RUTGERS
New Jersey Agricultural Experiment Station

Impervious Cover Reduction Action Plan for North Camden, Camden County, New Jersey

Prepared for North Camden by the Rutgers Cooperative Extension Water Resources Program

February 12, 2018

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c. Summary of Existing Conditions

d. Summary of Proposed Green Infrastructure Practices

Introduction

Located in Camden County in New Jersey, North Camden, composed of sewersheds C11-C16 for this analysis, covers approximately 621 acres. Figures 1 and 2 illustrate that North Camden is dominated by urban land uses. A total of 97.4% of the municipality's land use is classified as urban. Of the urban land in North Camden, high density residential is the dominant land use (Figure 3).

The New Jersey Department of Environmental Protection's (NJDEP) 2012 land use/land cover geographical information system (GIS) data layer categorizes North Camden 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 Camden City. Based upon the 2012 NJDEP land use/land cover data, approximately 67.5% of North Camden is impervious cover. This level of impervious cover suggests that the streams in North Camden are likely non-supporting streams. [1]

Methodology

North Camden contains a portion of the Cooper River subwatershed and is divided into six sewershed areas (Figure 4). For this impervious cover reduction action plan, projects have been identified in this watershed. 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

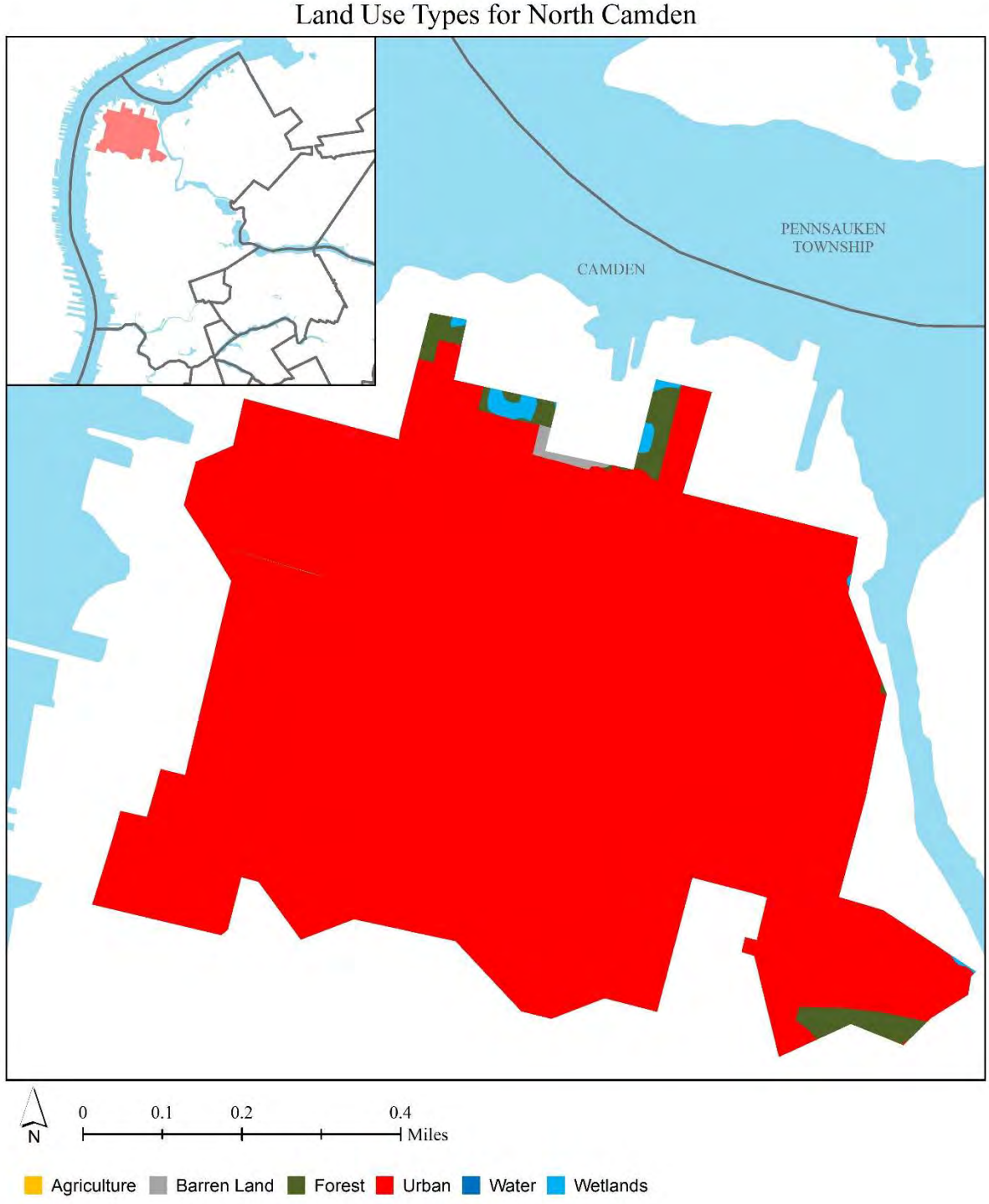


Figure 1: Map illustrating the land use in North Camden

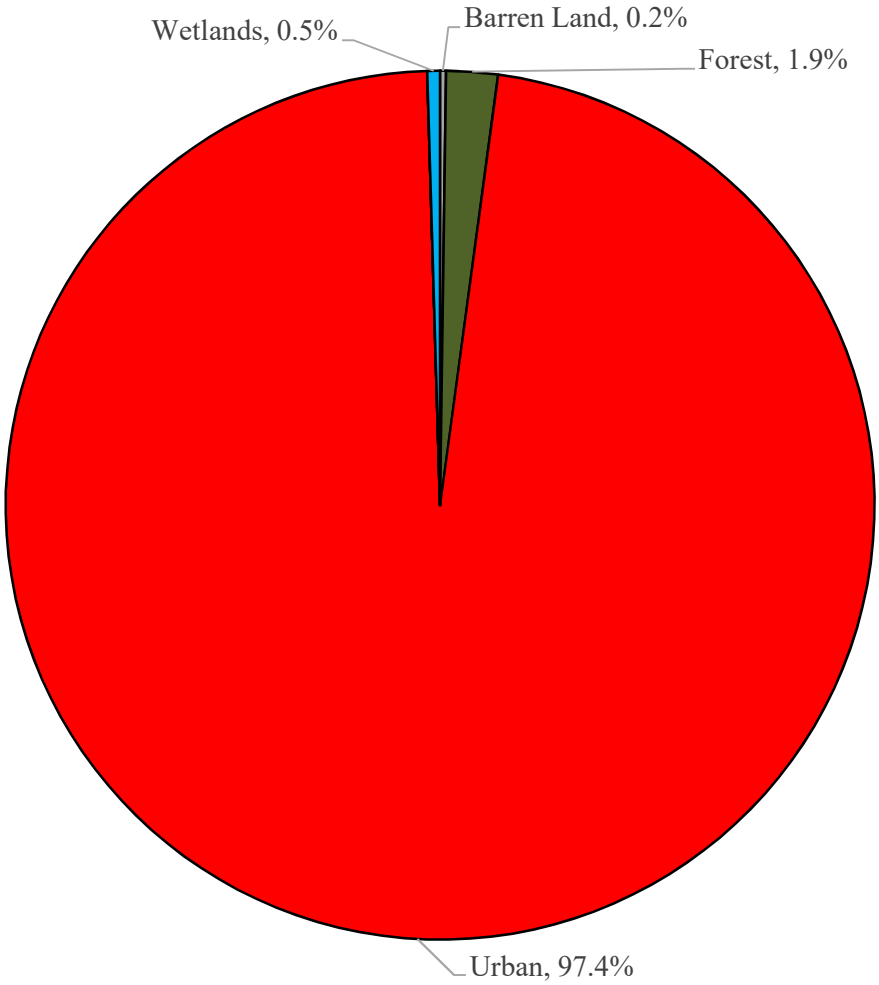


Figure 2: Pie chart illustrating the land use in North Camden

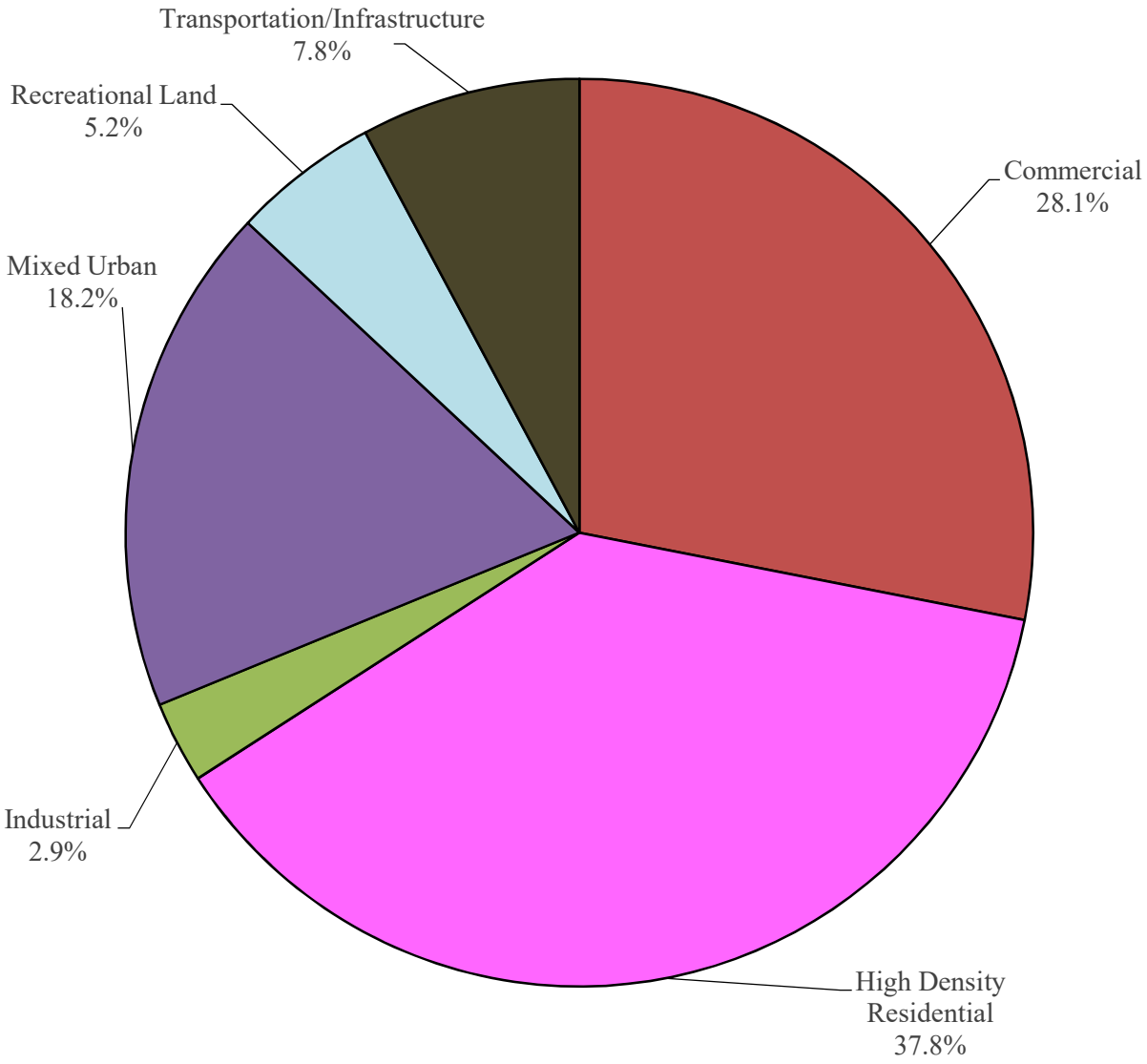


Figure 3: Pie chart illustrating the various types of urban land use in North Camden

