



Draft

**Impervious Cover Reduction Action Plan
for
Raritan Borough, Somerset County, New Jersey**

*Prepared for Raritan Borough by the
Rutgers Cooperative Extension Water Resources Program*

September 11, 2015



Table of Contents

Introduction	1
Methodology	1
Green Infrastructure Practices	8
Potential Project Sites	10
Conclusion	11

Attachment: Climate Resilient Green Infrastructure

- a. Overview Map of the Project
- b. Green Infrastructure Sites
- c. Proposed Green Infrastructure Concepts
- d. Summary of Existing Conditions
- e. Summary of Proposed Green Infrastructure Practices

Introduction

Located in Somerset County in central New Jersey, Raritan Borough covers approximately 2.0 square miles west of Somerville Borough. Figures 1 and 2 illustrate that Raritan Borough is dominated by urban land uses. A total of 81.4% of the municipality's land use is classified as urban. Of the urban land in Raritan Borough, medium density residential is the dominant land use (Figure 3).

The New Jersey Department of Environmental Protection's (NJDEP) 2007 land use/land cover geographical information system (GIS) data layer categorizes Raritan Borough into many unique land use areas, assigning a percent impervious cover for each delineated area. These impervious cover values were used to estimate the impervious coverage for Raritan Borough. Based upon the 2007 NJDEP land use/land cover data, approximately 38.0% of Raritan Borough has impervious cover. This level of impervious cover suggests that the streams in Raritan Borough are likely non-supporting streams.¹

Methodology

Raritan Borough contains portions of three subwatersheds (Figure 4). For this impervious cover reduction action plan, projects have been identified in each of these watersheds. Initially, aerial imagery was used to identify potential project sites that contain extensive impervious cover. Field visits were then conducted at each of these potential project sites to determine if a viable option exists to reduce impervious cover or to disconnect impervious surfaces from draining directly to the local waterway or storm sewer system. During the site visit, appropriate green infrastructure practices for the site were determined. Sites that already had stormwater management practices in place were not considered.

¹ Caraco, D., R. Claytor, P. Hinkle, H. Kwon, T. Schueler, C. Swann, S. Vysotsky, and J. Zielinski. 1998. Rapid Watershed Planning Handbook. A Comprehensive Guide for Managing Urbanizing Watersheds. Prepared by Center For Watershed Protection, Ellicott City, MD. Prepared for U.S. Environmental Protection Agency, Office of Wetlands, Oceans and Watersheds and Region V. October 1998

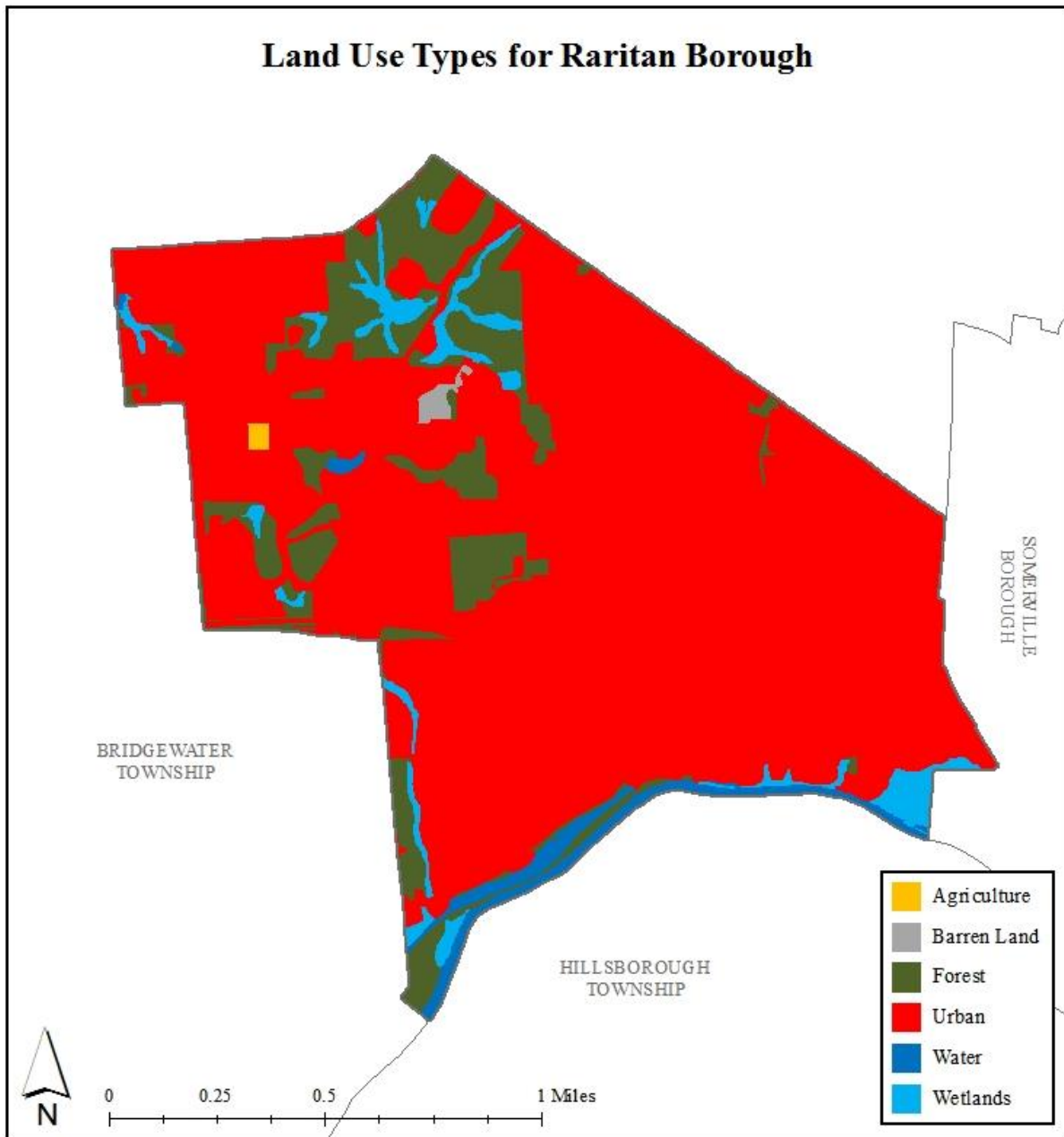


Figure 1: Map illustrating the land use in Raritan Borough.

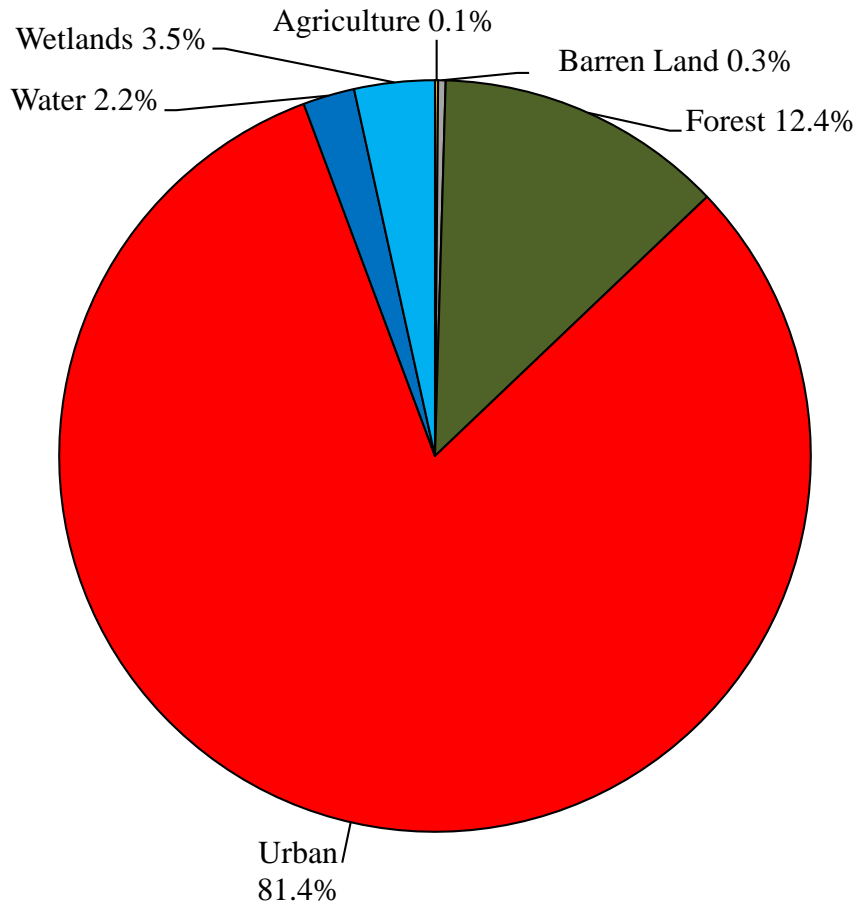


Figure 2: Pie chart illustrating the land use in Raritan Borough.

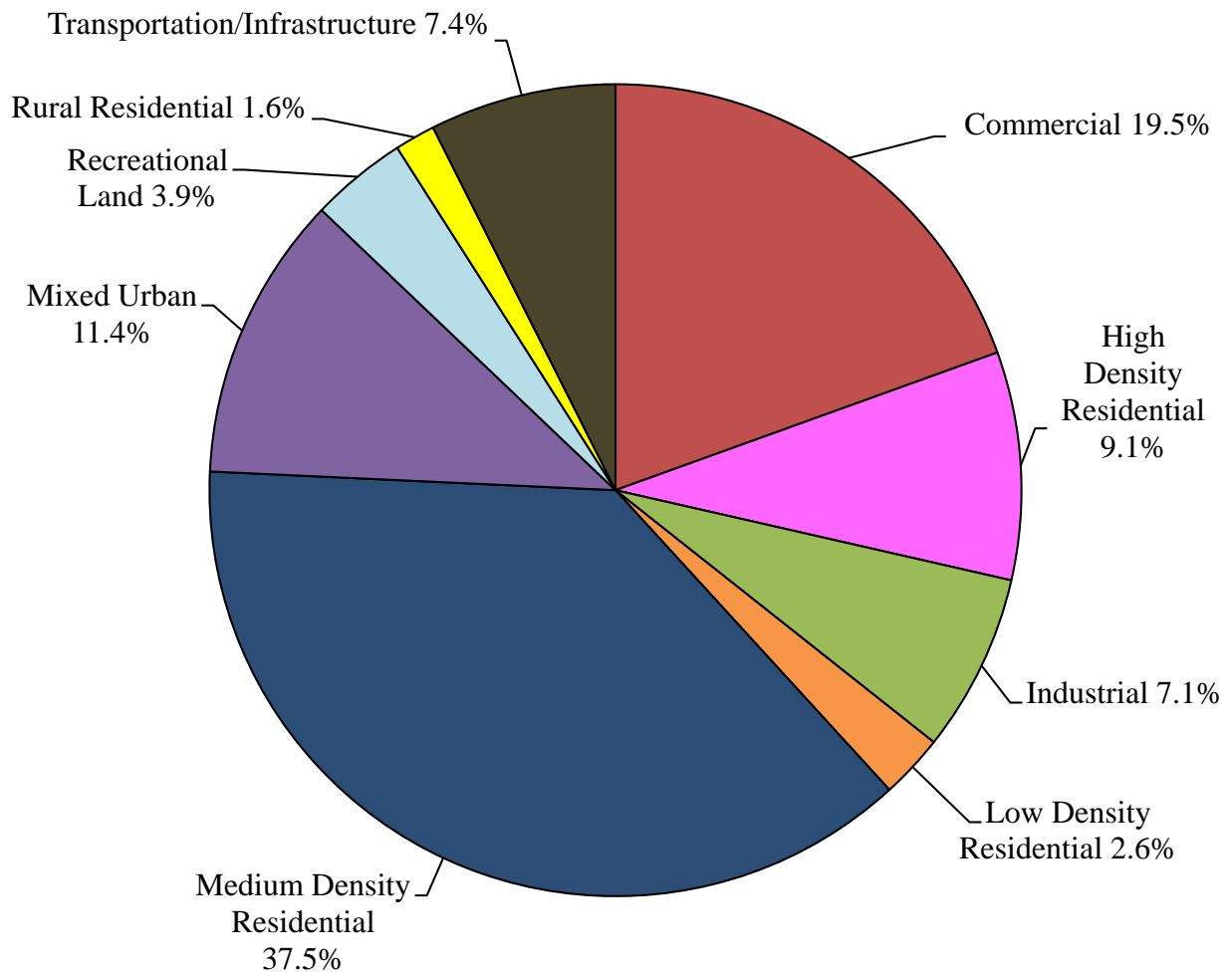


Figure 3: Pie chart illustrating the various types of urban land use in Raritan Borough.

