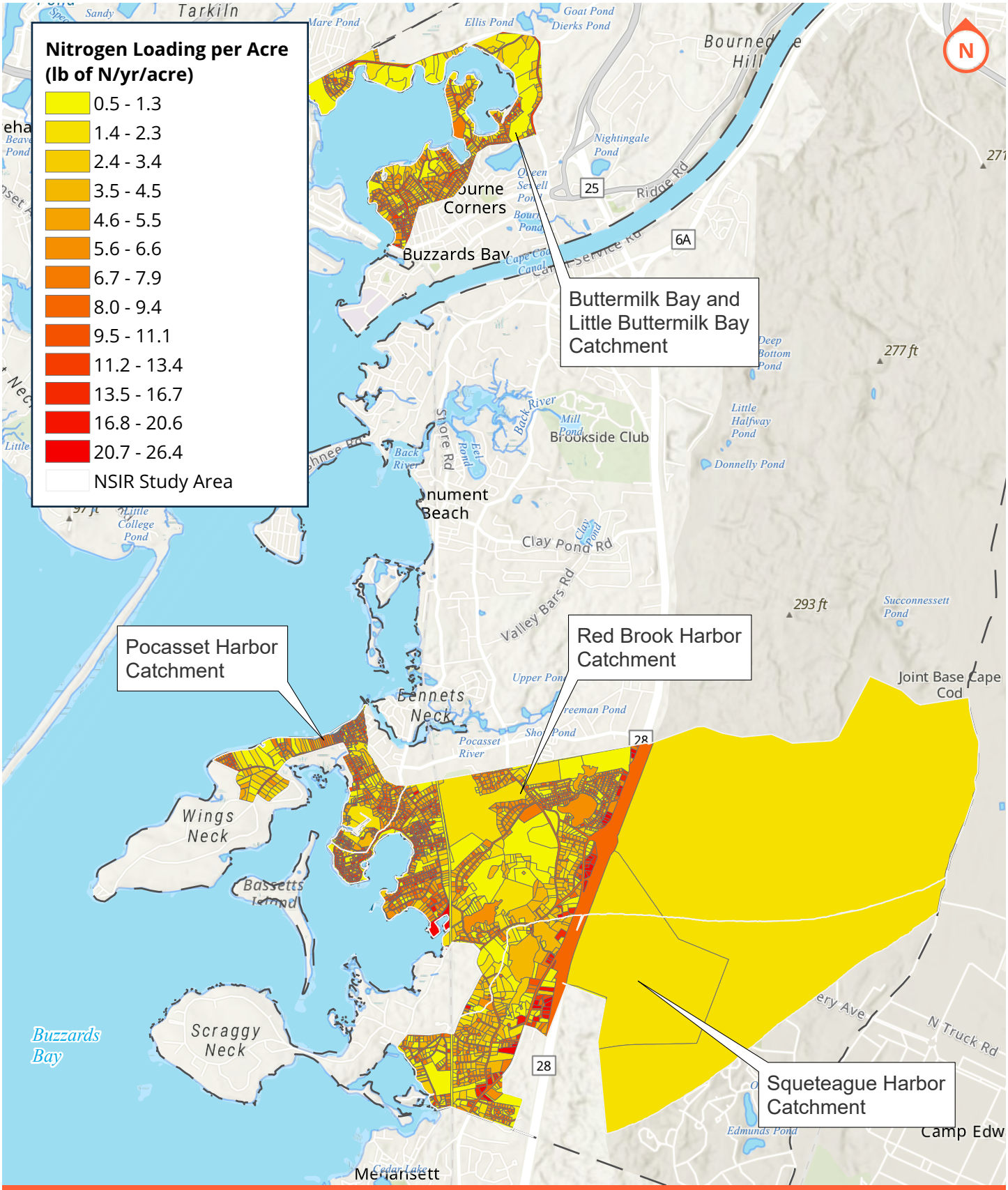
Appendix C: Nitrogen Loading Per Parcel
Squeteague Harbor Catchment Area
Nutrient Source Identification Report