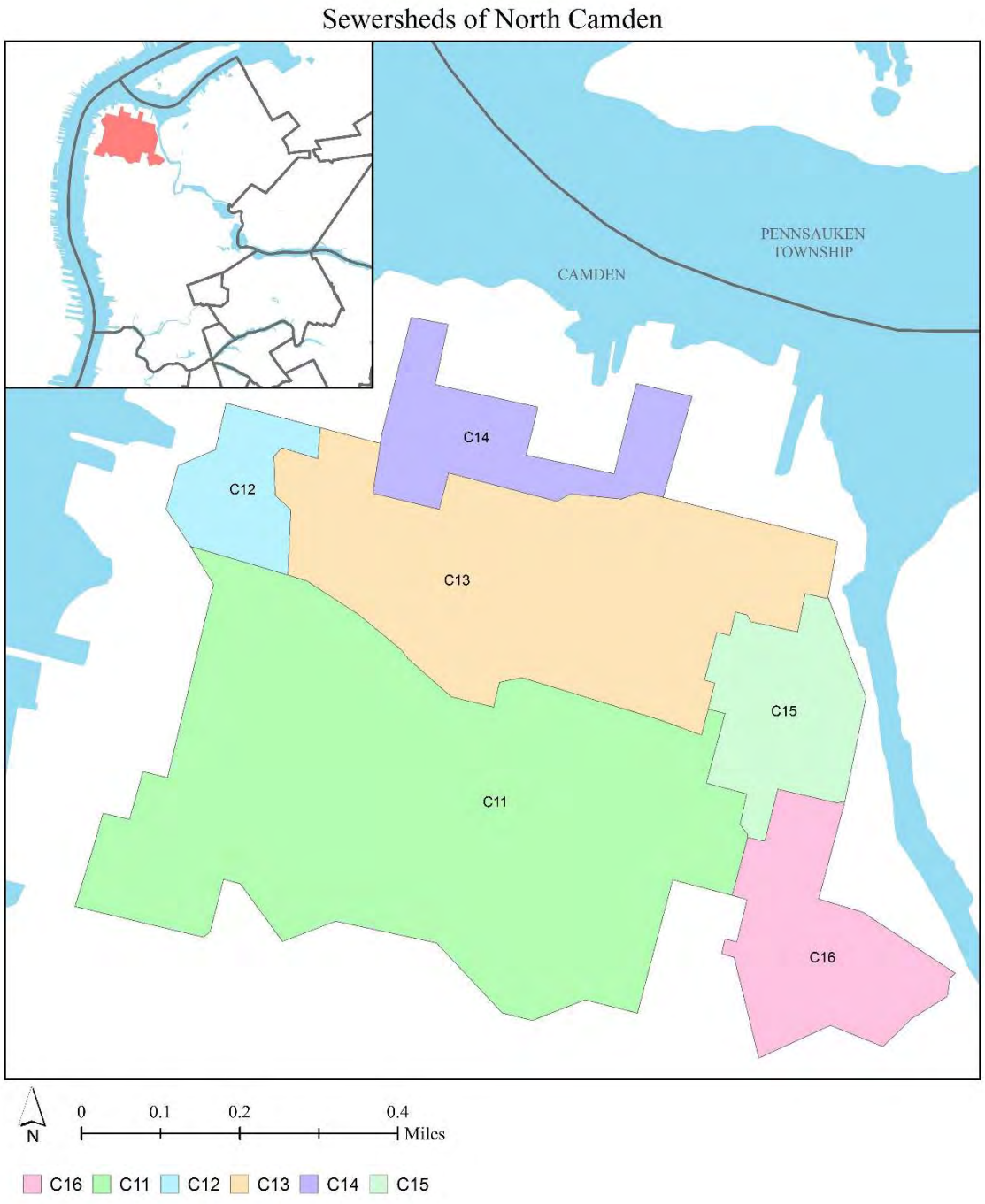


Figure 4: Map of the sewersheds in North Camden

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 2012 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 North Camden 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 Coefficients[2]

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
Barren land/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 benefits[3]. A wide range of green infrastructure practices have been evaluated for the potential project sites in North Camden. Each practice is discussed below.

Disconnected downspouts

This is often referred to as simple disconnection. A downspout is simply disconnected, 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 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

Appendix A contains information on potential project sites where green infrastructure practices could be installed as well as information on existing site conditions. The recommended green infrastructure practices and the drainage area that the green infrastructure practices can treat are identified for each potential project site. For each practice, the recharge potential, TSS removal potential, maximum volume reduction potential per storm, the peak reduction potential, and estimated costs 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.

ATTACHMENT: CLIMATE RESILIENT GREEN INFRASTRUCTURE

Contents:

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

NORTH CAMDEN CITY: POTENTIAL GREEN INFRASTRUCTURE SITES

SITES WITHIN THE C11 SUBWATERSHED

1. Camden City School District Central Office
2. Mastery Molina Upper Elementary
3. Rutgers Business and Science Building & Lot C13
4. Rutgers Lot C14
5. Rutgers Residence Hall & Lot C12
6. United States Post Office and Court House

SITES WITHIN THE C13 SUBWATERSHED

7. Alley on Larch Street from 3rd to 4th Street
8. Camden Tool Inc.
9. Community Garden
10. Cooper's Poynt School
11. Cooper Riverview Homes
12. Higher Ground Temple Church of God in Christ
13. Iglesia Pentecostal La Hermosa
14. John Wesley Village Apartments
15. La Esperanza Community Garden
16. New Life Covenant
17. North 7th & Bailey Street Pocket Park
18. Pyne Poynt Middle School
19. Residential Home A
20. State Street United Methodist Church
21. Vacant Lot 4th & Elm Street

SITES WITHIN THE C14 SUBWATERSHED

22. Lighthouse Church
23. Pyne Poynt Park
24. The Meadows at Pyne Poynt

SITES WITHIN THE C15 SUBWATERSHED

25. Cooper Waterfront Homes
26. Residential Home B
27. Vacant Lot 10th & Vine Street

SITES WITHIN THE C16 SUBWATERSHED

28. Camden County Police Department Facility
29. Respond Day Care

CAMDEN CITY SCHOOL DISTRICT CENTRAL OFFICE

Sewershed: C11

Site Area: 136,249 sq. ft.

Address: 201 North Front Street
Camden, NJ 08102

Block and Lot: Block 63
Lots 70,78

Stormwater runoff from this expansive parking lot drains to multiple catch basins on the north, south, and west ends. Parking spaces on the far edges of the parking lot can be retrofitted with porous asphalt to allow for the capture and infiltration of stormwater runoff from a majority of the parking lot. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
98	133,549	6.4	67.4	613.2	0.104	3.66

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 pavement	1.684	282	123,600	4.65	13,500	$337,500

GREEN INFRASTRUCTURE RECOMMENDATIONS

Camden City School District Central Office

- pervious pavement
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 50' 100'

MASTERY MOLINA UPPER ELEMENTARY

Sewershed: C11

Site Area: 144,639 sq. ft.

Address: 601 Vine Street
Camden, NJ 08102

Block and Lot: Block 781
Lot 1

An existing play area can be retrofitted into a porous play area to capture runoff from the surrounding pavement. In two locations, bioretention systems can be placed around the edge of the play areas to capture runoff from the paved areas and provide a green edge to the space. At the front of the school, the entryway can be redone with porous pavement to create a permeable surface that will absorb runoff. Additional runoff could be redirected into it's storage area as well. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
95	137,407	6.6	69.4	630.9	0.107	3.77

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	0.374	63	27,440	1.03	4,225	$21,125
Pervious pavement	0.309	52	22,660	0.85	9,250	$231,250

GREEN INFRASTRUCTURE RECOMMENDATIONS

Mastery Molina Upper Elementary

- bioretention system
- pervious pavement
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 50' 100'

RUTGERS BUSINESS AND SCIENCE BUILDING & LOT C13

Sewershed: C11

Site Area: 55,039 sq. ft.