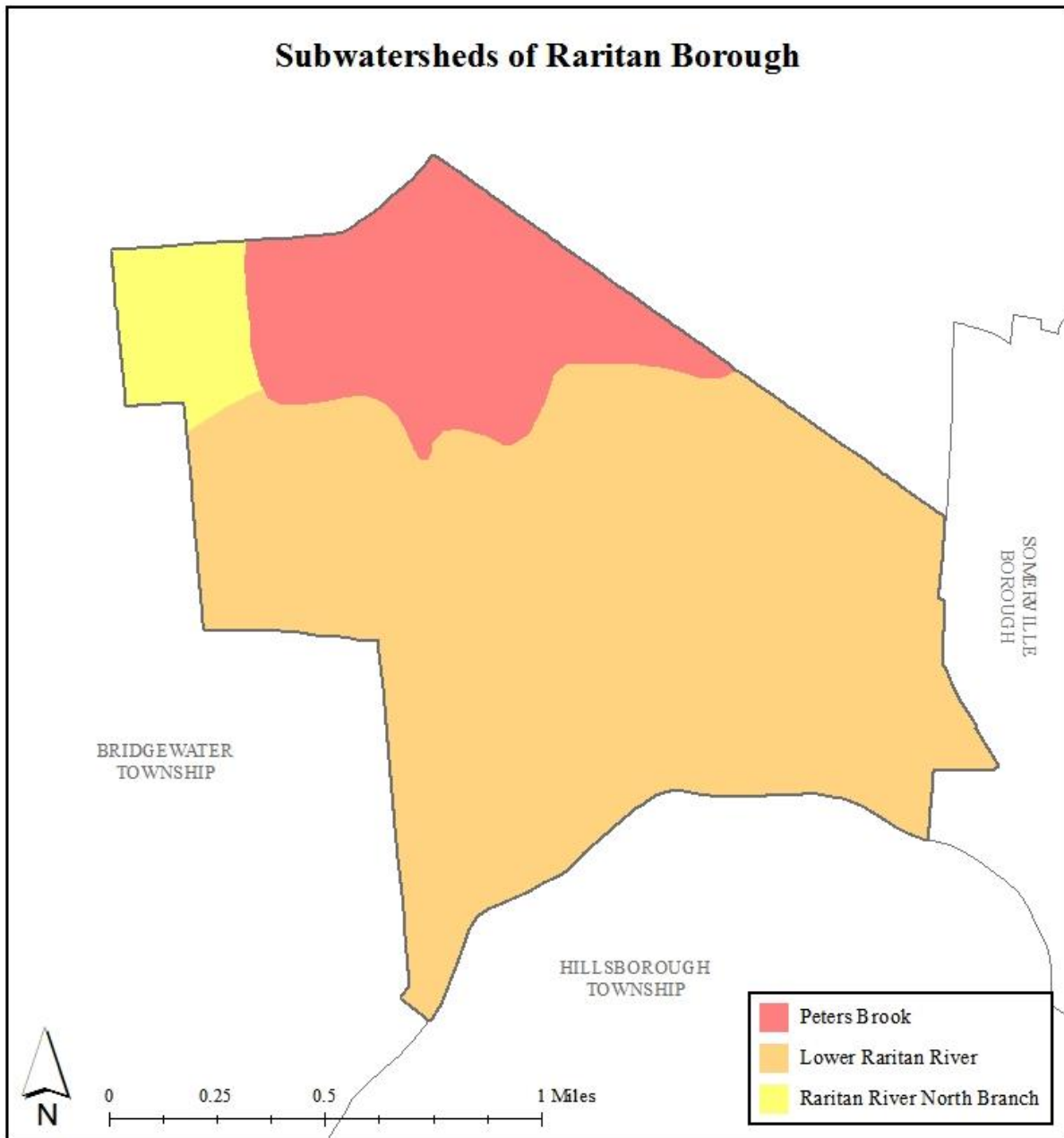


Figure 4: Map of the subwatersheds in Raritan Borough

For each potential project site, specific aerial loading coefficients for commercial land use were used to determine the annual runoff loads for total phosphorus (TP), total nitrogen (TN), and total suspended solids (TSS) from impervious surfaces (Table 1). These are the same aerial loading coefficients that NJDEP uses in developing total maximum daily loads (TMDLs) for impaired waterways of the state. The percentage of impervious cover for each site was extracted from the 2007 NJDEP land use/land cover database. For impervious areas, runoff volumes were determined for the water quality design storm (1.25 inches of rain over two-hours) and for the annual rainfall total of 44 inches.

Preliminary soil assessments were conducted for each potential project site identified in Raritan Borough using the United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey, which utilizes regional and statewide soil data to predict soil types in an area. Several key soil parameters were examined (e.g., natural drainage class, saturated hydraulic conductivity of the most limiting soil layer (K_{sat}), depth to water table, and hydrologic soil group) to evaluate the suitability of each site's soil for green infrastructure practices. In cases where multiple soil types were encountered, the key soil parameters were examined for each soil type expected at a site.

For each potential project site, drainage areas were determined for each of the green infrastructure practices proposed at the site. These green infrastructure practices were designed to manage the 2-year design storm, enabling these practices to capture 95% of the annual rainfall. Runoff volumes were calculated for each proposed green infrastructure practice. The reduction in TSS loading was calculated for each drainage area for each proposed green infrastructure practice using the aerial loading coefficients in Table 1. The maximum volume reduction in stormwater runoff for each green infrastructure practice for a storm was determined by calculating the volume of runoff captured from the 2-year design storm. For each green infrastructure practice, peak discharge reduction potential was determined through hydrologic modeling in HydroCAD. For each green infrastructure practice, a cost estimate is provided. These costs are based upon the square footage of the green infrastructure practice and the real cost of green infrastructure practice implementation in New Jersey.

Table 1: Aerial Loading Coefficients²

Land Cover	TP load (lbs/acre/yr)	TN load (lbs/acre/yr)	TSS load (lbs/acre/yr)
High, Medium Density Residential	1.4	15	140
Low Density, Rural Residential	0.6	5	100
Commercial	2.1	22	200
Industrial	1.5	16	200
Urban, Mixed Urban, Other Urban	1.0	10	120
Agriculture	1.3	10	300
Forest, Water, Wetlands	0.1	3	40
Barrenland/Transitional Area	0.5	5	60

² New Jersey Department of Environmental Protection (NJDEP), Stormwater Best Management Practice Manual, 2004.

Green Infrastructure Practices

Green infrastructure is an approach to stormwater management that is cost-effective, sustainable, and environmentally friendly. Green infrastructure projects capture, filter, absorb, and reuse stormwater to maintain or mimic natural systems and to treat runoff as a resource. As a general principal, green infrastructure practices use soil and vegetation to recycle stormwater runoff through infiltration and evapotranspiration. When used as components of a stormwater management system, green infrastructure practices such as bioretention, green roofs, porous pavement, rain gardens, and vegetated swales can produce a variety of environmental benefits. In addition to effectively retaining and infiltrating rainfall, these practices can simultaneously help filter air pollutants, reduce energy demands, mitigate urban heat islands, and sequester carbon while also providing communities with aesthetic and natural resource benefits³. A wide range of green infrastructure practices have been evaluated for the potential project sites in Raritan Borough. Each practice is discussed below.

Disconnected downspouts

This is often referred to as simple disconnection. A downspout is simply disconnected, and prevented from draining directly to the roadway or storm sewer system, and directed to discharge water to a pervious area (i.e., lawn).



Pervious pavements

There are several types of permeable pavement systems including porous asphalt, pervious concrete, permeable pavers, and grass pavers. These surfaces are hard and support vehicle traffic but also allow water to infiltrate through the surface. They have an underlying stone layer to store stormwater runoff and allow it to slowly seep into the ground.



³ United States Environmental Protection Agency (USEPA), 2013. Watershed Assessment, Tracking, and Environmental Results, New Jersey Water Quality Assessment Report. http://ofmpub.epa.gov/waters10/attains_state.control?p_state=NJ

Bioretention systems/rain gardens

These are landscaped features that are designed to capture, treat, and infiltrate stormwater runoff. These systems can easily be incorporated into existing landscapes, improving aesthetics and creating a wildlife habitat while managing stormwater runoff. Bioretention systems also can be used in soils that do not quickly infiltrate by incorporating an underdrain into the system.



Downspout planter boxes

These are wooden boxes with plants installed at the base of a downspout that provide an opportunity to beneficially reuse rooftop runoff.



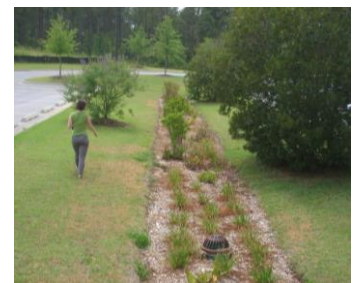
Rainwater harvesting systems (cistern or rain barrel)

These systems capture rainwater, mainly from rooftops, in cisterns or rain barrels. The water can then be used for watering gardens, washing vehicles, or for other non-potable uses.



Bioswale

Bioswales are landscape features that convey stormwater from one location to another while removing pollutants and providing water an opportunity to infiltrate.



Stormwater planters

Stormwater planters are vegetated structures that are built into the sidewalk to intercept stormwater runoff from the roadway or sidewalk. Many of these planters are designed to allow the water to infiltrate into the ground while others are designed simply to filter the water and convey it back into the stormwater sewer system.



Tree filter boxes

These are pre-manufactured concrete boxes that contain a special soil mix and are planted with a tree or shrub. They filter stormwater runoff but provide little storage capacity. They are typically designed to quickly filter stormwater and then discharge it to the local sewer system.



Potential Project Sites

Attachment 1 contains information on potential project sites where green infrastructure practices could be installed. The recommended green infrastructure practice and the drainage area that the green infrastructure practice can treat are identified for each potential project site. For each practice, the recharge potential, TSS removal potential, maximum volume reduction potential per storm, and the peak reduction potential are provided. This information is also provided so that proposed development projects that cannot satisfy the New Jersey stormwater management requirements for major development can use one of the identified projects to offset a stormwater management deficit.⁴

⁴ New Jersey Administrative Code, N.J.A.C. 7:8, Stormwater Management, Statutory Authority: N.J.S.A. 12:5-3, 13:1D-1 et seq., 13:9A-1 et seq., 13:19-1 et seq., 40:55D-93 to 99, 58:4-1 et seq., 58:10A-1 et seq., 58:11A-1 et seq. and 58:16A-50 et seq., *Date last amended: April 19, 2010.*

Conclusion

This impervious cover reduction action plan is meant to provide the municipality with a blueprint for implementing green infrastructure practices that will reduce the impact of stormwater runoff from impervious surfaces. These projects can be implemented by a wide variety of people such as boy scouts, girl scouts, school groups, faith-based groups, social groups, watershed groups, and other community groups.

Additionally, development projects that are in need of providing off-site compensation for stormwater impacts can use the projects in this plan as a starting point. The municipality can quickly convert this impervious cover reduction action plan into a stormwater mitigation plan and incorporate it into the municipal stormwater control ordinance.

a. Overview Map of the Project

RARITAN BOROUGH: CLIMATE RESILIENT GREEN INFRASTRUCTURE FOR THE RARITAN BASIN



b. Green Infrastructure Sites

RARITAN BOROUGH: GREEN INFRASTRUCTURE SITES



SITES WITHIN THE PETERS BROOK SUBWATERSHED:

1. Childcare Center on Ortho Drive North
2. Raritan Health and Extended Care

SITES WITHIN THE LOWER RARITAN RIVER SUBWATERSHED:

3. 1130 U.S. 22 Plaza
4. Bond Andiola Company
5. Frelinghuysen Park
6. Granetz Plaza
7. Industrial and Commercial Buildings on Johnson Drive
8. John F. Kennedy Primary School
9. Johnson and Johnson IT
10. Lab Corp
11. Ortho-McNeil-Janssen Pharmaceutical
12. QuickChek
13. Raritan Municipal Court
14. Raritan Valley Train Line
15. Relief Hose Company No. 2 Engine House
16. Saint Ann Church and School
17. Saint Joseph's Church & Somerset Academy
18. Somerville Circle Shopping Center
19. Somerset County Government Offices

c. Proposed Green Infrastructure Concepts

CHILDCARE CENTER ON ORTHO DRIVE NORTH



Subwatershed: Peters Brook
Site Area: 1,122,956 sq. ft.
Address: 122 Taylor Avenue
Raritan, NJ 08869
Block and Lot: Block 2, Lot 9, 10

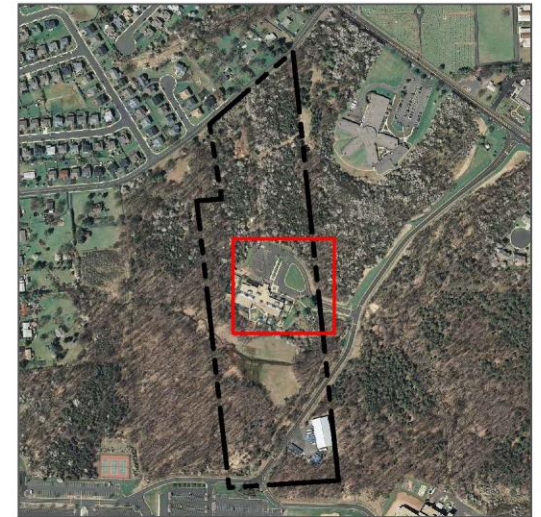
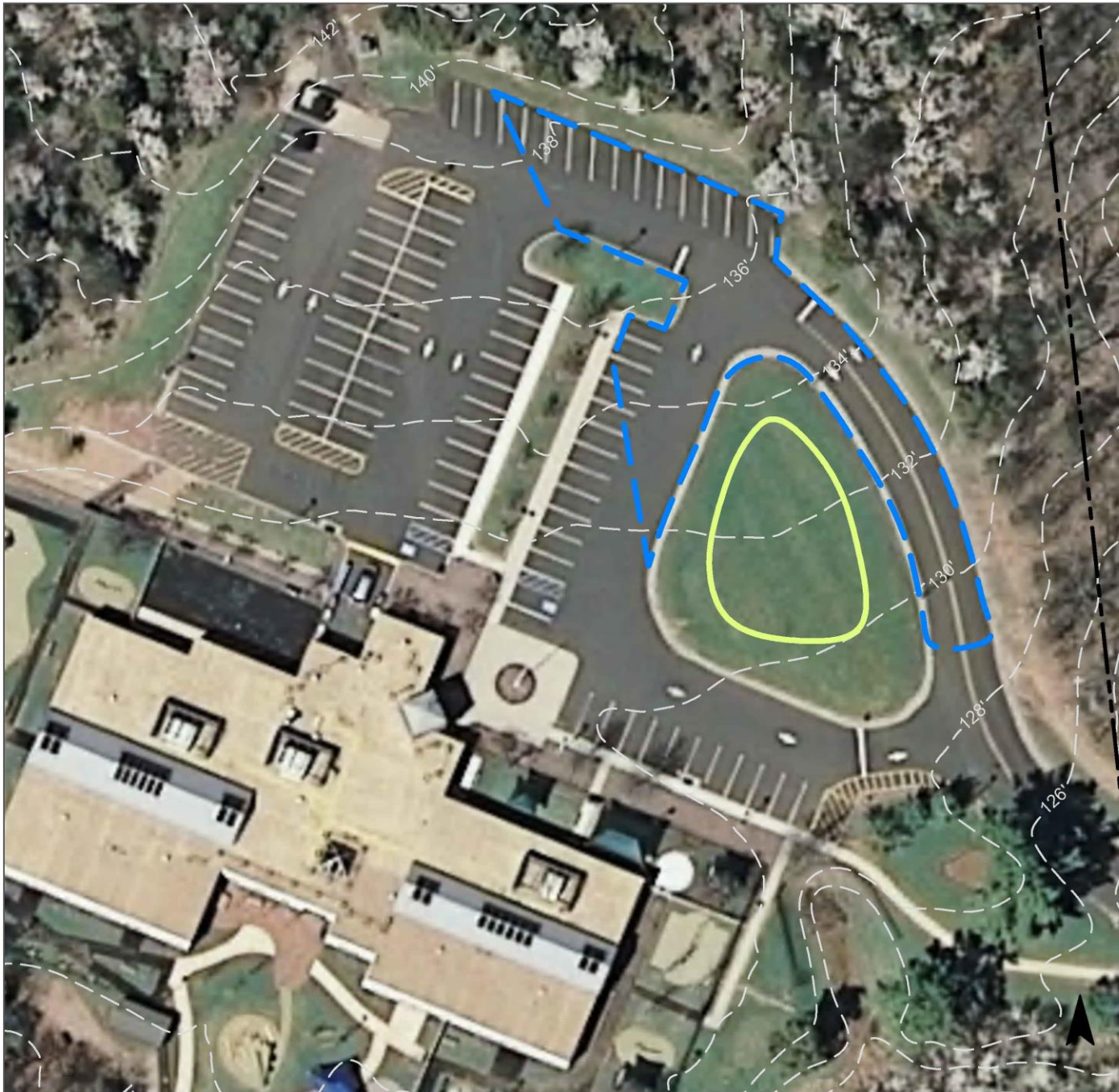


A turf grass island can be converted into a rain garden to capture, treat, and infiltrate stormwater runoff from the parking lot and road. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure.





Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
14	154,378	7.4	78.0	708.8	0.120	4.23

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.287	48	21,034	0.79	3,000	\$15,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Childcare Center on Ortho Drive North

-  bioretention / rain gardens
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



RARITAN HEALTH AND EXTENDED CARE



Subwatershed: Peters Brook

Site Area: 545,711 sq. ft.

Address: 633 State Route 28
Raritan, NJ 08869

Block and Lot: Block 2, Lot 12.01

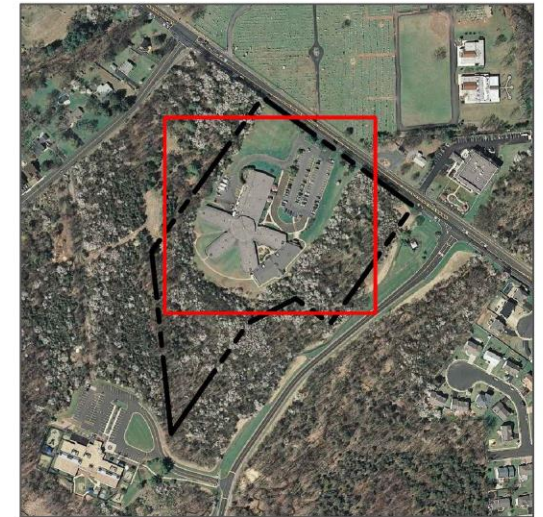


Rain gardens can be installed to capture, treat, and infiltrate runoff, and building bioswales can bring stormwater into two of these rain gardens. The sitting area in the northern section of the site can be replaced with pervious pavement to infiltrate stormwater. A cistern can be installed to harvest rainwater. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
29	156,343	7.5	79.0	717.8	0.122	4.29

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.787	132	57,738	2.17	22,100	\$110,500
Bioswales	0.068	11	4,974	0.19	1,200	\$6,000
Pervious pavements	0.020	3	1,436	0.05	750	\$18,750
Rainwater harvesting systems	0.039	7	1,400	0.11	1,400 (gal)	\$2,800

GREEN INFRASTRUCTURE RECOMMENDATIONS



Raritan Health and Extended Care

-  disconnected downspouts
-  pervious pavements
-  bioretention / rain gardens
-  rainwater harvesting
-  bioswales
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



1130 U.S. 22 PLAZA



Subwatershed: Lower Raritan River

Site Area: 157,940 sq. ft.

Address: 1130 U.S. 22
Raritan, NJ 08869

Block and Lot: Block 2, Lot 23



Rain gardens can capture, treat, and infiltrate rooftop runoff by disconnecting and redirecting downspouts. Rows of parking spaces can also be replaced with porous asphalt to capture and infiltrate stormwater. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure.







Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
74	117,588	5.7	59.4	539.9	0.092	3.23

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.074	12	5,445	0.20	620	\$3,100
Pervious pavements	0.623	104	45,695	1.72	4,080	\$102,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



1130 U.S. 22 Plaza

-  disconnected downspouts
-  pervious pavements
-  bioretention / rain gardens
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



BOND ANDIOLA COMPANY

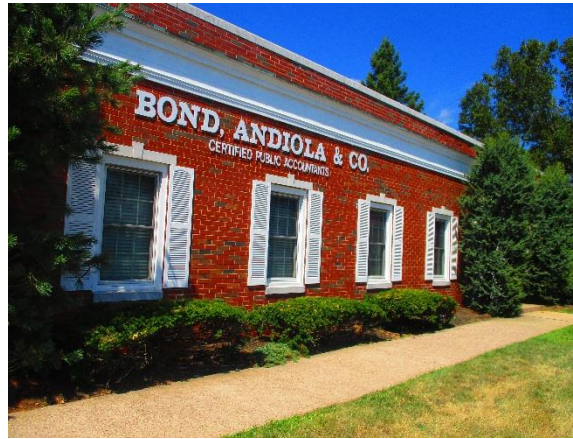


Subwatershed: Lower Raritan River

Site Area: 15,259 sq. ft.

Address: 600 U.S. Highway 206
Raritan, NJ 08869

Block and Lot: Block 29, Lot 1.01

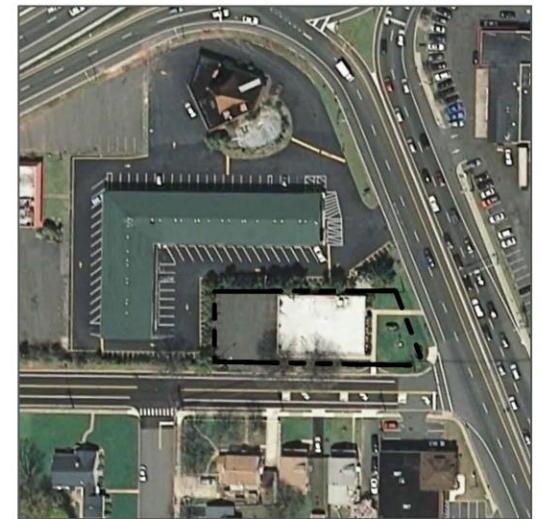
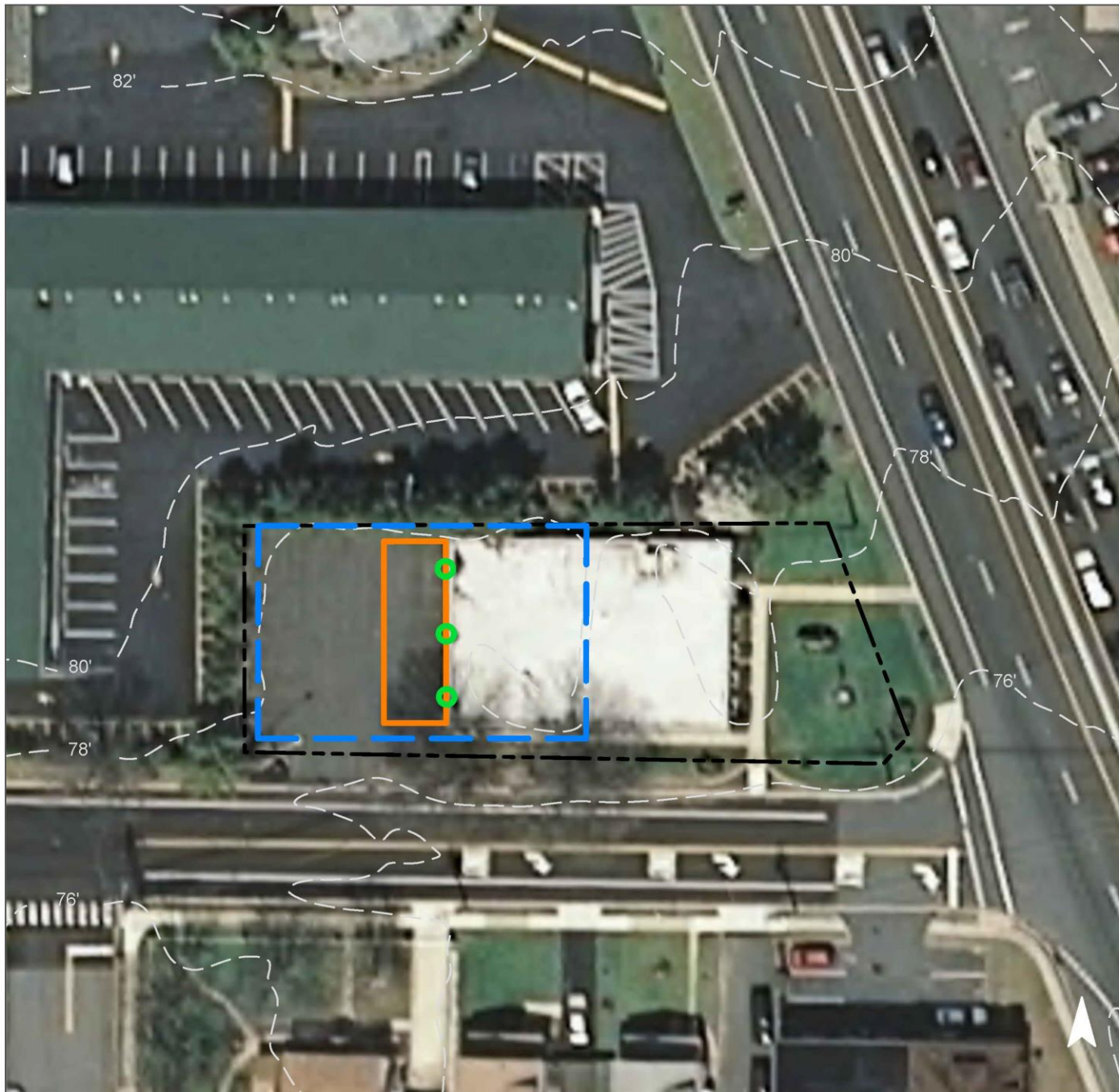


Parking spaces can be replaced with pervious pavement to infiltrate parking lot and roof runoff. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.


Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
90	13,733	0.7	6.9	63.1	0.011	0.38

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Pervious pavements	0.190	32	13,958	0.52	1,200	\$30,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Bond Andiola Company

-  disconnected downspouts
-  pervious pavements
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



FRELINGHUYSEN PARK



Subwatershed: Lower Raritan River

Site Area: 194,370 sq. ft.

Address: Sherman Avenue
Raritan, NJ 08869

Block and Lot: Block 59, Lot 1

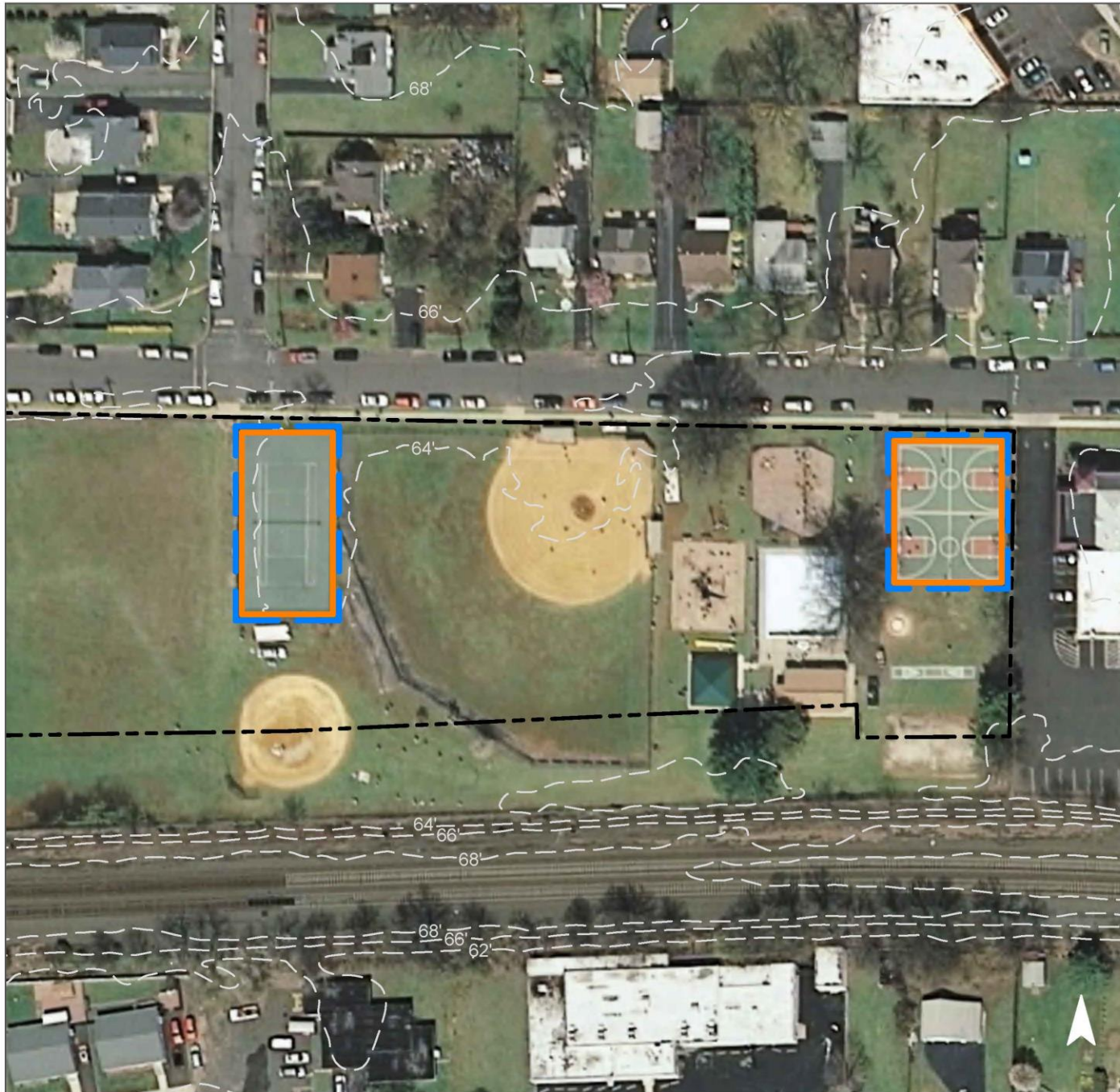


The park has tennis courts and basketball courts, which can be replaced using pervious pavement to allow water an opportunity to infiltrate through the surface. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.





Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
14	27,725	1.3	14.0	127.3	0.022	0.76

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Pervious pavements	0.383	64	28,102	1.06	14,700	\$367,500

GREEN INFRASTRUCTURE RECOMMENDATIONS



Frelinghuysen Park

-  pervious pavements
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



GRANETZ PLAZA



Subwatershed: Lower Raritan River

Site Area: 621,093 sq. ft.

Address: 120-200 Orlando Drive
Raritan, NJ 08869

Block and Lot: Block 116.01, Lot 11.01

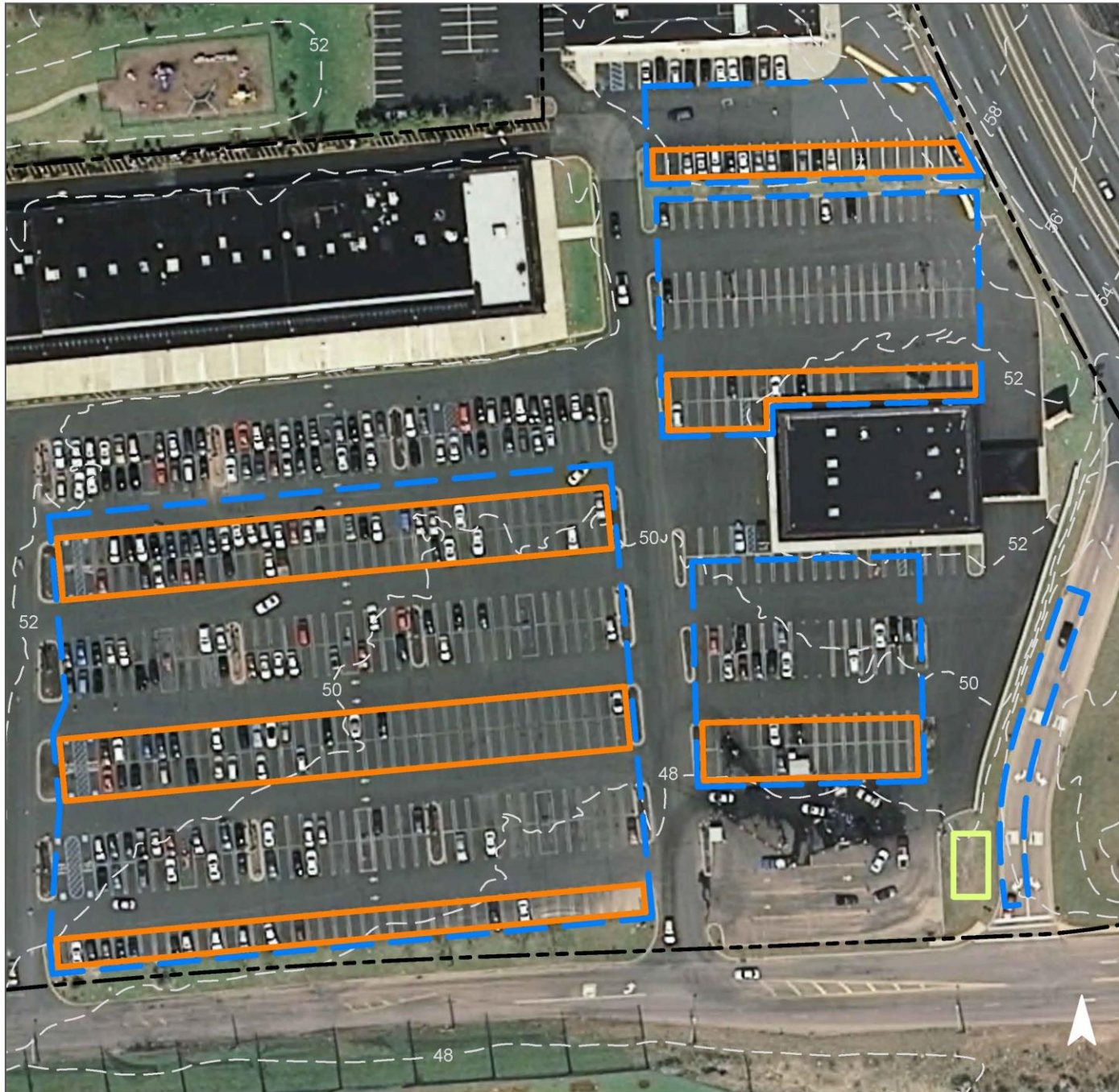


Parking spaces can be converted into pervious pavement to infiltrate parking lot runoff. A rain garden can be installed to capture, treat, and infiltrate road runoff. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
87	541,204	26.1	273.3	2,484.9	0.422	14.84

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.086	14	6,306	0.24	900	\$4,500
Pervious pavements	4.515	756	331,319	12.45	49,300	\$1,232,500

GREEN INFRASTRUCTURE RECOMMENDATIONS



Granetz Plaza

-  pervious pavements
-  bioretention / rain gardens
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



INDUSTRIAL AND COMMERCIAL BUILDINGS ON JOHNSON DRIVE



Subwatershed: Lower Raritan River

Site Area: 799,527 sq. ft.

Address: 60-69, Johnson Drive
Raritan, NJ 08869

Block and Lot: Block 62, Lot 3

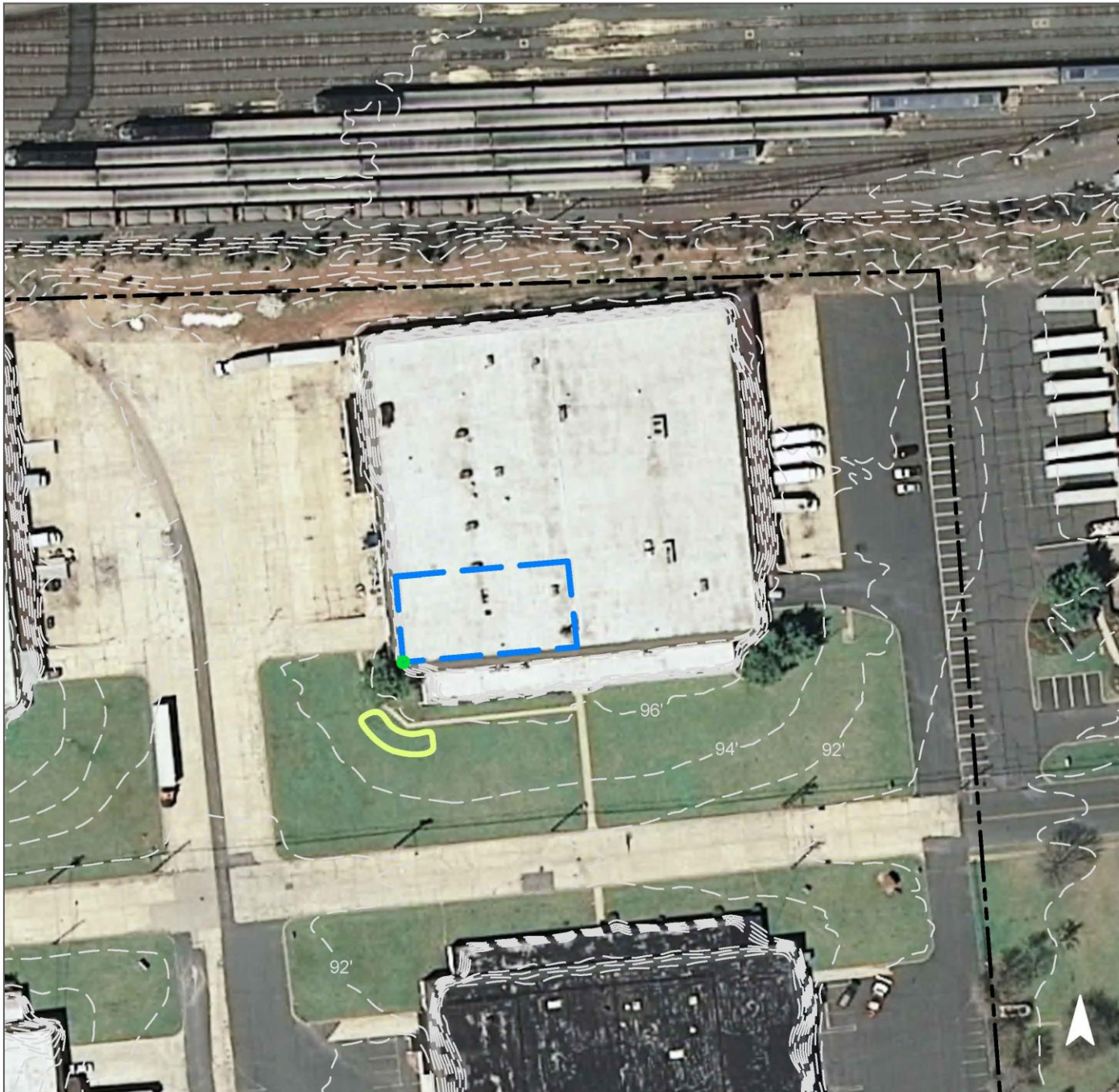


Bioretention systems can be installed to capture, treat, and infiltrate rooftop runoff. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.






Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
74	591,791	28.5	298.9	2,717.1	0.461	16.23

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.162	27	11,856	0.45	650	\$3,250

GREEN INFRASTRUCTURE RECOMMENDATIONS



Industrial and Commercial Buildings on Johnson Drive

-  disconnected downspouts
-  bioretention / rain gardens
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



JOHN F. KENNEDY PRIMARY SCHOOL



Subwatershed: Lower Raritan River

Site Area: 543,704 sq. ft.

Address: 255 Woodmere Street
Raritan, NJ 08869

Block and Lot: Block 62, Lot 3.01

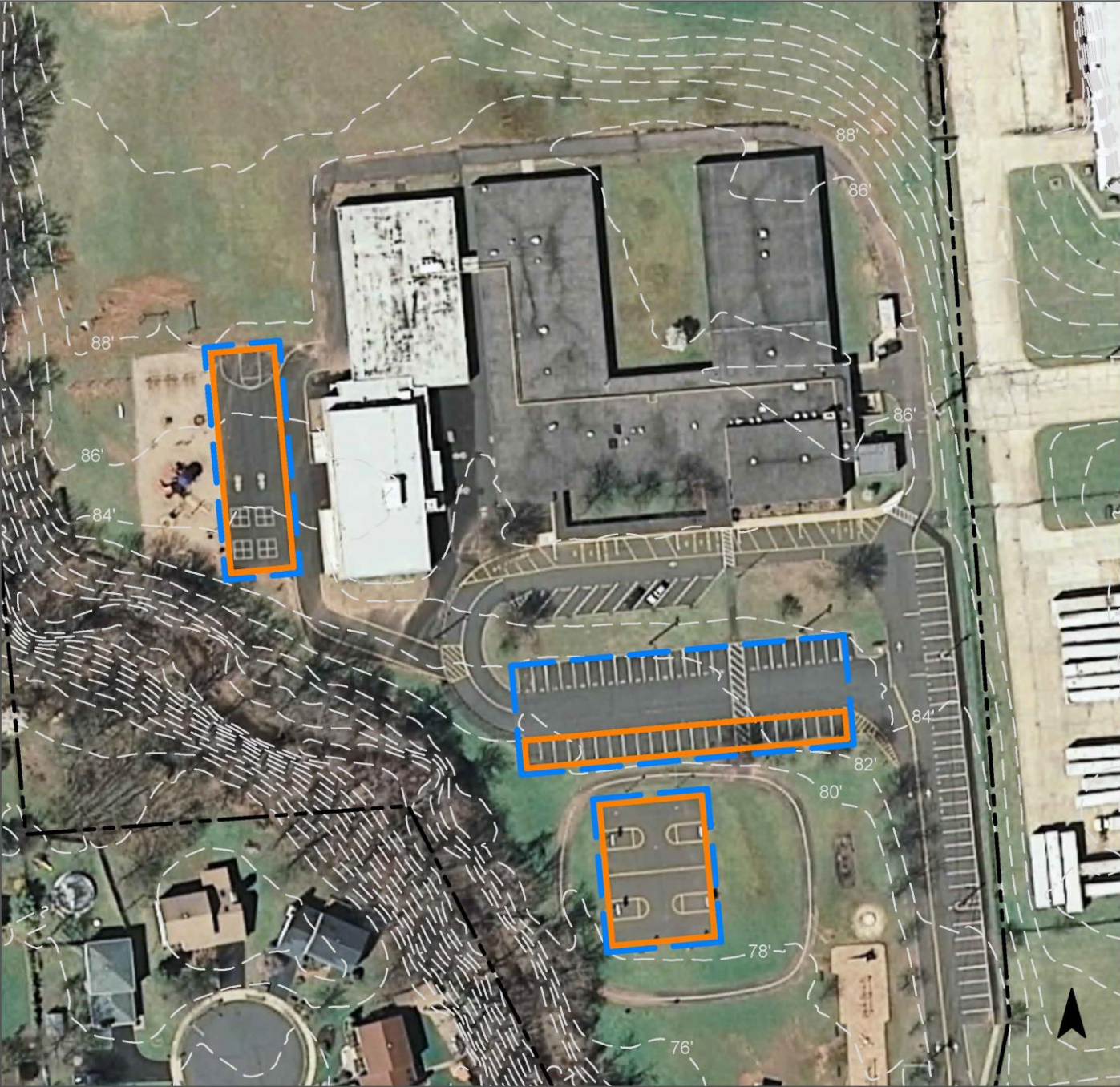


Play courts and parking spaces can be replaced with pervious pavement to infiltrate runoff. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure.





Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
30	165,341	8.0	83.5	759.1	0.129	4.53

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Pervious pavements	0.789	132	57,925	2.18	15,700	\$392,500

GREEN INFRASTRUCTURE RECOMMENDATIONS



**John F. Kennedy
Primary School**

-  pervious pavements
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



JOHNSON AND JOHNSON IT



Subwatershed: Lower Raritan River

Site Area: 1,455,156 sq. ft.

Address: 1003 US 202
Raritan, NJ 08869

Block and Lot: Block 31, Lot 4.01

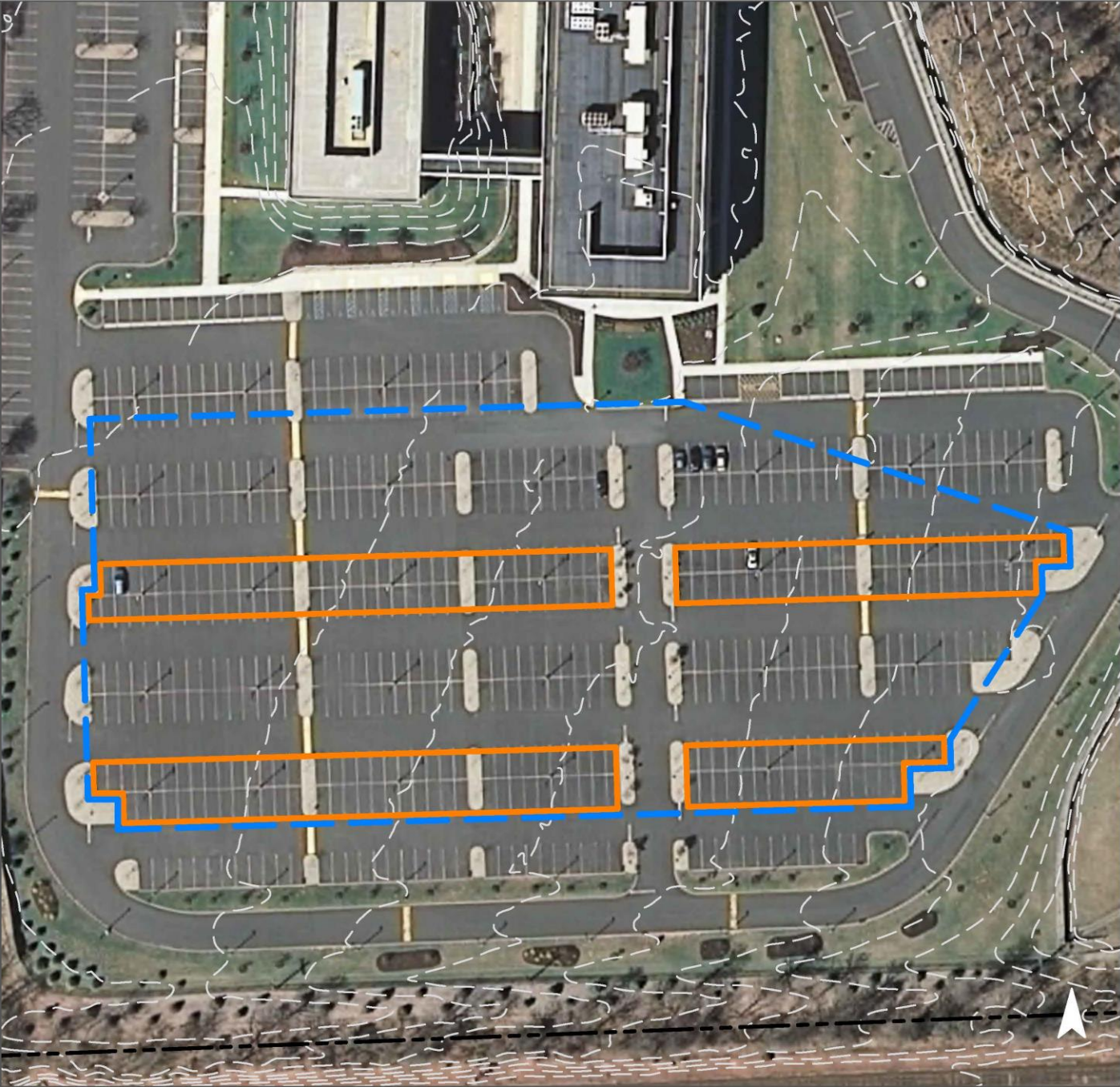


Parking spaces can be repaved with porous asphalt to capture and infiltrate runoff. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure.





Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
42	613,860	29.6	310.0	2,818.5	0.478	16.84

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Pervious pavements	3.895	652	285,818	10.74	40,000	\$1,000,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Johnson & Johnson IT

-  pervious pavements
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



LAB CORP



Subwatershed: Lower Raritan River

Site Area: 459,114 sq. ft.

Address: 69 1st Avenue
Raritan, NJ 08869

Block and Lot: Block 78, Lot 1



Parking spaces can be replaced with pervious pavement to capture and infiltrate stormwater. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.



Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
80	366,448	17.7	185.1	1,682.5	0.286	10.05

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Pervious pavements	1.360	228	99,798	3.75	10,800	\$270,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Lab Corp

-  disconnected downspouts
-  pervious pavements
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



ORTHO-MCNEIL-JANSSEN PHARMACEUTICAL



Subwatershed: Lower Raritan River

Site Area: 7,697,018 sq. ft.

Address: 920 US Highway 202
Raritan, NJ 08869

Block and Lot: Block 2, Lot 18

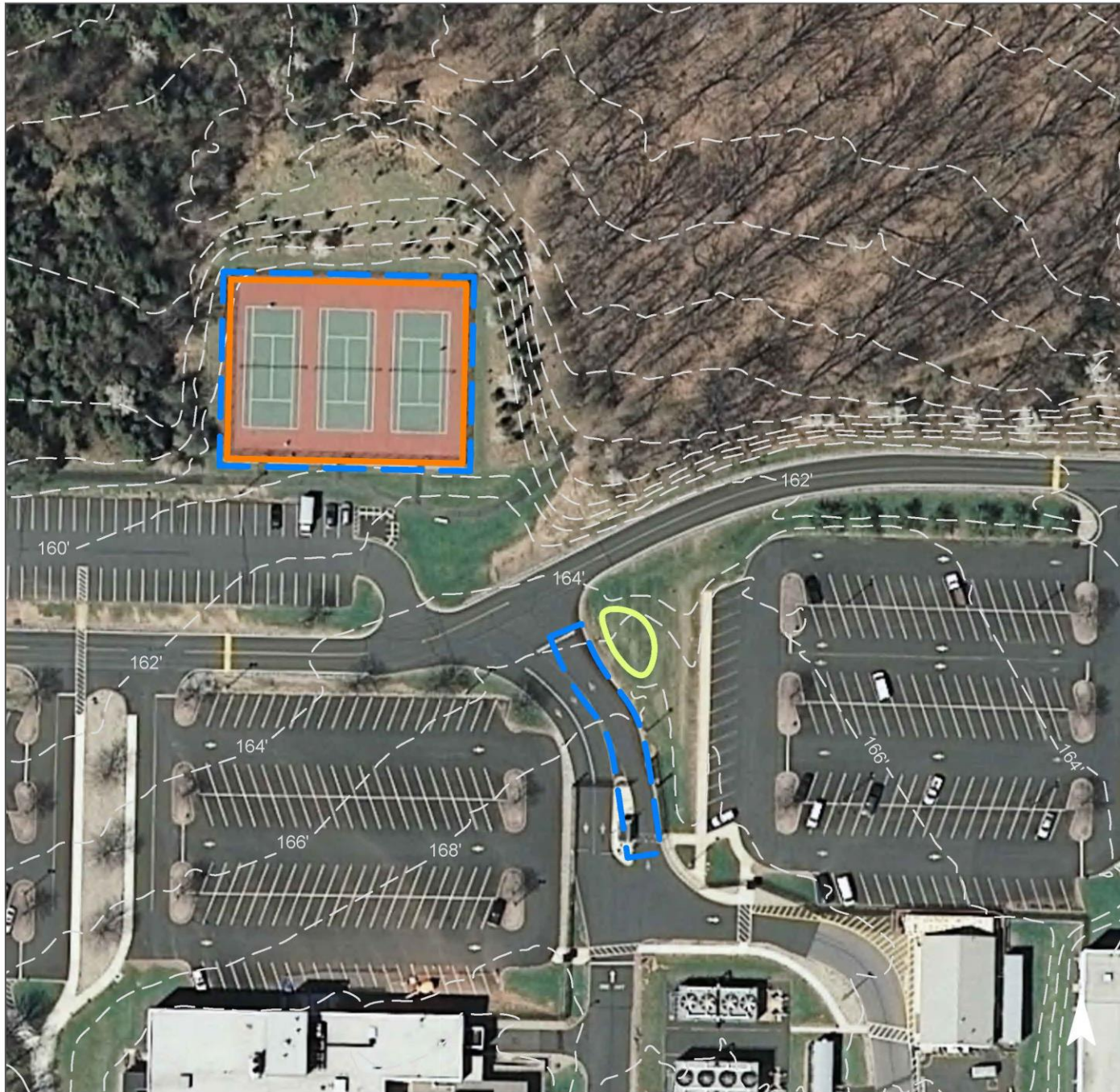


A bioretention system can capture, treat, and infiltrate stormwater runoff. Tennis courts can also be replaced with pervious pavement to infiltrate stormwater. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
32	2,474,913	119.3	1,250.0	11,363.2	1.928	67.88

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.091	15	6,695	0.03	900	\$4,500
Pervious pavements	0.459	77	33,645	1.26	17,600	\$440,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Ortho-McNeil-Janssen Pharmaceutical

-  pervious pavements
-  bioretention / rain gardens
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



QUICKCHEK



Subwatershed: Lower Raritan River

Site Area: 40,420 sq. ft.

Address: 76 W Somerset Street
Raritan, NJ 08869

Block and Lot: Block 89, Lot 22

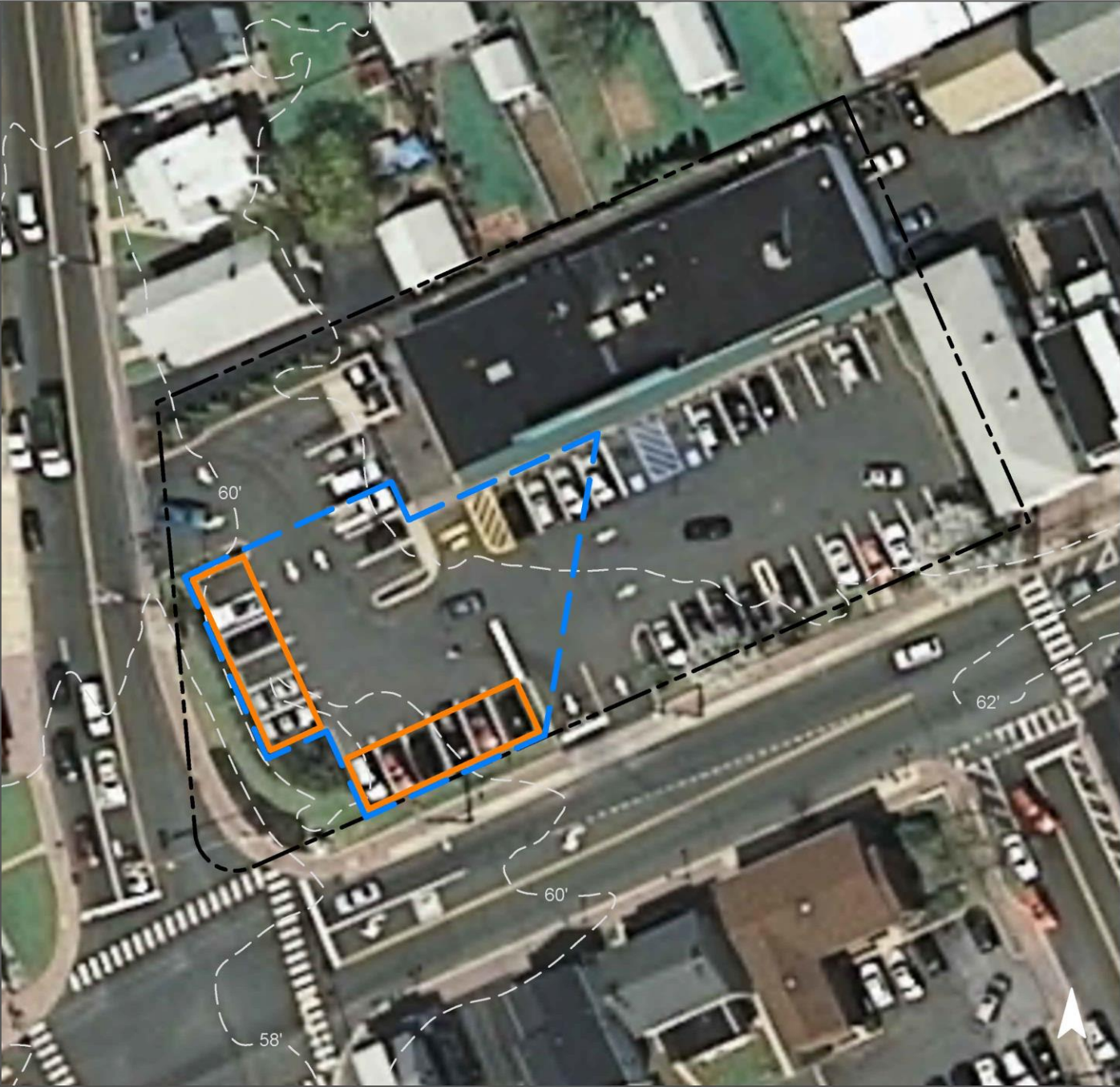


Rows of parking spaces can be replaced with porous asphalt to infiltrate runoff. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.





Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
85	34,248	1.7	17.3	157.2	0.027	0.94

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Pervious pavements	0.250	42	18,356	0.69	2,200	\$55,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



QuickChek

-  pervious pavements
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



RARITAN MUNICIPAL COURT



Subwatershed: Lower Raritan River

Site Area: 33,438 sq. ft.

Address: 22 1st Street
Raritan, NJ 08869

Block and Lot: Block 87, Lot 9.01

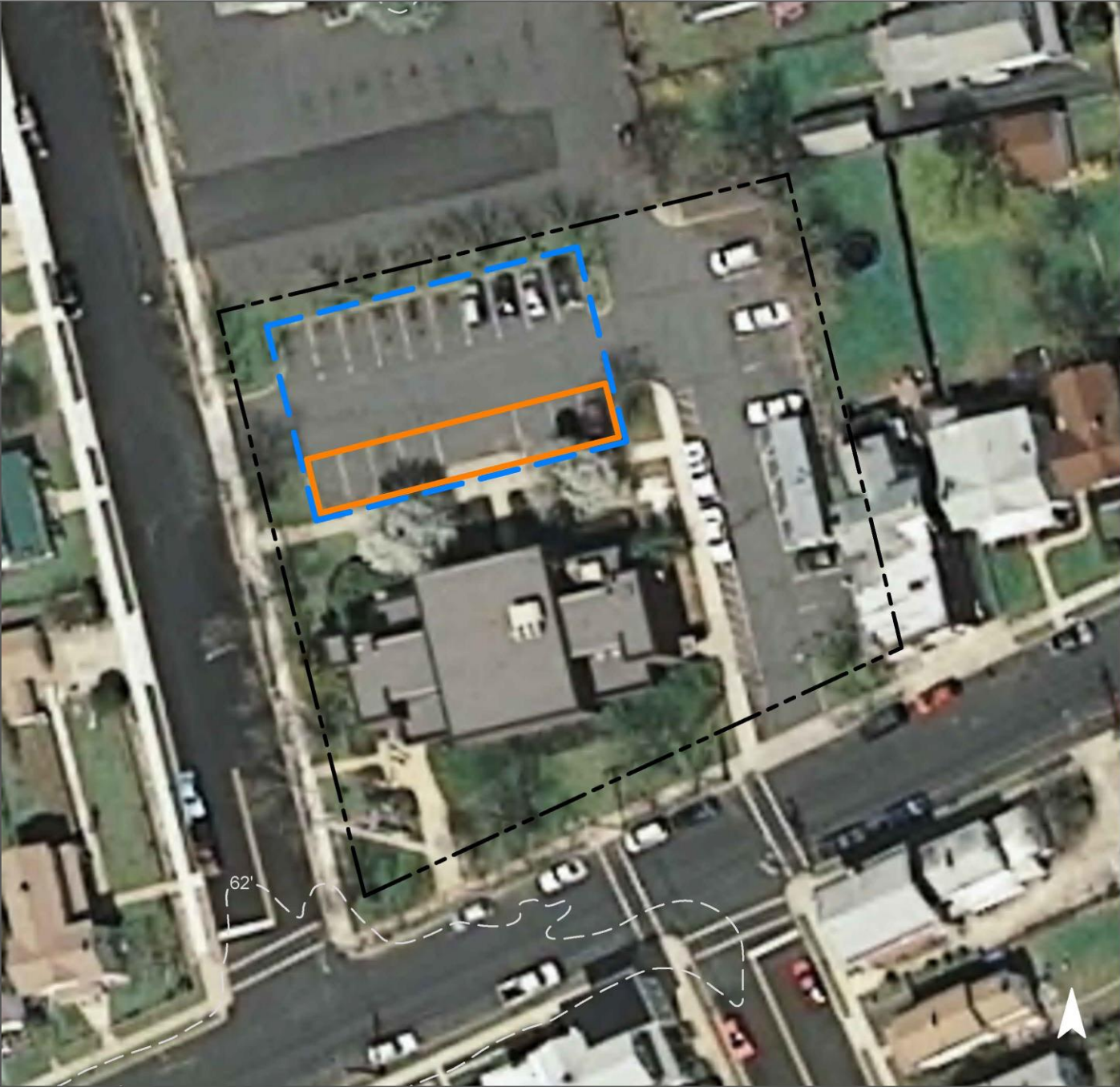


Parking spaces can be replaced with pervious pavement to capture and infiltrate stormwater. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.





Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
89	29,694	1.4	15.0	136.3	0.023	0.81

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Pervious pavements	0.177	30	12,955	0.49	1,800	\$45,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Raritan Municipal Court

-  pervious pavements
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



RARITAN VALLEY TRAIN LINE



Subwatershed: Lower Raritan River

Site Area: 298,162 sq. ft.

Address: 20 Railroad Avenue
Raritan, NJ 08869

Block and Lot: Block 61, Lot 3

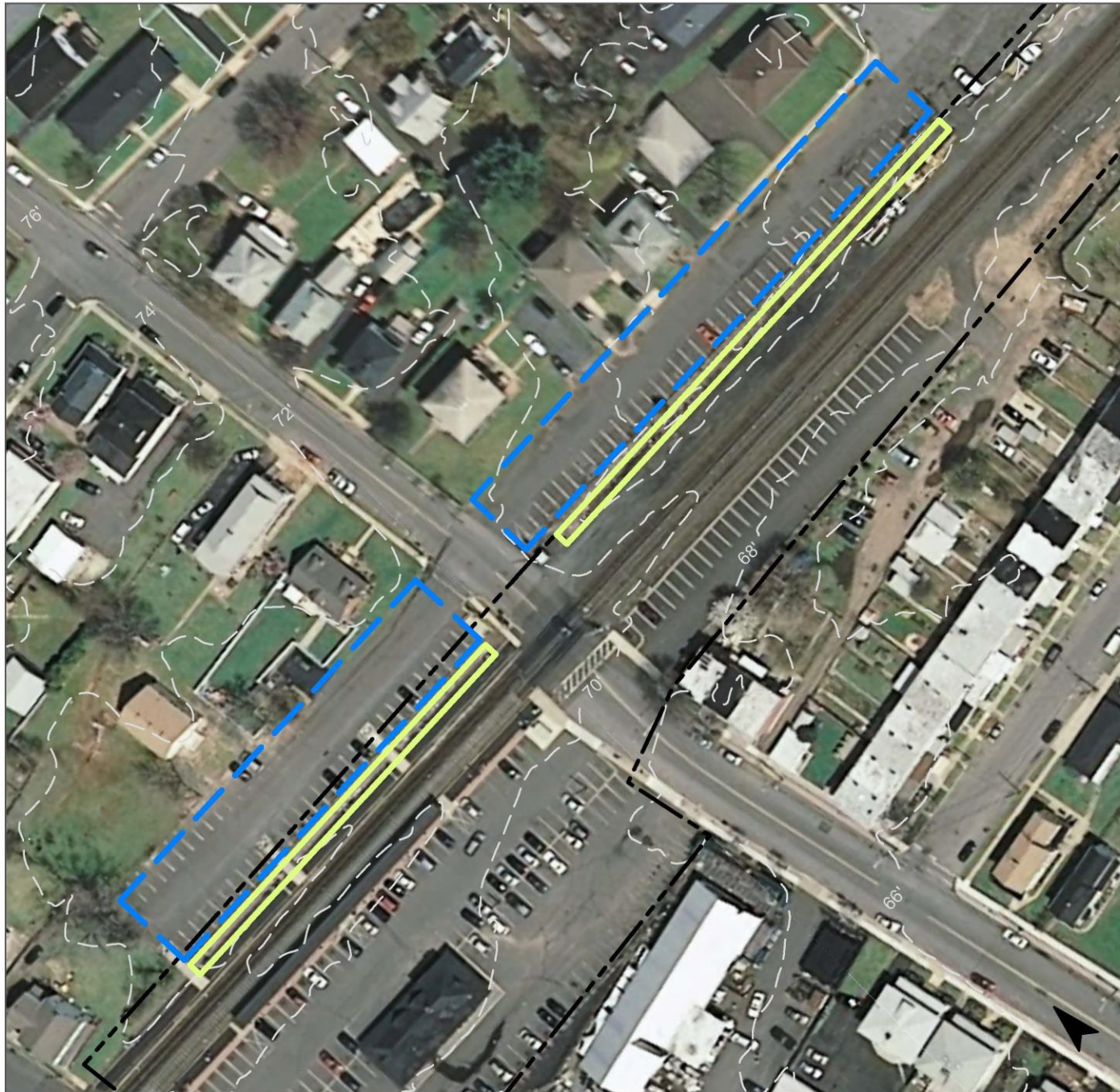


There is a long detention basin that runs along the tracks, which can be planted and retrofitted as a bioretention system. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.





Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
46	138,575	6.7	70.0	636.2	0.108	3.80

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.894	150	65,577	2.47	5,800	\$29,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Raritan Valley Train Line

-  bioretention / rain gardens
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



RELIEF HOSE COMPANY NO. 2 ENGINE HOUSE



Subwatershed: Lower Raritan River

Site Area: 8,951 sq. ft.

Address: 16 Anderson Street
Raritan, NJ 08869

Block and Lot: Block 91, Lot 10

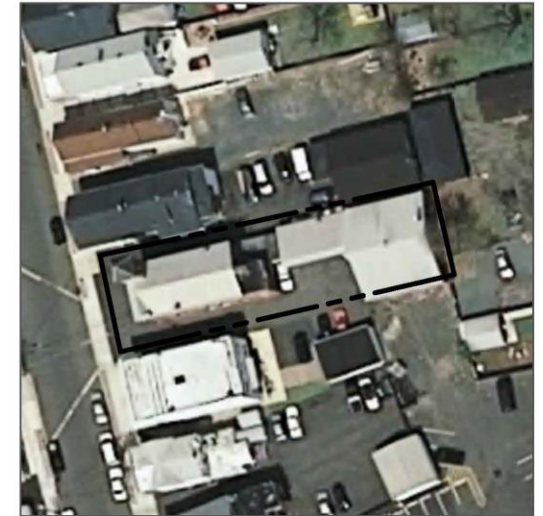
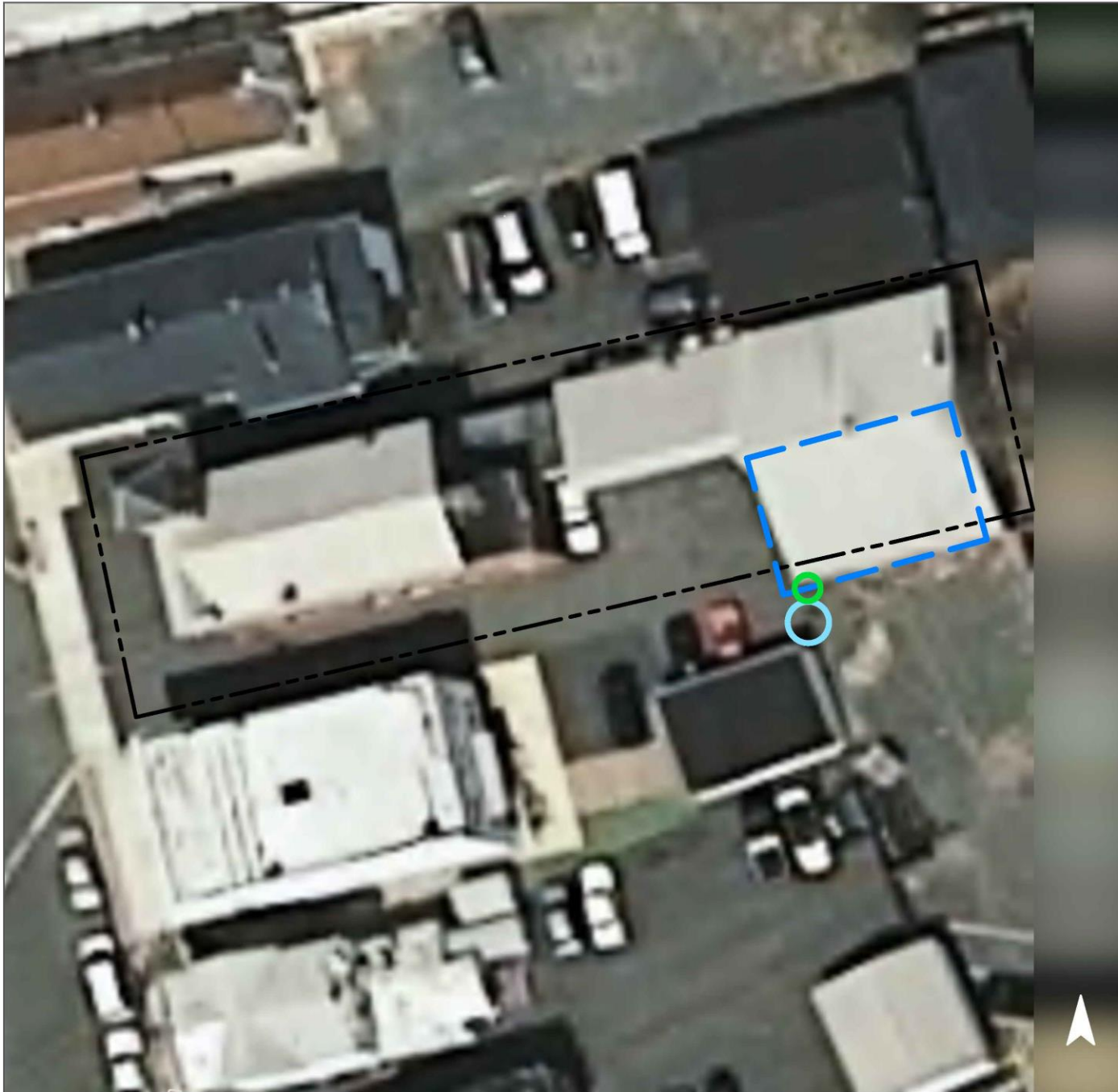


A cistern can be installed to harvest rainwater from the roof that can be used for washing fire engines. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.






Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
85	7,608	0.4	3.8	34.9	0.006	0.21

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Rainwater harvesting systems	0.029	5	1,000	0.08	1,000 (gal)	\$2,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Relief Hose Company No. 2 Engine House

-  disconnected downspouts
-  rainwater harvesting
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS

0 10' 40'



SAINT ANN CHURCH AND SCHOOL



Subwatershed: Lower Raritan River

Site Area: 70,333 sq. ft.

Address: 45 Anderson Street
Raritan, NJ 08869

Block and Lot: Block 83, Lot 6

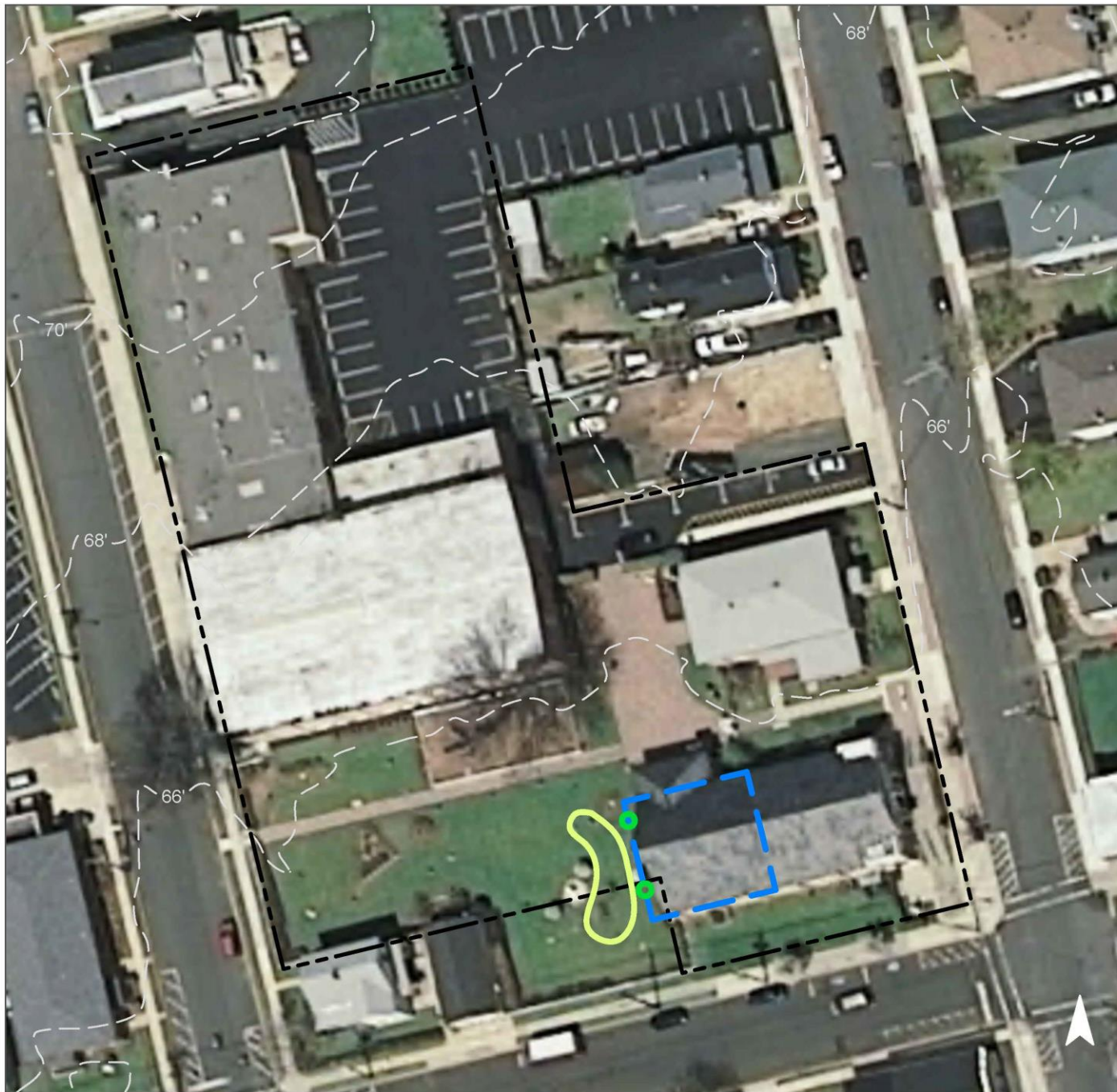


Disconnecting and redirecting downspouts can allow rooftop runoff to be captured, treated, and infiltrated by installing a bioretention system. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.






Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
84	58,931	2.8	29.8	270.6	0.046	1.62

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.060	10	4,398	0.17	700	\$3,500

GREEN INFRASTRUCTURE RECOMMENDATIONS



Saint Ann Church and School

-  disconnected downspouts
-  bioretention / rain gardens
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



SAINT JOSEPH'S CHURCH & SOMERSET ACADEMY



Subwatershed: Lower Raritan River

Site Area: 61,771 sq. ft.

Address: 16 E Somerset Street
Raritan NJ, 08869

Block and Lot: Block 108, Lot 3

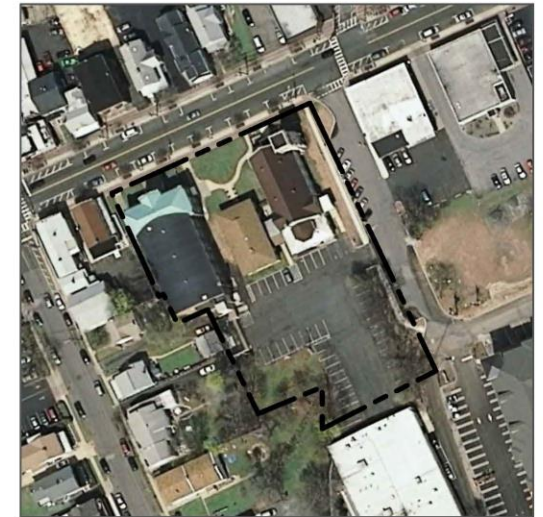
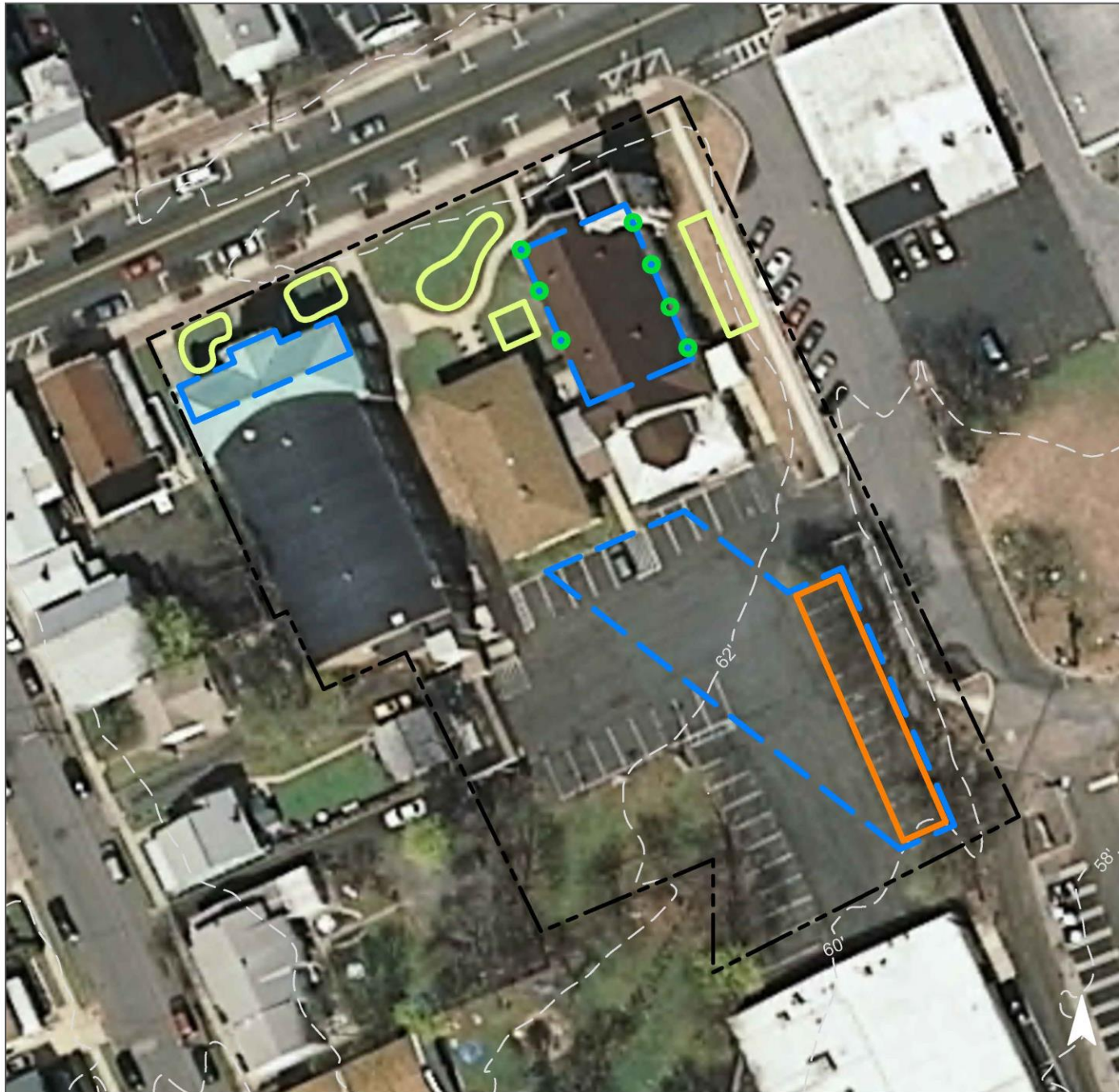


Rain gardens can capture, treat, and infiltrate rooftop runoff. Parking spaces can also be replaced with pervious pavement to infiltrate runoff. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.




Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
88	54,474	2.6	27.5	250.1	0.042	1.49

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.104	17	7,645	0.29	1,770	\$8,850
Pervious pavements	0.216	36	15,865	0.60	1,800	\$45,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Saint Joseph's Church & Somerset Academy

-  disconnected downspouts
-  pervious pavements
-  bioretention / rain gardens
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



SOMERVILLE CIRCLE SHOPPING CENTER



Subwatershed: Lower Raritan River

Site Area: 911,212 sq. ft.

Address: 451 State Route 28
Raritan, NJ 08869

Block and Lot: Block 26, Lot 18

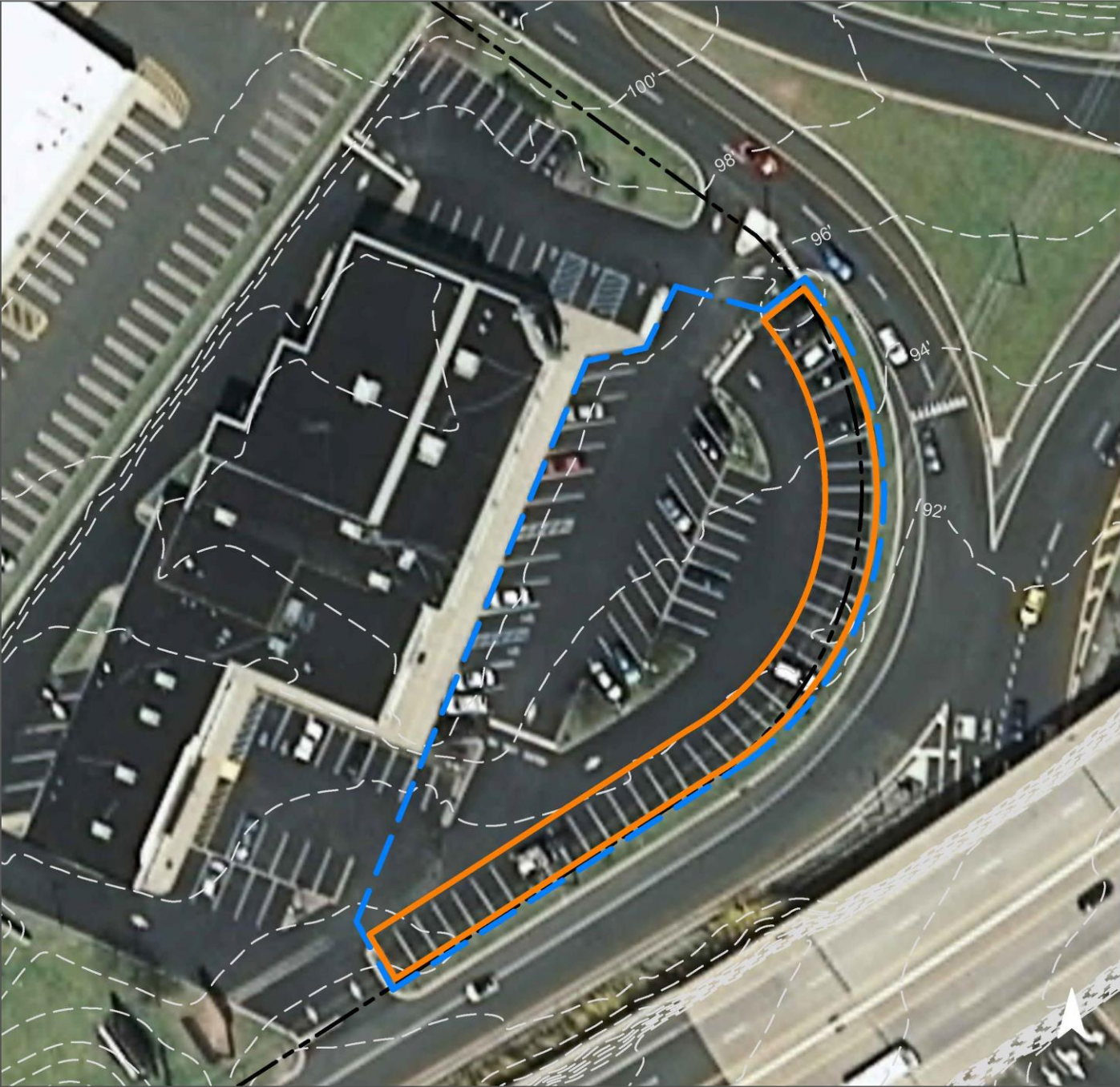


Parking spaces can be replaced with pervious pavement to allow stormwater to infiltrate. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.





Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
75	680,392	32.8	343.6	3,123.9	0.530	18.66

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Pervious pavements	0.769	129	56,399	2.12	7,000	\$175,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Somerville Circle Shopping Center

-  pervious pavements
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



SOMERSET COUNTY GOVERNMENT OFFICES



Subwatershed: Lower Raritan River

Site Area: 419,090 sq. ft.

Address: 614 1st Avenue
Raritan, NJ 08869

Block and Lot: Block 24, Lot 1



Three locations were identified where bioretention systems can be installed to capture, treat, and infiltrate stormwater generated from the site. The basketball court was noted to be in poor condition, and can be replaced with pervious pavement to allow water an opportunity to infiltrate. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.


Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
%	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
20	85,502	4.1	43.2	392.6	0.067	2.35

Recommended Green Infrastructure Practices	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Maximum Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cu. ft./second)	Estimated Size (sq. ft.)	Estimated Cost
Bioretention systems	0.292	49	21,415	0.80	4,500	\$22,500
Pervious pavements	0.513	86	37,662	1.42	10,750	\$268,750

GREEN INFRASTRUCTURE RECOMMENDATIONS



Somerset County Government Offices

-  disconnected downspouts
-  pervious pavements
-  bioretention / rain gardens
-  drainage areas
-  property line
-  2012 Aerial: NJOIT, OGIS



d. Summary of Existing Conditions

Summary of Existing Site Conditions

Subwatershed/Site Name/Total Site Info/GI Practice	Area (ac)	Area (SF)	Block	Lot	Existing Annual Loads			I.C. %	I.C. Area (ac)	I.C. Area (SF)	Runoff Volumes from I.C.	
					TP (lb/yr)	TN (lb/yr)	TSS (lb/yr)				Water Quality Storm (1.25" over 2-hours) (Mgal)	Annual (Mgal)
PETERS BROOK SUBWATERSHED	38.31	1,668,667			15.0	156.9	1,426.6	7.13	310,722	0.242	8.52	
Childcare Center on Ortho Drive North Total Site Info	25.78	1,122,956	2	9,10	7.4	78.0	708.8	14	3.54	154,378	0.120	4.23
Raritan Health and Extended Care Total Site Info	12.53	545,711	2	12.01	7.5	79.0	717.8	29	3.59	156,343	0.122	4.29
RARITAN RIVER LOWER SUBWATERSHED	316.50	13,786,557			289.4	3,031.3	27,557.5	137.79	6,002,026	4.677	164.62	
1130 U.S. 22 Plaza Total Site Info	3.63	157,940	2	23	5.7	59.4	539.9	74	2.70	117,588	0.092	3.23
Bond Andiola Company Total Site Info	0.35	15,259	29	1.01	0.7	6.9	63.1	90	0.32	13,733	0.011	0.38
Frelinghuysen Park Total Site Info	4.46	194,370	59	1	1.3	14.0	127.3	14	0.64	27,725	0.022	0.76
Granetz Plaza Total Site Info	14.26	621,093	116.01	11.01	26.1	273.3	2,484.9	87	12.42	541,204	0.422	14.84
Industrial and Commercial Buildings on Johnson Drive Total Site Info	18.35	799,527	62	3	28.5	298.9	2,717.1	74	13.59	591,791	0.461	16.23
John F. Kennedy Primary School Total Site Info	12.48	543,704	62	3.01	8.0	83.5	759.1	30	3.80	165,341	0.129	4.53
Johnson and Johnson IT Total Site Info	33.41	1,455,156	31	4.01	29.6	310.0	2,818.5	42	14.09	613,860	0.478	16.84
Lab Corp Total Site Info	10.54	459,114	78	1	17.7	185.1	1,682.5	80	8.41	366,448	0.286	10.05

Summary of Existing Site Conditions

Subwatershed/Site Name/Total Site Info/GI Practice	Area (ac)	Area (SF)	Block	Lot	Existing Annual Loads			I.C. %	I.C. Area (ac)	I.C. Area (SF)	Runoff Volumes from I.C.	
					TP (lb/yr)	TN (lb/yr)	TSS (lb/yr)				Water Quality Storm (1.25" over 2-hours) (Mgal)	Annual (Mgal)
Ortho-McNeil-Janssen Pharmaceutical Total Site Info	176.70	7,697,018	2	18	119.3	1,250.0	11,363.2	32	56.82	2,474,913	1.928	67.88
QuickChek Total Site Info	0.93	40,420	89	22	1.7	17.3	157.2	85	0.79	34,248	0.027	0.94
Raritan Municipal Court Total Site Info	0.77	33,438	87	9.01	1.4	15.0	136.3	89	0.68	29,694	0.023	0.81
Raritan Valley Train Line Total Site Info	6.84	298,162	61	3	6.7	70.0	636.2	46	3.18	138,575	0.108	3.80
Relief Hose Co. No. 2 Engine House Total Site Info	0.21	8,951	91	10	0.4	3.8	34.9	85	0.17	7,608	0.006	0.21
Saint Ann Church and School Total Site Info	1.61	70,333	83	6	2.8	29.8	270.6	84	1.35	58,931	0.046	1.62
Saint Joseph's Church & Somerset Academy Total Site Info	1.42	61,771	108	3	2.6	27.5	250.1	88	1.25	54,474	0.042	1.49
Somerville Circle Shopping Center Total Site Info	20.92	911,212	26	18	32.8	343.6	3,123.9	75	15.62	680,392	0.530	18.66
Somerset County Government Offices Total Site Info	9.62	419,090	24	1	4.1	43.2	392.6	20	1.96	85,502	0.067	2.35

e. Summary of Proposed Green Infrastructure Practices

Summary of Proposed Green Infrastructure Practices

Subwatershed/Site Name/Total Site Info/GI Practice	Potential Management Area		Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Max Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cfs)	Size of BMP (SF)	Unit Cost (\$)	Unit	Total Cost (\$)	I.C. Treated %
	Area (SF)	Area (ac)									
PETERS BROOK SUBWATERSHED	46,050	1.06	1.200	201	86,582	3.31	28,450			\$153,050	14.8%
1 Childcare Center on Ortho Drive North											
Bioretention systems/rain gardens	11,000	0.25	0.287	48	21,034	0.79	3,000	5	SF	\$15,000	7.1%
Total Site Info	11,000	0.25	0.287	48	21,034	0.79	3,000			\$15,000	7.1%
2 Raritan Health and Extended Care											
Bioretention systems/rain gardens	30,200	0.69	0.787	132	57,738	2.17	22,100	5	SF	\$110,500	19.3%
Bioswales	2,600	0.06	0.068	11	4,974	0.19	1,200	5	SF	\$6,000	1.7%
Pervious pavements	750	0.02	0.020	3	1,436	0.05	750	25	SF	\$18,750	0.5%
Rainwater harvesting systems	1,500	0.03	0.039	7	1,400	0.11	1,400	2	gal	\$2,800	1.0%
Total Site Info	35,050	0.80	0.913	153	65,548	2.52	25,450			\$138,050	22.4%
RARITAN RIVER LOWER SUBWATERSHED	611,440	14.04	15.931	2,667	1,167,835	43.95	193,770			\$4,504,450	10.2%
3 1130 U.S. 22 Plaza											
Bioretention systems/rain gardens	2,850	0.07	0.074	12	5,445	0.20	620	5	SF	\$3,100	2.4%
Pervious pavements	23,900	0.55	0.623	104	45,695	1.72	4,080	25	SF	\$102,000	20.3%
Total Site Info	26,750	0.61	0.70	117	51,141	1.92	4,700			\$105,100	22.7%
4 Bond Andiola Company											
Pervious pavements	7,300	0.17	0.190	32	13,958	0.52	1,200	25	SF	\$30,000	53.2%
Total Site Info	7,300	0.17	0.190	32	13,958	0.52	1,200			\$30,000	53.2%
5 Frelinghuysen Park											
Pervious pavements	14,700	0.34	0.383	64	28,102	1.06	14,700	25	SF	\$367,500	53.0%
Total Site Info	14,700	0.34	0.383	64	28,102	1.06	14,700			\$367,500	53.0%
6 Granetz Plaza											
Bioretention systems/rain gardens	3,300	0.08	0.086	14	6,306	0.24	900	5	SF	\$4,500	0.6%
Pervious pavements	173,300	3.98	4.515	756	331,319	12.45	49,300	25	SF	\$1,232,500	32.0%
Total Site Info	176,600	4.05	4.601	770	337,625	12.69	50,200			\$1,237,000	32.6%
7 Industrial and Commercial Buildings on Johnson Drive											
Bioretention systems/rain gardens	6,200	0.14	0.162	27	11,856	0.45	650	5	SF	\$3,250	1.0%
Total Site Info	6,200	0.14	0.162	27	11,856	0.45	650			\$3,250	1.0%

Summary of Proposed Green Infrastructure Practices

Subwatershed/Site Name/Total Site Info/GI Practice	Potential Management Area		Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Max Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cfs)	Size of BMP (SF)	Unit Cost (\$)	Unit	Total Cost (\$)	I.C. Treated %
	Area (SF)	Area (ac)									
8 John F. Kennedy Primary School											
Pervious pavements	30,300	0.70	0.789	132	57,925	2.18	15,700	25	SF	\$392,500	18.3%
Total Site Info	30,300	0.70	0.789	132	57,925	2.18	15,700			\$392,500	18.3%
9 Johnson and Johnson IT											
Pervious pavements	149,500	3.43	3.895	652	285,818	10.74	40,000	25	SF	\$1,000,000	24.4%
Total Site Info	149,500	3.43	3.895	652	285,818	10.74	40,000			\$1,000,000	24.4%
10 Lab Corp											
Pervious pavements	52,200	1.20	1.360	228	99,798	3.75	10,800	25	SF	\$270,000	14.2%
Total Site Info	52,200	1.20	1.360	228	99,798	3.75	10,800			\$270,000	14.2%
11 Ortho-McNeil-Janssen Pharmaceutical											
Bioretention systems/rain gardens	3,500	0.08	0.091	15	6,695	0.25	900	5	SF	\$4,500	0.1%
Pervious pavements	17,600	0.40	0.459	77	33,645	1.26	17,600	25	SF	\$440,000	0.7%
Total Site Info	21,100	0.48	0.550	92	40,340	1.51	18,500			\$444,500	0.9%
12 QuickChek											
Pervious pavements	9,600	0.22	0.250	42	18,356	0.69	2,200	25	SF	\$55,000	28.0%
Total Site Info	9,600	0.22	0.250	42	18,356	0.69	2,200			\$55,000	28.0%
13 Raritan Municipal Court											
Pervious pavements	6,775	0.16	0.177	30	12,955	0.49	1,800	25	SF	\$45,000	22.8%
Total Site Info	6,775	0.16	0.177	30	12,955	0.49	1,800			\$45,000	22.8%
14 Raritan Valley Train Line											
Bioretention systems/rain gardens	34,300	0.79	0.894	150	65,577	2.47	5,800	5	SF	\$29,000	24.8%
Total Site Info	34,300	0.79	0.894	150	65,577	2.47	5,800			\$29,000	24.8%
15 Relief Hose Company No. 2 Engine House											
Rainwater harvesting systems	1,115	0.03	0.029	5	1,000	0.08	1,000	2	gal	\$2,000	14.7%
Total Site Info	1,115	0.03	0.029	5	1,000	0.08	1,000			\$2,000	14.7%
16 Saint Ann Church and School											
Bioretention systems/rain gardens	2,300	0.05	0.060	10	4,398	0.17	700	5	SF	\$3,500	3.9%
Total Site Info	2,300	0.05	0.060	10	4,398	0.17	700			\$3,500	3.9%

Summary of Proposed Green Infrastructure Practices

Subwatershed/Site Name/Total Site Info/GI Practice	Potential Management Area		Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Max Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cfs)	Size of BMP (SF)	Unit Cost (\$)	Unit	Total Cost (\$)	I.C. Treated %
	Area (SF)	Area (ac)									
17 Saint Joseph's Church & Somerset Academy											
Bioretention systems/rain gardens	4,000	0.09	0.104	17	7,645	0.29	1,770	5	SF	\$8,850	7.3%
Pervious pavements	8,300	0.19	0.216	36	15,865	0.60	1,800	25	SF	\$45,000	15.2%
Total Site Info	12,300	0.28	0.320	54	23,510	0.89	3,570			\$53,850	22.6%
18 Somerville Circle Shopping Center											
Pervious pavements	29,500	0.68	0.769	129	56,399	2.12	7,000	25	SF	\$175,000	4.3%
Total Site Info	29,500	0.68	0.77	129	56,399	2.12	7,000			\$175,000	4.3%
19 Somerset County Government Offices											
Bioretention systems/rain gardens	11,200	0.26	0.292	49	21,415	0.80	4,500	5	SF	\$22,500	13.1%
Pervious pavements	19,700	0.45	0.513	86	37,662	1.42	10,750	25	SF	\$268,750	23.0%
Total Site Info	30,900	0.71	0.81	135	59,077	2.22	15,250			\$291,250	36.1%