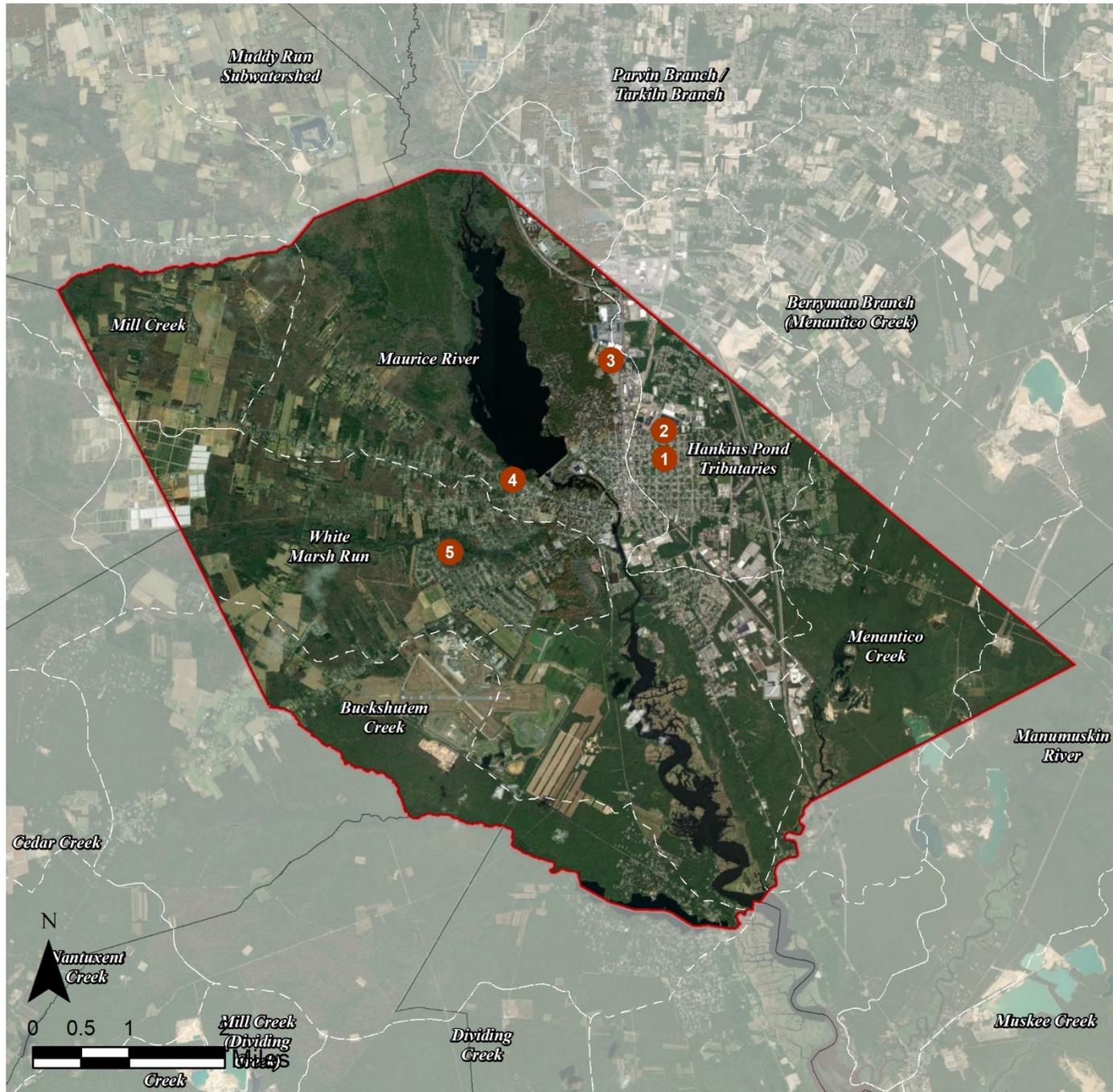


MILLVILLE CITY: GREEN INFRASTRUCTURE SITES



SITES WITHIN THE HANKINS POND TRIBUTARIES SUBWATERSHED

1. Millville Memorial High School
2. Millville Public Charter School

SITES WITHIN THE MAURICE RIVER SUBWATERSHED

3. Lakeside Middle School
4. Mount Pleasant Elementary School

SITES WITHIN THE WHITE MARSH RUN SUBWATERSHED

5. Rieck Avenue Elementary School

Millville Memorial High School



Subwatershed: Hankins Pond Tributaries

Site Area: 477,415 sq. ft.