Address: 221 Penn Street
Camden, NJ 08102

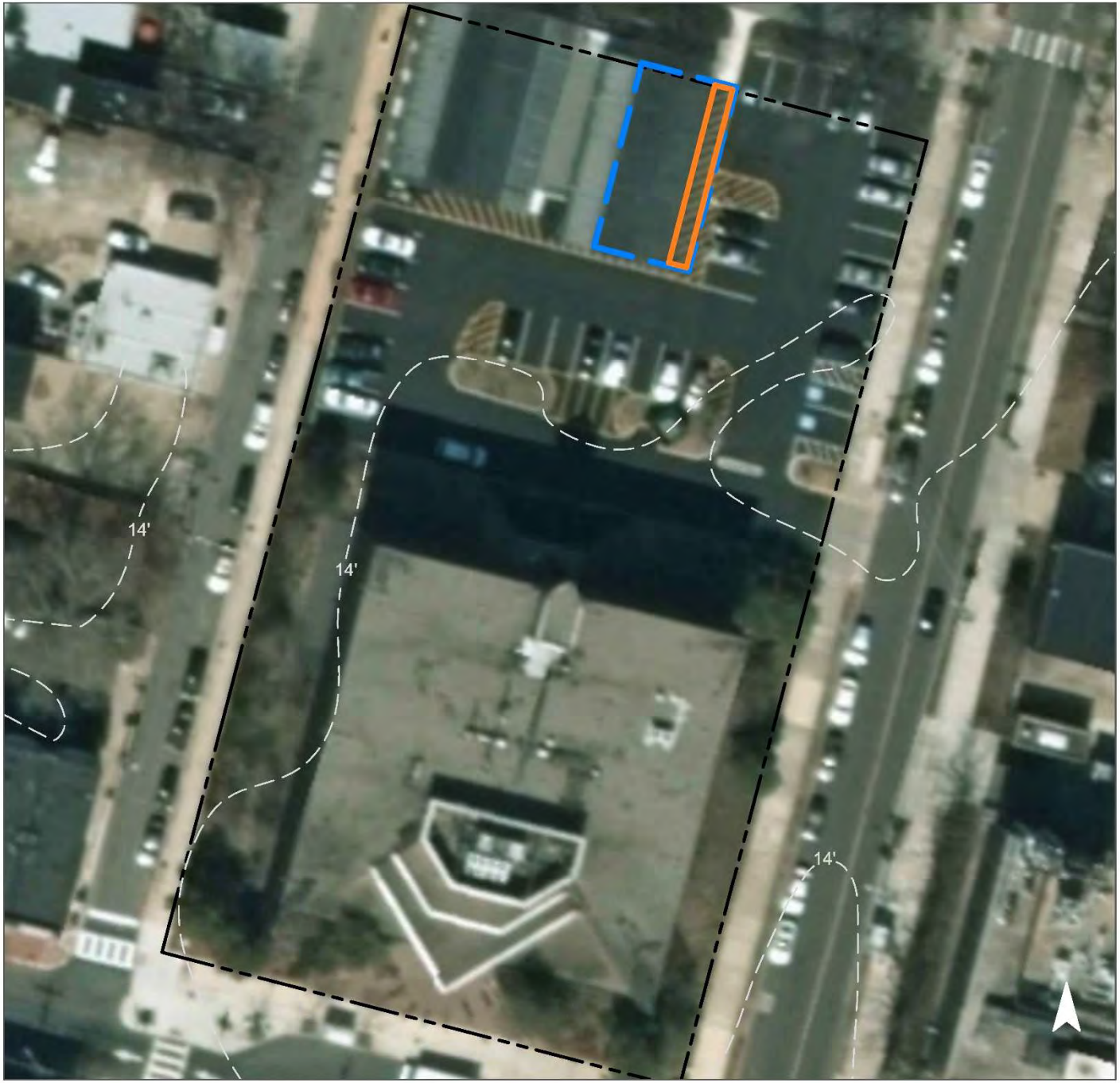
Block and Lot: Block 66
Lots 11,29,42

Stormwater currently drains to multiple catch basins in the parking lot, and the trailer's downspouts discharge onto the pavement. Porous asphalt can be installed adjacent to the trailer building to capture a portion of the runoff from the roof. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
82	45,039	2.2	22.7	206.8	0.035	1.24

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 pavement	0.052	9	3,820	0.14	500	$12,500

GREEN INFRASTRUCTURE RECOMMENDATIONS



Rutgers Business and Science Building & Lot C13

- pervious pavement
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

RUTGERS LOT C14

Sewershed: C11

Site Area: 56,090 sq. ft.

Address: North 3rd Street &
Pearl Street
Camden, NJ 08102

Block and Lot: Block 58
Lot 66

Stormwater currently drains to catch basins scattered throughout the parking lot. Parking spaces on the north and west side of the parking lot can be retrofitted with porous asphalt to capture, treat and infiltrate some of this stormwater. If catch basins are bypassed in favor of the porous asphalt system, a large portion of the runoff from the parking lot can be captured. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
99	55,390	2.7	28.0	254.3	0.043	1.52

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 pavement	1.107	185	81,260	3.05	8,000	$200,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

Rutgers Lot C14

- pervious pavement
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

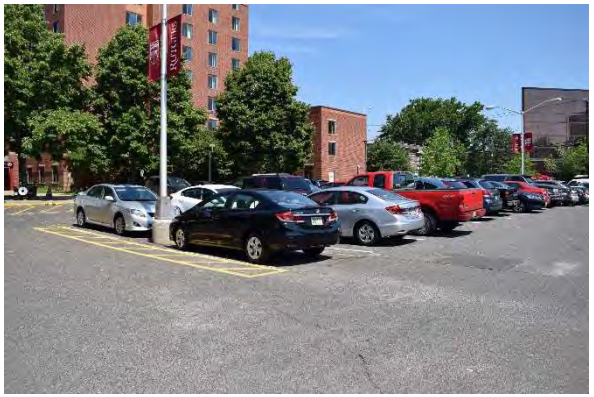
RUTGERS RESIDENCE HALL & LOT C12

Sewershed: C11

Site Area: 106,040 sq. ft.

Address: 215 North 3rd Street
Camden, NJ 08102

Block and Lot: Block 69
Lot 1



Stormwater drains to catch basins in the center of the parking lot and pools in some areas. Porous asphalt can be installed in the parking spaces to capture, treat, and infiltrate stormwater 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
81	85,790	4.1	43.3	393.9	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
Pervious pavement	0.684	114	50,180	1.89	6,150	$153,750

GREEN INFRASTRUCTURE RECOMMENDATIONS

Rutgers Residence Hall & Lot C12

- pervious pavement
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

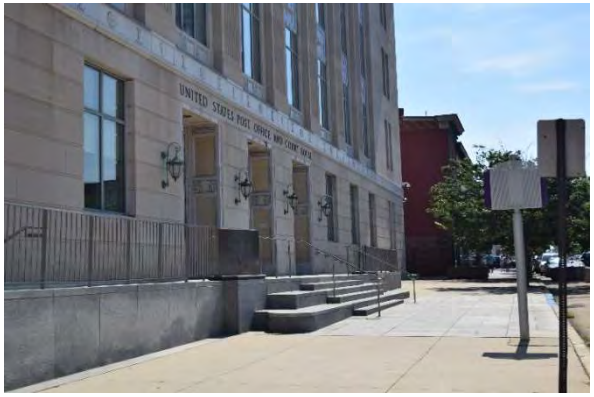
UNITED STATES POST OFFICE AND COURT HOUSE

Sewershed: C11

Site Area: 63,895 sq. ft.

Address: 401 Market Street
Camden, NJ 08102

Block and Lot: Block 117; 118
Lot 1; 17



Stormwater runs down the curb in front of the building to a catch basin on the corner. A stormwater planter can be installed in front of the building to capture stormwater from the road providing stormwater an opportunity to be treated and infiltrate. The stormwater planter would also add to the aesthetic of the building and prevent people from parking in front of the building. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
98	62,617 (+7,200 offsite)	3.4	35.3	320.6	0.054	1.91

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
Stormwater planter	0.188	31	13,760	0.52	1,800	$675,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

United States Post Office and Court House

- stormwater planter
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

ALLEY ON LARCH STREET FROM 3RD TO 4TH STREET

Sewershed: C13

Site Area: 13,356 sq. ft.

Address: 217 Vine Street
Camden, NJ 08102

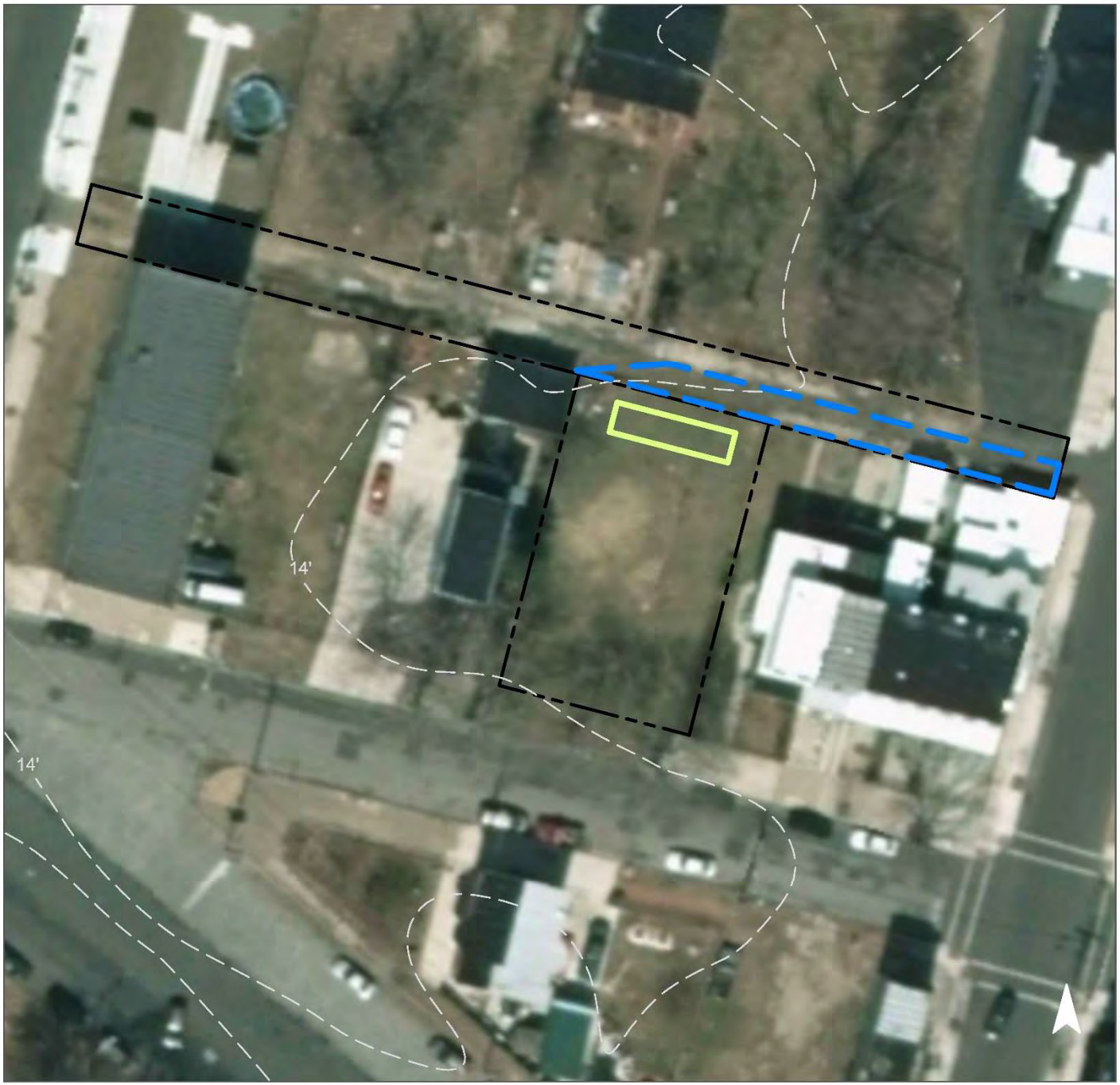
Block and Lot: Block 41
Lot 25

This alley on Larch Street is severely deteriorated, and a rain garden could be implemented to capture runoff from the pavement. As a potential alternative, the alley could be redone with turfstone or another permeable surface that supports vehicular traffic to repair the dilapidated pavement into a permeable surface. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
47	6,326	0.3	3.2	29.0	0.005	0.17

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 system	0.038	6	2,780	0.10	370	$1,850

GREEN INFRASTRUCTURE RECOMMENDATIONS



Alley on Larch Street from 3rd to 4th Street

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

CAMDEN TOOL INC.