Parcel ID	LOC ID	Area (Acre)	Ownership	Address	Dominant Hydrologic Soil Group	Dominant Land Use	Impervious Area (Acre)	Impervious Area Percent	DCIA Area (Acre)	DCIA Percent	Nitrogen Load (lb/yr)	Nitrogen Load per Acre (lb/yr/acre)
51.3_040.00	M_273476_824368	0.06	Private	120 SCRAGGY NECK RD	A	Res. - single family	0.02	2.0%	0.00	0%	0.34	5.37
51.4_126.00	M_274132_823903	0.47	Private	6 SHEARWATER DR	A	Res. - single family	0.15	18.2%	0.07	8%	2.50	5.32
51.4_070.00	M_274067_824074	0.75	Private	2 OLOFSON DR	A	Res. - single family	0.25	18.3%	0.08	6%	3.93	5.27
52.0_069.00	M_274897_824318	0.31	Private	8 ANASTASIA RD	A	Commercial	0.10	3.5%	0.01	0%	1.65	5.26
51.3_055.00	M_273393_824080	0.43	Private	40 SQUETEAGUE HARBOR RD	A	Res. - single family	0.14	18.4%	0.06	8%	2.27	5.26
51.4_075.00	M_274197_824010	0.89	Private	1312 COUNTY RD	A	Res. - single family	0.29	18.3%	0.08	5%	4.65	5.25
51.4_045.00	M_273969_824320	0.46	Private	48 SCRAGGY NECK RD	A	Res. - single family	0.15	18.2%	0.05	6%	2.40	5.24
51.4_088.00	M_273764_823942	0.62	Private	5 FALMOUTH AVE	A	Open land	0.25	22.2%	0.08	8%	3.21	5.20
51.4_043.00	M_274022_824282	0.44	Private	3 PARTRIDGE LN	A	Res. - single family	0.14	17.8%	0.06	7%	2.30	5.19
52.0_058.00	M_274548_824404	0.34	Private	0 LONG POND WAY	A	Right-of-way	0.14	22.2%	0.05	8%	1.79	5.18
51.4_109.00	M_274114_823806	0.46	Private	2 TATTLER CIR	A	Res. - single family	0.14	17.4%	0.05	6%	2.36	5.11
51.4_009.01	M_273640_824297	0.56	Private	28 OCEAN AVE	A	Res. - single family	0.18	18.0%	0.05	5%	2.85	5.07
52.0_070.00	M_274929_824403	1.48	Private	9 ANASTASIA RD	A	Commercial	0.44	16.7%	0.10	4%	7.53	5.07
52.0_015.00	M_274578_824297	0.58	Private	2 SCRAGGY NECK RD EXT	A	Industrial	0.17	16.0%	0.05	5%	2.96	5.07
48.0_068.02	M_274743_825506	0.31	Private	0 WARD SWIFT RD	A	Open land	0.13	22.7%	0.06	11%	1.55	5.02

* Only Parcels with nitrogen loads greater than 5.00 lb/yr/acre are shown on this table