Address: 504 East Broad Street
Millville, NJ 08332

Block and Lot: Block 333, Lot 1

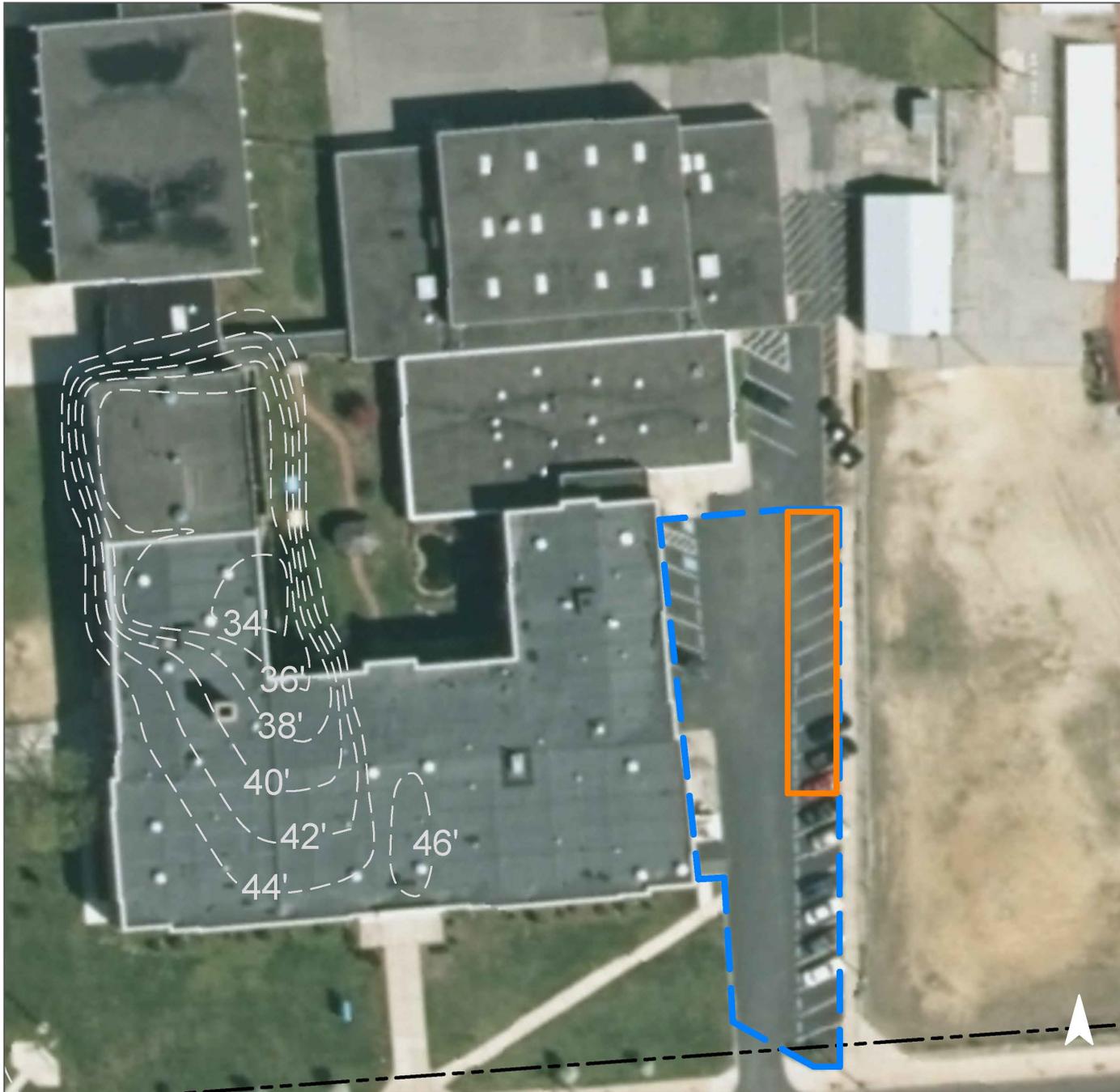


The parking spaces along the eastern side of the school can be converted into pervious pavement to allow stormwater runoff from the parking lot to infiltrate the ground. Sediment buildup is present as well as cracking and erosion. A preliminary soil assessment suggests that the soils have suitable drainage 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"
49	233,795	11.3	118.1	1,073.4	0.182	6.41

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	0.303	51	22,250	0.84	2,200	\$55,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Millville Memorial High School

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



Millville Public Charter School



Subwatershed: Hankins Pond Tributaries

Site Area: 858,455 sq. ft.