Sewershed: C13

Site Area: 54,583 sq. ft.

Address: 129 York Street
Camden, NJ 08102

Block and Lot: Blocks 15;16
Lots 95,112,129;12,37,43

There are connected downspouts on one side of the building and a parking lot that creates runoff flowing into a grassed area and toward the roadway. Rain gardens can be constructed along the west side of the building and adjacent to the parking lot to capture rooftop and parking lot runoff. A third rain garden could capture runoff from the roadway to enhance the empty grassed area. These gardens can improve the aesthetic of the landscape and create a wildlife habitat while managing stormwater 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
40	21,941 (+8,870 offsite)	1.5	15.6	141.5	0.024	0.85

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	0.414	69	30,400	1.14	4,000	$20,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

Camden Tool Inc.

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 50' 100'

COMMUNITY GARDEN

Sewershed: C13

Site Area: 2,866 sq. ft.

Address: 400 Grant Street
Camden, NJ 08102

Block and Lot: Block 768
Lots 3,4,5

This community garden could benefit from a cistern that could capture runoff from the adjacent rooftop. These systems capture rainwater. The water can then be used for watering the garden and other non-potable uses. There is no apparent downspout from the building, but one can be installed to capture the 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
10	287 (+500 offsite)	0.0	0.4	3.6	0.001	0.02

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	Estimated Cost
Rainwater harvesting	0.013	2	400	0.02	400 (gal)	$800

GREEN INFRASTRUCTURE RECOMMENDATIONS

Community Garden

- rainwater harvesting
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 10' 20'

COOPER'S POYNT SCHOOL

Sewershed: C13

Site Area: 106,342 sq. ft.

Address: 201 State Street
Camden, NJ 08102

Block and Lot: Block 21
Lot 124

Near the school's play area, a rain garden can be implemented to capture and infiltrate stormwater from the roadway by depaving an area of asphalt. Additional areas around the play area could be depaved to reduce impervious cover and provide green space. Along the west face, a rain garden could be implemented around an existing catch basin, and an enhanced tree trench could capture runoff from the sidewalk. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
98	104,514	5.0	52.8	479.9	0.081	2.87

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	0.096	16	7,080	0.27	925	$4,625
Tree trench	0.162	27	11,900	0.45	750	$22,500

GREEN INFRASTRUCTURE RECOMMENDATIONS

Cooper's Poynt School

- bioretention system
- tree trench
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 50' 100'

COOPER RIVERVIEW HOMES

Sewershed: C13

Site Area: 37,895 sq. ft.

Address: 847 Bailey Street
Camden, NJ 08102

Block and Lot: Block 762
Lot 3

There are several locations around this apartment building where downspouts can be disconnected into rain gardens to capture, treat, and infiltrate roof runoff. Some of these areas can alternatively be redirected into downspout planter boxes instead where maintaining open space is desired. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
70	26,526	1.3	13.4	121.8	0.021	0.73

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	0.096	16	7,080	0.27	930	$4,650
Downspout planter boxes	n/a	7.6	n/a	n/a	11	$11,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

Cooper RiverView Homes

- bioretention system
- downspout planter
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

HIGHER GROUND TEMPLE CHURCH OF GOD IN CHRIST

Sewershed: C13

Site Area: 11,550 sq. ft.

Address: 203 Vine Street
Camden, NJ 08102

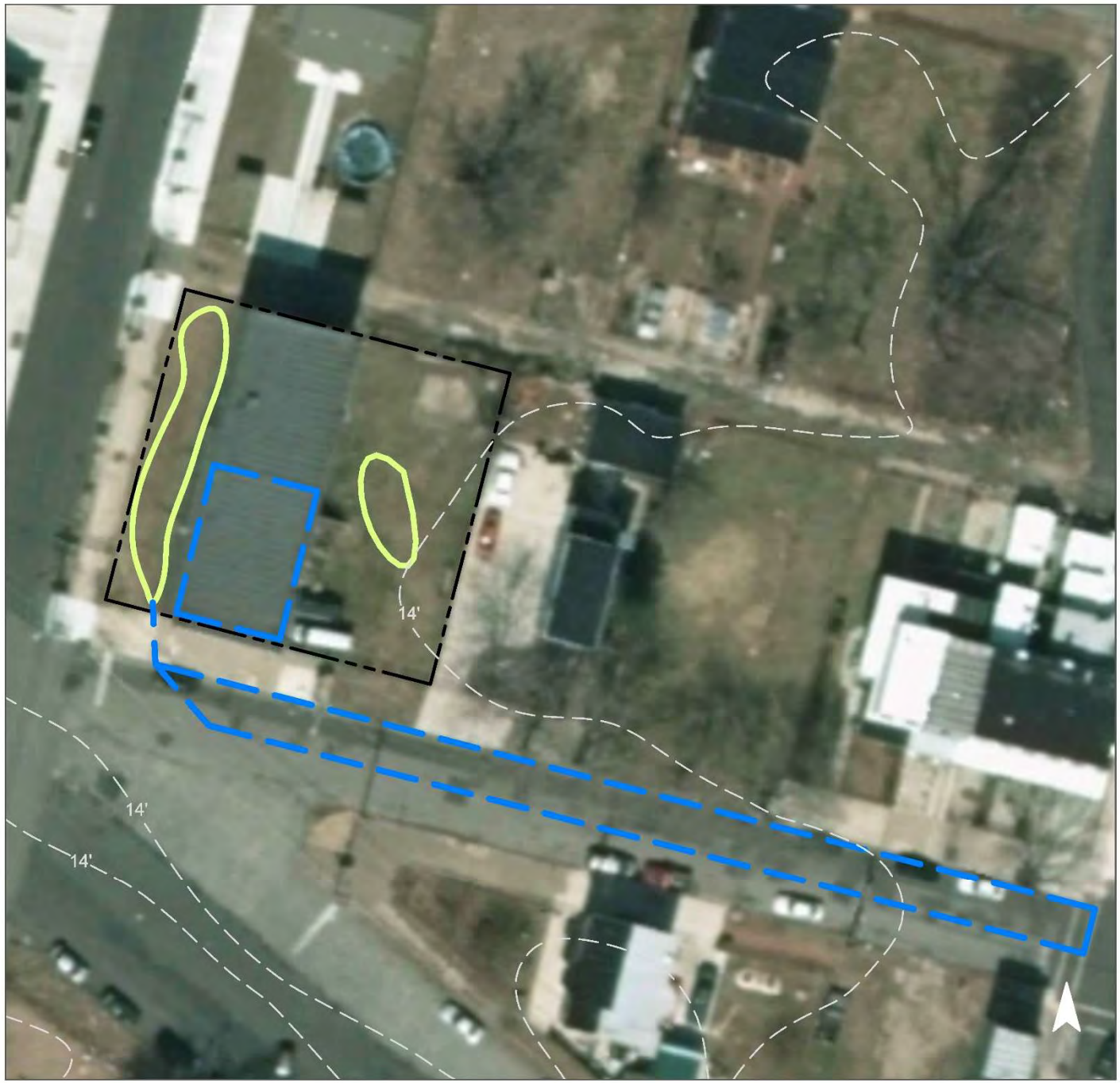
Block and Lot: Block 41
Lot 29

At the church, an existing area west of the church can be enhanced with a rain garden that could capture runoff from the roadway. An existing downspout at the front of the building can be redirected into a rain garden toward the rear area of the parking. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
34	3,871 (+4,600 offsite)	0.4	4.3	38.9	0.007	0.23

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	0.165	28	12,140	0.46	1,600	$8,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Higher Ground Temple Church of God in Christ

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

IGLESIA PENTECOSTAL LA HERMOSA

Sewershed: C13

Site Area: 3,006 sq. ft.

Address: 915 N Front Street
Camden, NJ 08102

Block and Lot: Block 14
Lot 22

There are multiple downspouts around the church that can be redirected to the south side of the church where a rain garden can be installed to capture, treat, and infiltrate rooftop 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
75	2,255	0.1	1.1	10.4	0.002	0.06

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 system	0.031	5	2,300	0.09	300	$1,500

GREEN INFRASTRUCTURE RECOMMENDATIONS

Iglesia Pentecostal La Hermosa

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

JOHN WESLEY VILLAGE APARTMENTS

Sewershed: C13

Site Area: 71,391 sq. ft.

Address: 99 State Street
Camden, NJ 08102

Block and Lot: Block 33
Lot 39

The apartments have disconnected downspouts directed towards the road on the west side of the buildings. Several rain gardens can be installed in the existing grassed areas to capture, treat, and infiltrate rooftop runoff. This garden can add to the aesthetic of the site and create wildlife habitat while also managing stormwater 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
80	57,113	2.8	28.8	262.2	0.045	1.57

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	0.156	26	11,470	0.43	1,500	$7,500

GREEN INFRASTRUCTURE RECOMMENDATIONS

John Wesley Village Apartments

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 50' 100'

LA ESPERANZA COMMUNITY GARDEN

Sewershed: C13

Site Area: 7,990 sq. ft.

Address: 835 North 6th Street
Camden, NJ 08102

Block and Lot: Block 755
Lot 13

Stormwater sits on the side of the road next to the garden where there is no curb. A stormwater planter can be installed along this area to capture, treat, and infiltrate stormwater from the road. A cistern can be installed to capture runoff from the adjacent shed for reuse in watering the garden. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
11	839 (+1,650 offsite)	0.1	1.3	11.4	0.002	0.07

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 system	0.012	2	420	0.02	420 (gal.)	$840
Stormwater planter	0.031	5	2,300	0.09	300	$112,500

GREEN INFRASTRUCTURE RECOMMENDATIONS

La Esperanza Community Garden

- rainwater harvesting
- stormwater planter
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

NEW LIFE COVENANT CHURCH

Sewershed: C13

Site Area: 12,654 sq. ft.