APPENDIX D

Nutrient Loading Figures



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Appendix D

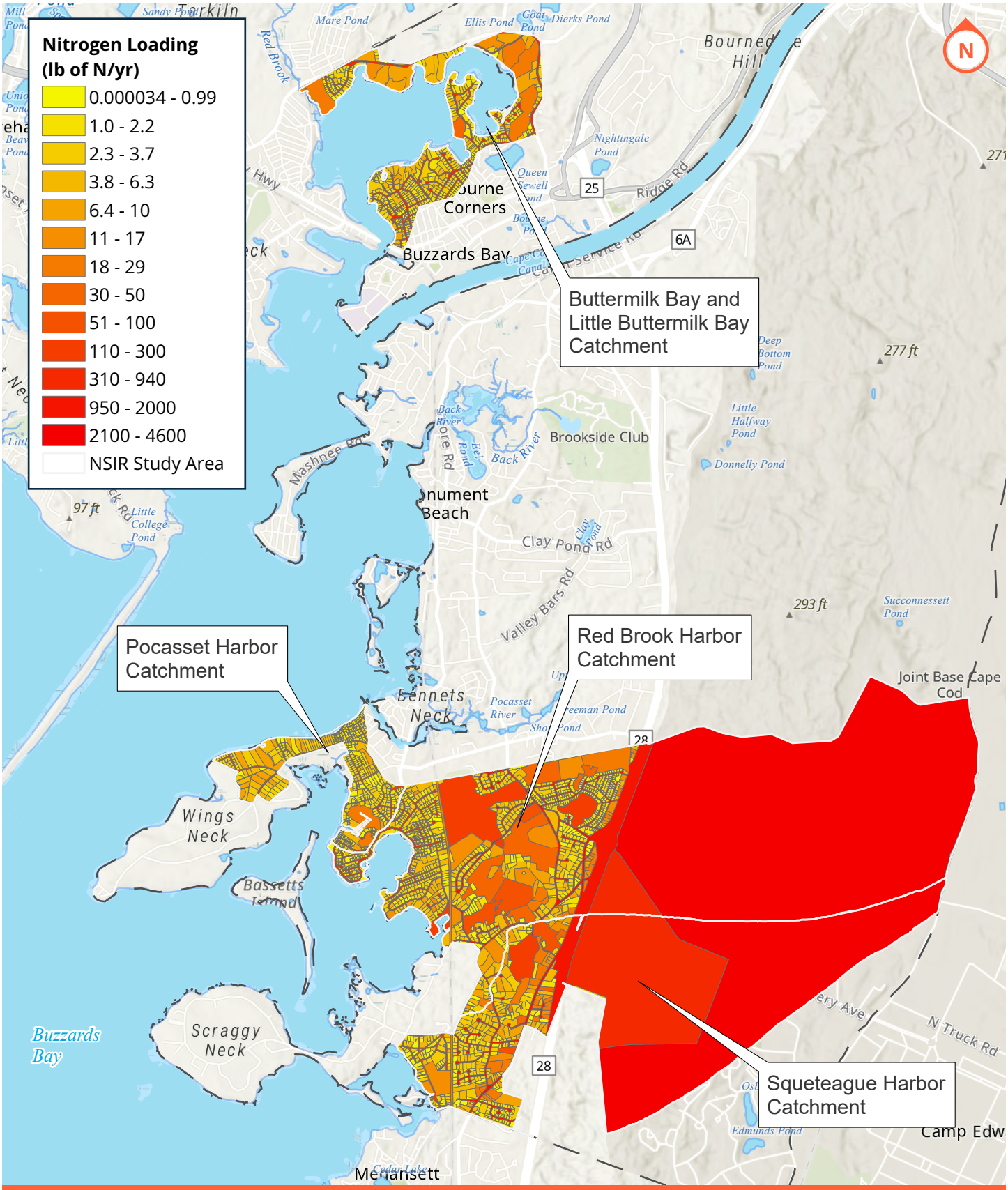
Annual Nitrogen Export per Acre for every Parcel

Bourne, Massachusetts

1/4/2023

0 2,500 5,000 10,000 Feet

1:60,000



ENVIRONMENTAL PARTNERS
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Appendix D

Annual Nitrogen Export for every Parcel

Bourne, Massachusetts

1/4/2023

0 2,500 5,000 10,000 Feet

1:60,000

APPENDIX E

BMP Nutrient Reduction Tracker Template

Appendix E: BMP Nutrient Reduction Tracker Template

					Impervious Area (IA) Calculations			*Pervious Area (PA) Calculations*				
Location Description	Address	Land Owner	BMP Type	Drainage Area to Structural BMP (acre)	IA within BMP Drainage Area (acre)	IA Dominant Land Use Type	Nitrogen Load Export Rate (NLER) for IA (lb/ac/yr)	PA within BMP Drainage Area (acre)	PA Dominant Hydrologic Soil Group	NLER for PA (lb/ac/yr)	Nitrogen Load Reduction Efficiency	Total Nitrogen Reduction (lbs/yr)
EXAMPLE: West of high school	10 Example St	Town of Example	Infiltration Basin	3.2	0.75	Commercial	15	2.45	B	1.2	90%	12.8

Note:

Use Attachment 3 of Appendix F of the MS4 Permit to calculate unknown variables

ENVIRONMENTAL PARTNERS

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