Address: 1101 Wheaton Avenue
Millville, NJ 08332

Block and Lot: Block 264, Lot 2.01

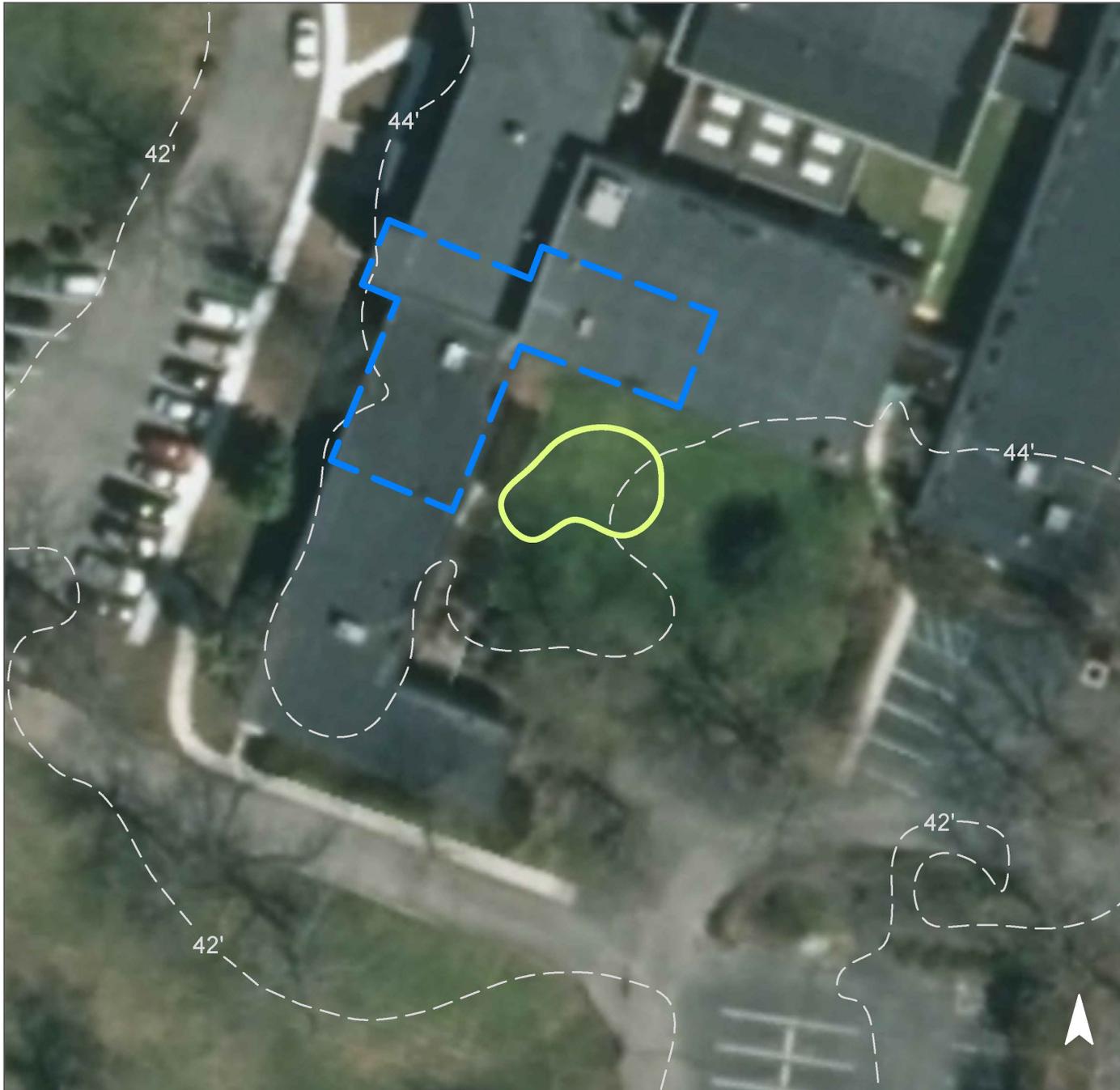


A rain garden can be installed south of the school to capture, treat, and infiltrate the stormwater runoff from the rooftops in that area. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.

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"
45	386,860	18.7	195	1,776.2	0.301	10.61

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	0.083	14	6,120	0.23	800	\$4,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Millville Public Charter School

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



Lakeside Middle School



Subwatershed: Maurice River
Site Area: 906,080 sq. ft.
Address: 2 Sharp Street
Millville, NJ 08332
Block and Lot: Block 227, Lot 1