Address: 410 State Street
Camden, NJ 08102

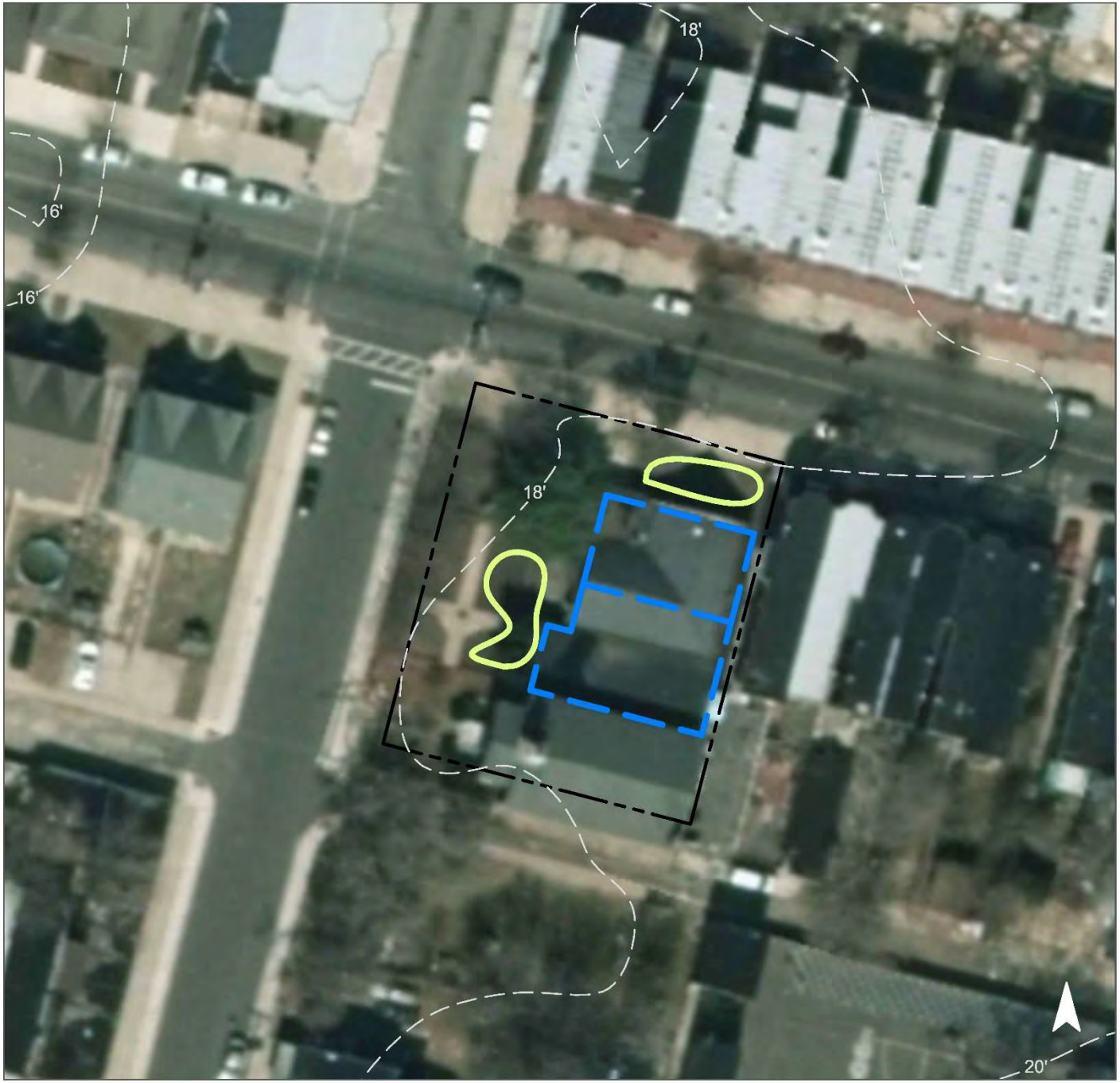
Block and Lot: Block 770
Lot 24

There are multiple disconnected downspouts around the church building that direct stormwater over the ground to the nearest catch basin. Rain gardens can be installed in two locations on the property to capture, treat, and infiltrate stormwater runoff. These systems can easily be incorporated into the existing landscape, improving aesthetics and creating wildlife habitat while managing stormwater 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
79	10,009	0.5	5.1	46.0	0.008	0.27

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	0.094	16	6,880	0.23	900	$4,500

GREEN INFRASTRUCTURE RECOMMENDATIONS



New Life Covenant Church

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

NORTH 7TH & BAILEY STREET POCKET PARK

Sewershed: C13

Site Area: 9,672 sq. ft.

Address: 1000 North 5th Street
Camden, NJ 08102

Block and Lot: Block 758; 759
Lot 60,61,62; 5,6,7,8

The sets of lots can each be converted into bioretention systems to capture, treat, and infiltrated runoff from the roadway through implementation of curb cuts and trench drains. A cistern can also be installed to capture runoff from the adjacent rooftop for use by local residents who use the space. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
9	900 (+5,600 offsite)	0.3	3.3	29.8	0.005	0.18

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	0.125	21	9,180	0.34	1,200	$6,000
Rainwater harvesting	0.021	3	650	0.02	650 (gal.)	$1,300

GREEN INFRASTRUCTURE RECOMMENDATIONS

North 7th & Bailey Street Pocket Park

- bioretention system
- rainwater harvesting
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 30' 60'

PYNE POYNT MIDDLE SCHOOL

Sewershed: C13

Site Area: 499,672 sq. ft.

Address: 800 Erie Street
Camden, NJ 08102

Block and Lot: Block 748
Lot 1

Rain gardens can be installed in two locations on this property to capture, treat, and infiltrate rooftop runoff. One can be implemented by depaving a portion of the asphalt area to help beautify the area. Parking spaces in the large parking lot on the east side of the property can be replaced with pervious pavement to capture and infiltrate stormwater. Additional parking spaces in the middle area of the building can be replaced with porous asphalt to capture runoff from adjacent downspouts. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
44	220,664	10.6	111.4	1,013.1	0.172	6.05

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
Bioretention systems	0.395	66	28,960	1.09	3,800	$19,000
Pervious pavement	0.277	46	20,360	0.77	4,400	$110,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

Pyne Poynt Middle School

- bioretention system
- pervious pavement
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 50' 100'

RESIDENTIAL HOME A

Sewershed: C13

Site Area: 6,134 sq. ft.

Address: 326 State Street
Camden, NJ 08102

Block and Lot: Block 26
Lot 12,13

The existing downspouts can be disconnected and redirected into rain gardens in the grassed area at the front of the home to capture, treat, and infiltrate water from the rooftop. There are a series of homes with a similar set up throughout North Camden that could also receive rain gardens. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
65	3,987	0.2	2.0	18.3	0.003	0.11

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	0.029	5	2,100	0.08	280	$1,400

GREEN INFRASTRUCTURE RECOMMENDATIONS

Residential Home A

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 10' 20'

STATE STREET UNITED METHODIST CHURCH

Sewershed: C13

Site Area: 14,500 sq. ft.

Address: 532 State Street
Camden, NJ 08102

Block and Lot: Block 769
Lot 41

There are multiple downspouts on the east side of the church that direct water onto the sidewalk. Downspout planters can be installed on the sidewalk to capture stormwater from the downspouts. At the front of the church, a rain garden can be installed to capture runoff from a portion of the building by redirecting downspouts into it. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
95	13,775	0.7	7.0	63.2	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
Bioretention system	0.021	3	1,530	0.06	200	$1,000
Downspout planter boxes	n/a	2	n/a	n/a	3 boxes	$3,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

State Street United Methodist Church

- bioretention system
- downspout planter
- drainage areas
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

VACANT LOT 4TH & ELM STREET

Sewershed: C13

Site Area: 10,587 sq. ft.

Address: 606 North 4th Street
Camden, NJ 08102

Block and Lot: Block 788
Lots 46,47,51,52,53

This vacant property can be retrofitted with a rain garden, a landscaped feature designed to capture, treat, and infiltrate stormwater runoff. This system will provide an aesthetic benefit to the unused space and create wildlife habitat while managing stormwater runoff. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure.

Off-Site 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"
9,000	0.3	3.1	28.9	0.007	0.25

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 system	0.234	39	17,200	0.65	2,250	$11,250

GREEN INFRASTRUCTURE RECOMMENDATIONS

Vacant Lot 4th & Elm Street

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 30' 60'

LIGHTHOUSE CHURCH

Sewershed: C14

Site Area: 8,910 sq. ft.

Address: 1000 North 5th Street
Camden, NJ 08102

Block and Lot: Block 745
Lot 44

Some of the downspouts are in disrepair and currently direct stormwater onto the sidewalk. Some of these downspouts can be redirected to the rear of the building to capture, treat, and infiltrate roof runoff. Additionally, downspouts could be redirected into the existing planter boxes to treat a portion of their 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
95	8,465	0.4	4.3	38.9	0.007	0.23

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 system	0.052	9	3,820	0.14	500	$2,500

GREEN INFRASTRUCTURE RECOMMENDATIONS

Lighthouse Church

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

PYNE POYNT PARK

Sewershed: C14

Site Area: 674,568 sq. ft.

Address: 1000 North 6th Street
Camden, NJ 08102

Block and Lot: Block 747
Lot 1

Stormwater currently drains to catch basins on the park road. A rain garden can be placed in the large grassed area to capture, treat, and infiltrate runoff from the roadway before it reaches a catch basin. A second rain garden can be placed behind one of the park buildings to capture runoff from the rooftop. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
10	64,949	3.1	32.8	298.2	0.051	1.78

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	0.214	36	15,680	0.59	2,050	$10,250

GREEN INFRASTRUCTURE RECOMMENDATIONS

Pyne Poynt Park

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 50' 100'

THE MEADOWS AT PYNE POYNT

Sewershed: C14

Site Area: 49,672 sq. ft.

Address: 441 Erie Street
Camden, NJ 08102

Block and Lot: Block 746
Lot 16,45,47

There are multiple existing raised bed gardens which could benefit from a cistern on site. An existing downspout can be disconnected into the cistern to harvest stormwater from the rooftop. Along the north and west ends of the building downspouts could be disconnected rain gardens that could be incorporated into the existing landscaping. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
74	36,808	1.2	12.7	118.3	0.029	1.01

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 system	0.044	7	3,250	0.12	450	$2,250
Rainwater harvesting	0.008	1	250	0.01	250 (gal)	$500

GREEN INFRASTRUCTURE RECOMMENDATIONS

The Meadows at Pyne Poynt

- bioretention system
- rainwater harvesting
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

COOPER WATERFRONT HOMES

Sewershed: C15

Site Area: 283,090 sq. ft.

Address: 800 Galindez Court,
Camden, NJ 08102

Block and Lot: Block 784
Lot 1

There are several locations around this apartment complex where downspouts can be disconnected into rain gardens to capture, treat, and infiltrate roof runoff. By regrading the parking lot when it is repaved, a section of parking spaces can be retrofitted to porous pavement to capture runoff from the parking lot area. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
38	107,982	5.2	54.5	495.8	0.084	2.96

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	0.216	36	15,870	0.60	2,080	$10,400
Pervious pavement	0.354	59	26,000	0.98	2,430	$60,750

GREEN INFRASTRUCTURE RECOMMENDATIONS

Cooper Waterfront Homes

- bioretention system
- pervious pavement
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 50' 100'

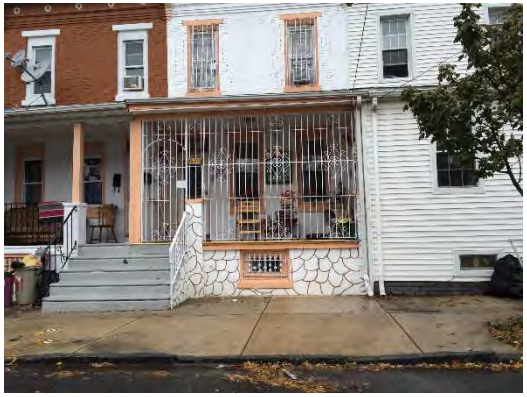
RESIDENTIAL HOME B

Sewershed: C15

Site Area: 1,078 sq. ft.

Address: 806 Elm Street
Camden, NJ 08102

Block and Lot: Block 801
Lot 29



This residential home can have its downspout redirected into a downspout planter box to detain and filter stormwater from the rooftop as well as provide aesthetic value. There are a large number of homes with similar setups in North Camden that could also benefit from downspout planter boxes.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
95	1,024	0.0	0.5	4.7	0.001	0.03

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
Downspout planter box	n/a	0.4	n/a	n/a	1	$1,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

Residential Home B

- downspout planter
- drainage areas
- property line
- 2015 Aerial: NJOIT, OGIS

0 10' 20'

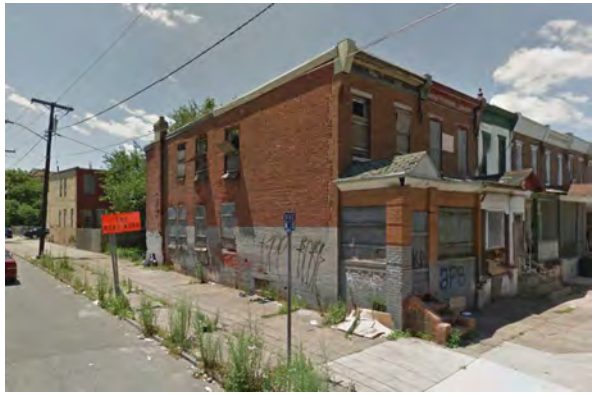
VACANT LOT 10TH & VINE STREET

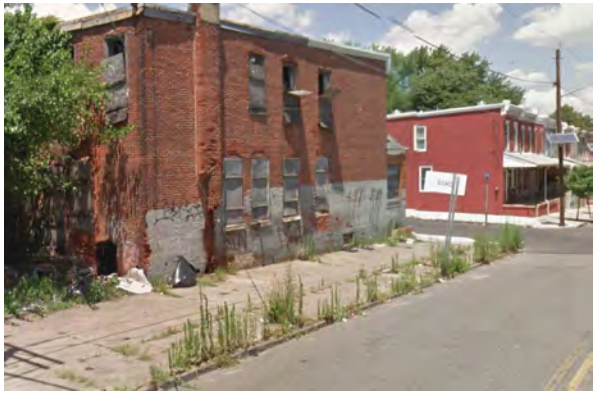
Sewershed: C15

Site Area: 1,502 sq. ft.

Address: 10th & Vine Street
Camden, NJ 08102

Block and Lot: Block 799
Lot 41,42





This vacant property can be retrofitted with a rain garden, a landscaped feature designed to capture, treat, and infiltrate stormwater runoff. This system will provide an aesthetic benefit to the unused space and create wildlife habitat while managing stormwater runoff. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure.

Off-Site 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"
6,400	0.1	0.8	6.9	0.001	0.04

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 system	0.167	28	12,240	0.46	1,600	$8,000

GREEN INFRASTRUCTURE RECOMMENDATIONS

Vacant Lot 10th & Vine Street

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 30' 60'

CAMDEN COUNTY POLICE DEPARTMENT STATION

Sewershed: C16

Site Area: 125,999 sq. ft.

Address: Linden Street & North 10th Street
Camden, NJ 08102

Block and Lot: Block 91
Lot 1

This police department station has a large compacted gravel parking lot that causes large volumes of stormwater runoff. Porous asphalt can be installed in the rows of parking spaces to capture runoff and improve stormwater infiltration. 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)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
61	76,332	3.7	38.6	350.5	0.059	2.09

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 pavement	0.921	154	67,580	2.54	6,725	$168,125

GREEN INFRASTRUCTURE RECOMMENDATIONS

Camden County Police Department Station

- pervious pavement
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 50' 100'

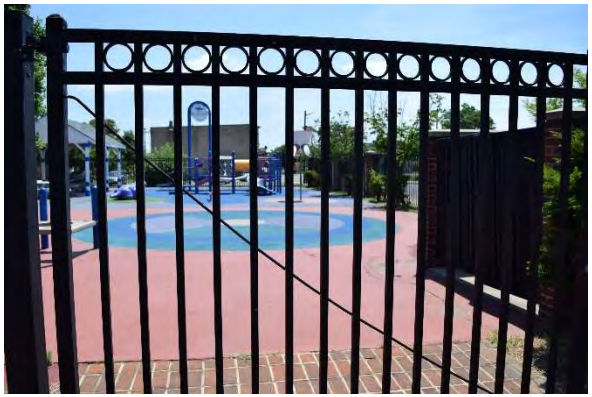
RESPOND DAY CARE

Sewershed: C16

Site Area: 14,500 sq. ft.

Address: 400 North 9th Street
Camden, NJ 08102

Block and Lot: Block 90
Lot 2

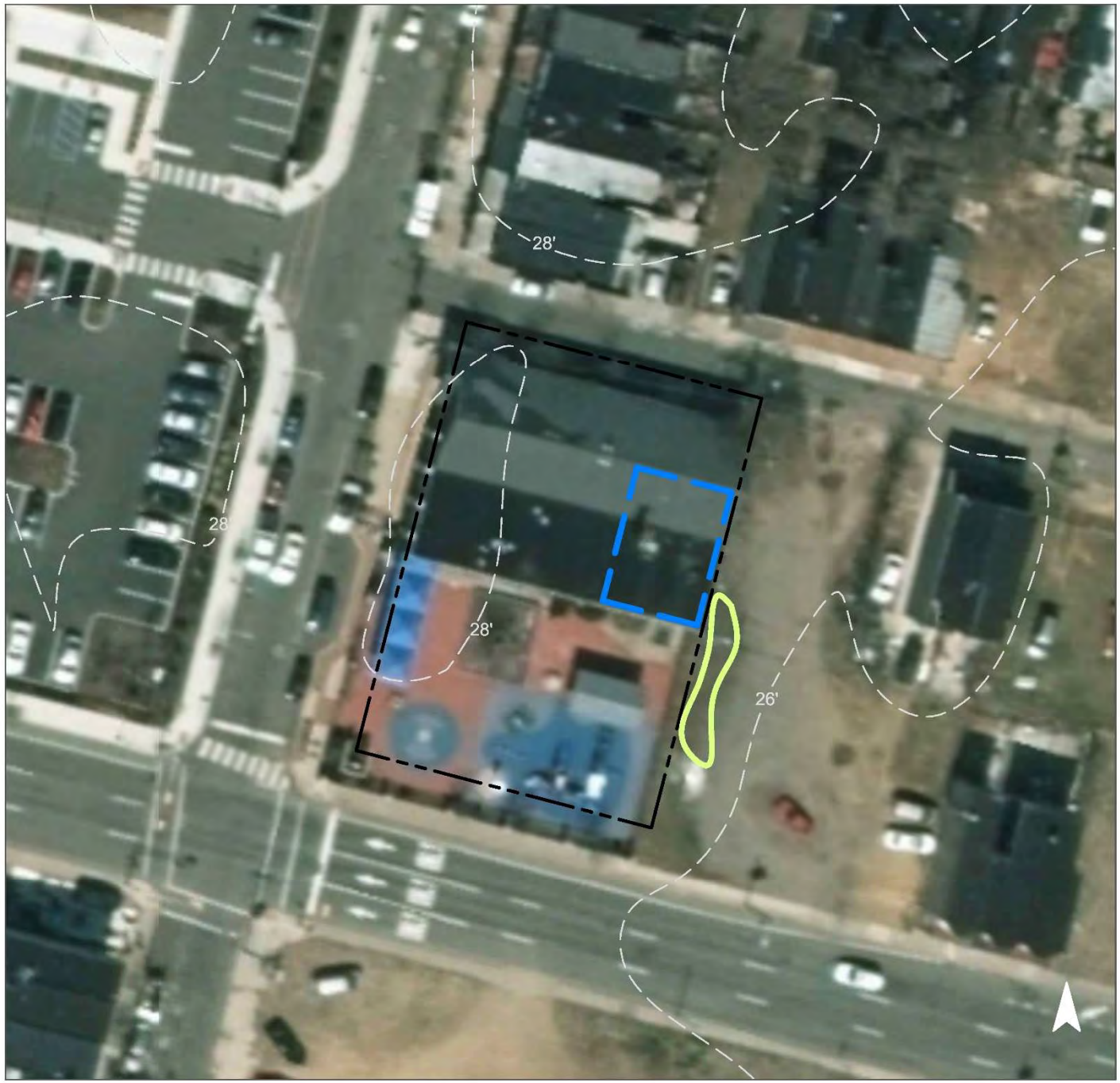


Adjacent to the play area, existing downspouts can be redirecting into a rain garden to capture, treat, and infiltrate runoff from the rooftop. A preliminary soil assessment suggests that more soil testing would be required before determining the soil's suitability for green infrastructure.

Impervious Cover		Existing Loads from Impervious Cover (lbs/yr)			Runoff Volume from Impervious Cover (Mgal)	
Site %	sq. ft.	TP	TN	TSS	For the 1.25" Water Quality Storm	For an Annual Rainfall of 44"
95	13,800	0.7	7.0	63.4	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
Bioretention system	0.038	6	2,780	0.10	375	$1,875

GREEN INFRASTRUCTURE RECOMMENDATIONS



Respond Day Care

- bioretention system
- drainage area
- property line
- 2015 Aerial: NJOIT, OGIS

0 25' 50'

Summary of Existing Conditions

	Subwatershed/Site Name/Total Site Info/GI Practice	Area (ac)	Area (SF)	Block	Lot	I.C. %	I.C. Area (ac)	I.C. Area (SF)	Existing Annual Loads (Commercial) TP (lb/yr)	TN (lb/yr)	TSS (lb/yr)	Runoff Volumes from I.C. Water Quality Storm (1.25" over 2-hours) (cu.ft.)	Annual (cu.ft.)	Runoff Volumes from I.C. Water Quality Storm (1.25" over 2-hours) (Mgal)	Annual (Mgal)
	C11 Sites	**12.90**	**561,951**				**12.10**	**526,992**	**25.4**	**266.2**	**2,419.6**	**54,895**	**1,932,305**	**0.411**	**14.45**
1	**Camden City School District Central Office**														
	Total Site Info	3.13	136,249	63	70,78	98	3.07	133,549	6.4	67.4	613.2	13,911	489,680	0.104	3.66
2	**Mastery Molina Upper Elementary**														
	Total Site Info	3.32	144,639	781	1	95	3.15	137,407	6.6	69.4	630.9	14,313	503,827	0.107	3.77
3	**Rutgers Business and Science Building & Lot C13**														
	Total Site Info	1.26	55,039	66	11, 29, 42	82	1.03	45,039	2.2	22.7	206.8	4,692	165,143	0.035	1.24
4	**Rutgers Lot C14**														
	Total Site Info	1.29	56,090	58	66	99	1.27	55,390	2.7	28.0	254.3	5,770	203,097	0.043	1.52
5	**Rutgers Residence Hall & Lot C12**														
	Total Site Info	2.43	106,040	69	1	81	1.97	85,790	4.1	43.3	393.9	8,936	314,563	0.067	2.35
6	**United States Post Office and Court House**							7,200 offsite							
	Total Site Info	1.47	63,895	117; 118	1; 17	98	1.60	69,817	3.4	35.3	320.6	7,273	255,996	0.054	1.91
	C13 Sites	**19.79**	**862,199**				**11.55**	**503,224**	**24.1**	**252.7**	**2,298.1**	**52,419**	**1,845,155**	**0.392**	**13.80**
7	**Alley on Larch Street from 3rd to 4th Street**														
	Total Site Info	0.31	13,356	41	25	47	0.15	6,326	0.3	3.2	29.0	659	23,194	0.005	0.17
8	**Camden Tool Inc.**							8,870 offsite							
	Total Site Info	1.25	54,583	15;16	95,112,129;12,37,43	40	0.71	30,809	1.5	15.6	141.5	3,209	112,966	0.024	0.84
9	**Community Garden**							500 offsite							
	Total Site Info	0.07	2,866	768	3,4,5	10	0.02	787	0.0	0.4	3.6	82	2,886	0.001	0.02
10	**Cooper's Poynt School**														
	Total Site Info	2.44	106,342	21	124	98	2.40	104,514	5.0	52.8	479.9	10,887	383,218	0.081	2.87
11	**Cooper RiverView Homes**														
	Total Site Info	0.87	37,895	762	3	70	0.61	26,526	1.3	13.4	121.8	2,763	97,263	0.021	0.73
12	**Higher Ground Temple Church of God in Christ**							4,600 offsite							
	Total Site Info	0.27	11,550	41	29	34	0.19	8,471	0.4	4.3	38.9	882	31,060	0.007	0.23
13	**Iglesia Pentecostal La Hermosa**														
	Total Site Info	0.07	3,006	14	22	75	0.05	2,255	0.1	1.1	10.4	235	8,267	0.002	0.06
14	**John Wesley Village Apartments**														
	Total Site Info	1.64	71,391	33	39	80	1.31	57,113	2.8	28.8	262.2	5,949	209,414	0.045	1.57
15	**La Esperanza Community Garden**							1,650 offsite							
	Total Site Info	0.18	7,990	755	13	11	0.06	2,489	0.1	1.3	11.4	259	9,126	0.002	0.07

Summary of Existing Conditions

	Subwatershed/Site Name/Total Site Info/GI Practice	Area (ac)	Area (SF)	Block	Lot	I.C. %	I.C. Area (ac)	I.C. Area (SF)	Existing Annual Loads (Commercial)			Runoff Volumes from I.C.		Runoff Volumes from I.C.	
									TP (lb/yr)	TN (lb/yr)	TSS (lb/yr)	Water Quality Storm (1.25" over 2-hours) (cu.ft.)	Annual (cu.ft.)	Water Quality Storm (1.25" over 2-hours) (Mgal)	Annual (Mgal)
16	**New Life Covenant Church**														
	Total Site Info	0.29	12,654	770	24	79	0.23	10,009	0.5	5.1	46.0	1,043	36,699	0.008	0.27
17	**North 7th & Bailey Street Pocket Park**							5,600 offsite							
	Total Site Info	0.22	9,672	758; 759	60,61,62; 5,6,7,8	9	0.15	6,500	0.3	3.3	29.8	677	23,833	0.005	0.18
18	**Pyne Poynt Middle School**														
	Total Site Info	11.47	499,672	748	1	44	5.07	220,664	10.6	111.4	1,013.1	22,986	809,100	0.172	6.05
19	**Residential Home A**														
	Total Site Info	0.14	6,134	26	12,13	65	0.09	3,987	0.2	2.0	18.3	415	14,619	0.003	0.11
20	**State Street United Methodist Church**														
	Total Site Info	0.33	14,500	769	41	95	0.32	13,775	0.7	7.0	63.2	1,435	50,508	0.011	0.38
21	**Vacant Lot 4th & Elm Street**							9,000 offsite							
	Total Site Info	0.24	10,587	788	46,47,51,52,53	0	0.21	9,000	0.3	3.1	28.9	938	33,000	0.007	0.25
	C14 Sites	**16.83**	**733,150**				**2.53**	**110,222**	**4.7**	**49.8**	**455.4**	**11,481**	**404,147**	**0.086**	**3.02**
22	**Lighthouse Church**														
	Total Site Info	0.20	8,910	745	44	95	0.19	8,465	0.4	4.3	38.9	882	31,038	0.007	0.23
23	**Pyne Poynt Park**														
	Total Site Info	15.49	674,568	747	1	10	1.49	64,949	3.1	32.8	298.2	6,766	238,146	0.051	1.78
24	**The Meadows at Pyne Poynt**														
	Total Site Info	1.14	49,672	746	16,45,47	74	0.84	36,808	1.2	12.7	118.3	3,834	134,963	0.029	1.01
	C15 Sites	**0.07**	**3,080**				**0.17**	**7,424**	**0.4**	**3.7**	**34.1**	**773**	**27,221**	**0.006**	**0.20**
25	**Cooper Waterfront Homes**														
	Total Site Info	6.50	283,090	784	1	38	2.48	107,982	5.2	54.5	495.8	11,248	395,932	0.084	2.96
26	**Residential Home B**														
	Total Site Info	0.02	1,078	801	29	95	0.02	1,024	0.0	0.5	4.7	107	3,755	0.001	0.03
27	**Vacant Lot 10th & Vine Street**							6,400 offsite							
	Total Site Info	0.05	2,002	799	41,42	0	0.15	6,400	0.3	3.2	29.4	667	23,467	0.005	0.18

Summary of Existing Conditions

	Subwatershed/Site Name/Total Site Info/GI Practice	Area (ac)	Area (SF)	Block	Lot	I.C. %	I.C. Area (ac)	I.C. Area (SF)	Existing Annual Loads (Commercial) TP (lb/yr)	TN (lb/yr)	TSS (lb/yr)	Runoff Volumes from I.C. Water Quality Storm (1.25" over 2-hours) (cu.ft.)	Annual (cu.ft.)	Runoff Volumes from I.C. Water Quality Storm (1.25" over 2-hours) (Mgal)	Annual (Mgal)
	C16 Sites	**3.23**	**140,499**				**2.07**	**90,132**	**4.3**	**45.5**	**413.8**	**9,389**	**330,484**	**0.070**	**2.47**
28	**Camden County Police Department Station**														
	Total Site Info	2.89	125,999	91	1	61	1.75	76,332	3.7	38.6	350.5	7,951	279,884	0.059	2.09
29	**Respond Day Care**														
	Total Site Info	0.33	14,500	90	2	95	0.32	13,800	0.7	7.0	63.4	1,438	50,600	0.011	0.38

Summary of Proposed Green Infrastructure Practices

	Sewershed/Site Name/Total Site Info/GI Practice	Potential Management Area Area (SF)	Potential Management Area Area (ac)	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Max Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cfs)	Size of BMP	Unit Cost ($/unit)	Unit	Total Cost ($)	I.C. Treated %
	C11 Sites	**168,800**	**3.88**	**4.398**	**736**	**322,720**	**12.13**				**$1,631,125**	**32.0%**
1	**Camden City School District Central Office**											
	Pervious pavement	64,650	1.48	1.684	282	123,600	4.65	13,500	$25	SF	$337,500	48.4%
	Total Site Info	**64,650**	**1.48**	**1.684**	**282**	**123,600**	**4.65**				**$337,500**	**48.4%**
2	**Mastery Molina Upper Elementary**											
	Bioretention systems	14,350	0.33	0.374	63	27,440	1.03	4,225	$5	SF	$21,125	10.4%
	Pervious pavement	11,850	0.27	0.309	52	22,660	0.85	9,250	$25	SF	$231,250	8.6%
	Total Site Info	**26,200**	**0.60**	**0.683**	**114**	**50,100**	**1.88**				**$252,375**	**19.1%**
3	**Rutgers Business and Science Building & Lot C13**											
	Pervious pavement	2,000	0.05	0.052	9	3,820	0.14	500	$25	SF	$12,500	4.4%
	Total Site Info	**2,000**	**0.05**	**0.052**	**9**	**3,820**	**0.14**				**$12,500**	**4.4%**
4	**Rutgers Lot C14**											
	Pervious pavement	42,500	0.98	1.107	185	81,260	3.05	8,000	$25	SF	$200,000	76.7%
	Total Site Info	**42,500**	**0.98**	**1.107**	**185**	**81,260**	**3.05**				**$200,000**	**76.7%**
5	**Rutgers Residence Hall & Lot C12**											
	Pervious pavement	26,250	0.60	0.684	114	50,180	1.89	6,150	$25	SF	$153,750	30.6%
	Total Site Info	**26,250**	**0.60**	**0.684**	**114**	**50,180**	**1.89**				**$153,750**	**30.6%**
6	**United States Post Office and Court House**											
	Stormwater planter	7,200	0.17	0.188	31	13,760	0.52	1,800	$375	SF	$675,000	10.3%
	Total Site Info	**7,200**	**0.17**	**0.188**	**31**	**13,760**	**0.52**				**$675,000**	**10.3%**
	C13 Sites	**93,135**	**2.14**	**2.412**	**406**	**175,130**	**6.58**				**$342,215**	**18.5%**
7	**Alley on Larch Street from 3rd to 4th Street**											
	Bioretention system	1,450	0.03	0.038	6	2,780	0.10	370	$5	SF	$1,850	22.9%
	Total Site Info	**1,450**	**0.03**	**0.038**	**6**	**2,780**	**0.10**				**$1,850**	**22.9%**
8	**Camden Tool Inc.**											
	Bioretention systems	15,900	0.37	0.414	69	30,400	1.14	4,000	$5	SF	$20,000	51.6%
	Total Site Info	**15,900**	**0.37**	**0.414**	**69**	**30,400**	**1.14**				**$20,000**	**51.6%**

Summary of Proposed Green Infrastructure Practices

	Sewershed/Site Name/Total Site Info/GI Practice	Potential Management Area Area (SF)	Potential Management Area Area (ac)	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Max Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cfs)	Size of BMP	Unit Cost ($/unit)	Unit	Total Cost ($)	I.C. Treated %
9	**Community Garden**											
	Rainwater harvesting	500	0.01	0.013	2	400	0.02	400	$2	gal	$800	63.5%
	Total Site Info	**500**	**0.01**	**0.013**	**2**	**400**	**0.02**				**$800**	**63.5%**
10	**Cooper's Poynt School**											
	Bioretention systems	3,700	0.08	0.096	16	7,080	0.27	925	$5	SF	$4,625	3.5%
	Tree trench	6,225	0.14	0.162	27	11,900	0.45	750	$30	SF	$22,500	6.0%
	Total Site Info	**9,925**	**0.23**	**0.259**	**43**	**18,980**	**0.72**				**$27,125**	**9.5%**
11	**Cooper RiverView Homes**											
	Bioretention systems	3,700	0.08	0.096	16	7,080	0.27	930	$5	SF	$4,650	13.9%
	Downspout planter boxes	1,750	0.04	n/a	7.6	n/a	n/a	11	$1,000	box	$11,000	6.6%
	Total Site Info	**3,700**	**0.08**	**0.096**	**16**	**7,080**	**0.27**				**$4,650**	**13.9%**
12	**Higher Ground Temple Church of God in Christ**											
	Bioretention systems	6,350	0.15	0.165	28	12,140	0.46	1,600	$5	SF	$8,000	75.0%
	Total Site Info	**6,350**	**0.15**	**0.165**	**28**	**12,140**	**0.46**				**$8,000**	**75.0%**
13	**Iglesia Pentecostal La Hermosa**											
	Bioretention system	1,200	0.03	0.031	5	2,300	0.09	300	$5	SF	$1,500	53.2%
	Total Site Info	**1,200**	**0.03**	**0.031**	**5**	**2,300**	**0.09**				**$1,500**	**53.2%**
14	**John Wesley Village Apartments**											
	Bioretention systems	6,000	0.14	0.156	26	11,470	0.43	1,500	$5	SF	$7,500	10.5%
	Total Site Info	**6,000**	**0.14**	**0.156**	**26**	**11,470**	**0.43**				**$7,500**	**10.5%**
15	**La Esperanza Community Garden**											
	Rainwater harvesting	450	0.01	0.012	2	420	0.02	420	$2	gal	$840	18.1%
	Stormwater planter	1,200	0.03	0.031	5	2,300	0.09	300	$375	SF	$112,500	48.2%
	Total Site Info	**1,650**	**0.04**	**0.043**	**7**	**2,720**	**0.11**				**$113,340**	**66.3%**
16	**New Life Covenant Church**											
	Bioretention systems	3,600	0.08	0.094	16	6,880	0.23	900	$5	SF	$4,500	36.0%
	Total Site Info	**3,600**	**0.08**	**0.094**	**16**	**6,880**	**0.23**				**$4,500**	**36.0%**

Summary of Proposed Green Infrastructure Practices

	Sewershed/Site Name/Total Site Info/GI Practice	Potential Management Area Area (SF)	Potential Management Area Area (ac)	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Max Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cfs)	Size of BMP	Unit Cost ($/unit)	Unit	Total Cost ($)	I.C. Treated %
17	**North 7th & Bailey Street Pocket Park**											
	Bioretention systems	4,800	0.11	0.125	21	9,180	0.34	1,200	$5	SF	$6,000	73.8%
	Rainwater harvesting	800	0.02	0.021	3	650	0.02	650	$2	gal	$1,300	12.3%
	Total Site Info	**5,600**	**0.13**	**0.146**	**24**	**9,830**	**0.36**	**1,850**			**$7,300**	**86.2%**
18	**Pyne Poynt Middle School**											
	Bioretention systems	15,150	0.35	0.395	66	28,960	1.09	3,800	$5	SF	$19,000	6.9%
	Pervious pavement	10,650	0.24	0.277	46	20,360	0.77	4,400	$25	SF	$110,000	4.8%
	Total Site Info	**25,800**	**0.59**	**0.672**	**113**	**49,320**	**1.86**				**$129,000**	**11.7%**
19	**Residential Home A**											
	Bioretention systems	1,100	0.03	0.029	5	2,100	0.08	280	$5	SF	$1,400	27.6%
	Total Site Info	**1,100**	**0.03**	**0.029**	**5**	**2,100**	**0.08**				**$1,400**	**27.6%**
20	**State Street United Methodist Church**											
	Bioretention system	800	0.02	0.021	3	1,530	0.06	200	$5	SF	$1,000	5.8%
	Downspout planter boxes	560	0.01	n/a	2	n/a	n/a	3	$1,000	box	$3,000	0.8%
	Total Site Info	**1,360**	**0.03**	**0.021**	**6**	**1,530**	**0.06**				**$4,000**	**6.6%**
21	**Vacant Lot 4th & Elm Street**											
	Bioretention system	9,000	0.21	0.234	39	17,200	0.65	2,250	$5	SF	$11,250	100.0%
	Total Site Info	**9,000**	**0.21**	**0.234**	**39**	**17,200**	**0.65**				**$11,250**	**100.0%**
	C14 Sites	**12,220**	**0.28**	**0.318**	**53**	**23,000**	**0.86**				**$15,500**	**11.1%**
22	**Lighthouse Church**											
	Bioretention system	2,000	0.05	0.052	9	3,820	0.14	500	$5	SF	$2,500	23.6%
	Total Site Info	**2,000**	**0.05**	**0.052**	**9**	**3,820**	**0.14**				**$2,500**	**23.6%**
23	**Pyne Poynt Park**											
	Bioretention systems	8,200	0.19	0.214	36	15,680	0.59	2,050	$5	SF	$10,250	12.6%
	Total Site Info	**8,200**	**0.19**	**0.214**	**36**	**15,680**	**0.59**				**$10,250**	**12.6%**

Summary of Proposed Green Infrastructure Practices

	Sewershed/Site Name/Total Site Info/GI Practice	Potential Management Area Area (SF)	Potential Management Area Area (ac)	Recharge Potential (Mgal/yr)	TSS Removal Potential (lbs/yr)	Max Volume Reduction Potential (gal/storm)	Peak Discharge Reduction Potential (cfs)	Size of BMP	Unit Cost ($/unit)	Unit	Total Cost ($)	I.C. Treated %
24	**The Meadows at Pyne Poynt**											
	Bioretention system	1,700	0.04	0.044	7	3,250	0.12	450	$5	SF	$2,250	4.6%
	Rainwater harvesting	320	0.01	0.008	1	250	0.01	250	$2	gal	$500	0.9%
	Total Site Info	**2,020**	**0.05**	**0.053**	**9**	**3,500**	**0.13**				**$2,750**	**5.5%**
	C15 Sites	**6,485**	**0.15**	**0.167**	**28**	**12,240**	**0.46**				**$9,000**	**87.4%**
25	**Cooper Waterfront Homes**											
	Bioretention systems	8,300	0.19	0.216	36	15,870	0.60	2,080	$5	SF	$10,400	7.7%
	Pervious pavement	13,600	0.31	0.354	59	26,000	0.98	2,430	$25	SF	$60,750	12.6%
	Total Site Info	**21,900**	**0.50**	**0.571**	**96**	**41,870**	**1.58**				**$71,150**	**20.3%**
26	**Residential Home B**											
	Downspout planter box	85	0.00	n/a	0.4	n/a	n/a	1	$1,000	box	$1,000	8.3%
	Total Site Info	**85**	**0.00**	**0.000**	**0**	**0**	**0.00**				**$1,000**	**8.3%**
27	**Vacant Lot 10th & Vine Street**											
	Bioretention system	6,400	0.15	0.167	28	12,240	0.46	1,600	$5	SF	$8,000	100.0%
	Total Site Info	**6,400**	**0.15**	**0.167**	**28**	**12,240**	**0.46**				**$8,000**	**100.0%**
	C16 Sites	**36,800**	**0.84**	**0.959**	**161**	**70,360**	**2.64**				**$170,000**	**40.8%**
28	**Camden County Police Department Station**											
	Pervious pavement	35,350	0.81	0.921	154	67,580	2.54	6,725	$25	SF	$168,125	46.3%
	Total Site Info	**35,350**	**0.81**	**0.921**	**154**	**67,580**	**2.54**				**$168,125**	**46.3%**
29	**Respond Day Care**											
	Bioretention system	1,450	0.03	0.038	6	2,780	0.10	375	$5	SF	$1,875	10.5%
	Total Site Info	**1,450**	**0.03**	**0.038**	**6**	**2,780**	**0.10**				**$1,875**	**10.5%**