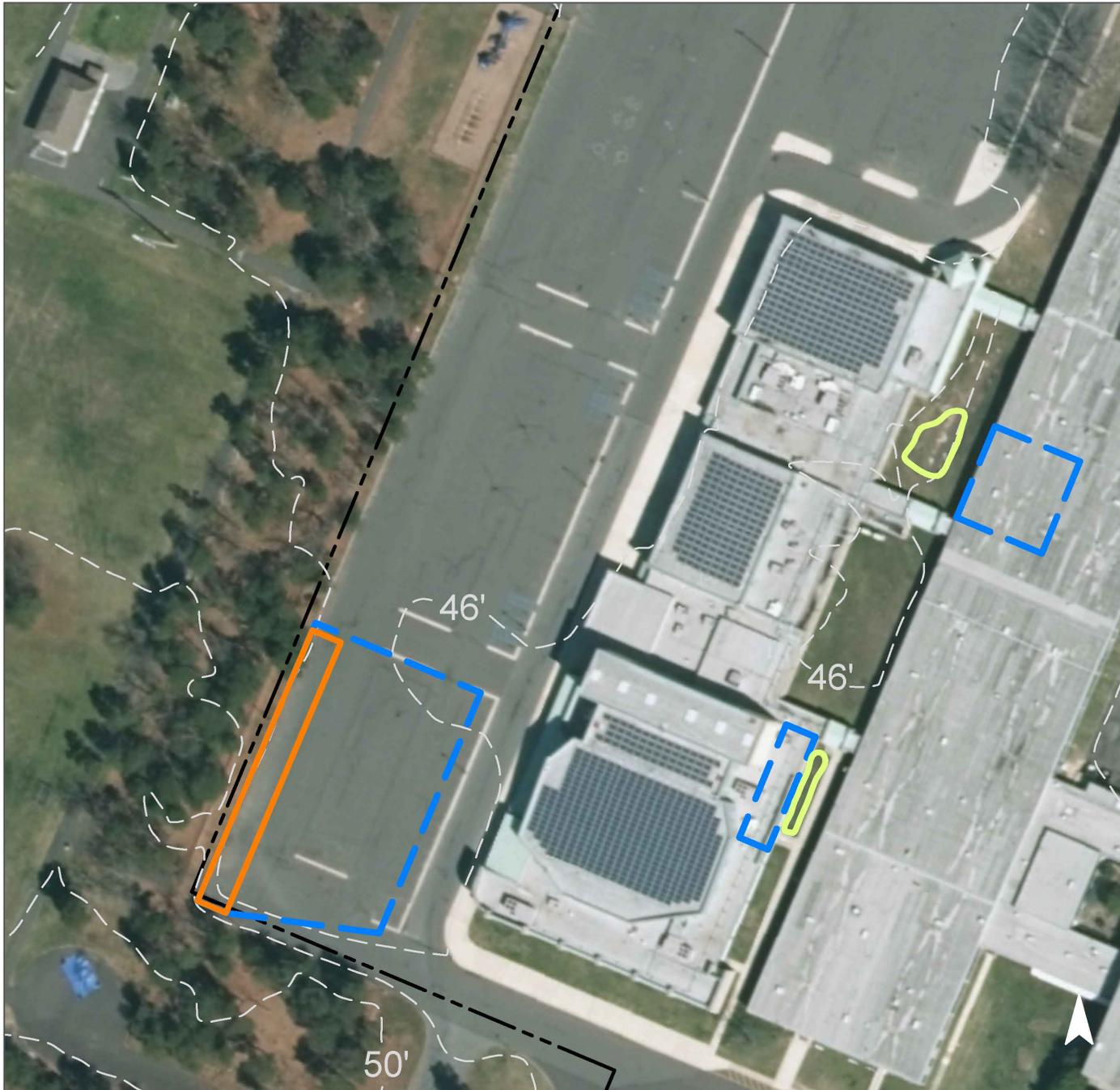


Parking spaces located at the southwest corner of the parking lot can be replaced with pervious pavement to allow the stormwater from the pavement to be captured and allow for infiltration into the ground. Rain gardens can be installed in the middle courtyard of the school along the sidewalk to capture, treat, and infiltrate the stormwater runoff from the rooftop. 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"
70	632,655	30.5	320	2,904.8	0.493	17.35

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	0.142	24	10,390	0.39	1,375	\$6,875
Pervious pavement	0.558	93	40,930	1.54	3,800	\$95,000

GREEN INFRASTRUCTURE RECOMMENDATIONS



Lakeside Middle School

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



Mount Pleasant Elementary School



Subwatershed: Maurice River

Site Area: 311,525 sq. ft.

Address: 100 Carmel Road
Millville, NJ 08332

Block and Lot: Block 34, Lot 1



On the west side of the building, where two downspouts are present, a rain garden can be installed to capture, treat, and infiltrate stormwater runoff from the rooftop. 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"
44	138,335	6.7	69.9	635.1	0.108	3.79

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	0.043	7	3,130	0.12	410	\$2,050

GREEN INFRASTRUCTURE RECOMMENDATIONS



Mount Pleasant Elementary School

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



Rieck Avenue Elementary School



Subwatershed: White Marsh Run

Site Area: 2,906,890 sq. ft.

Address: 339 Rieck Avenue
Millville, NJ 08332

Block and Lot: Block 70, Lot 49

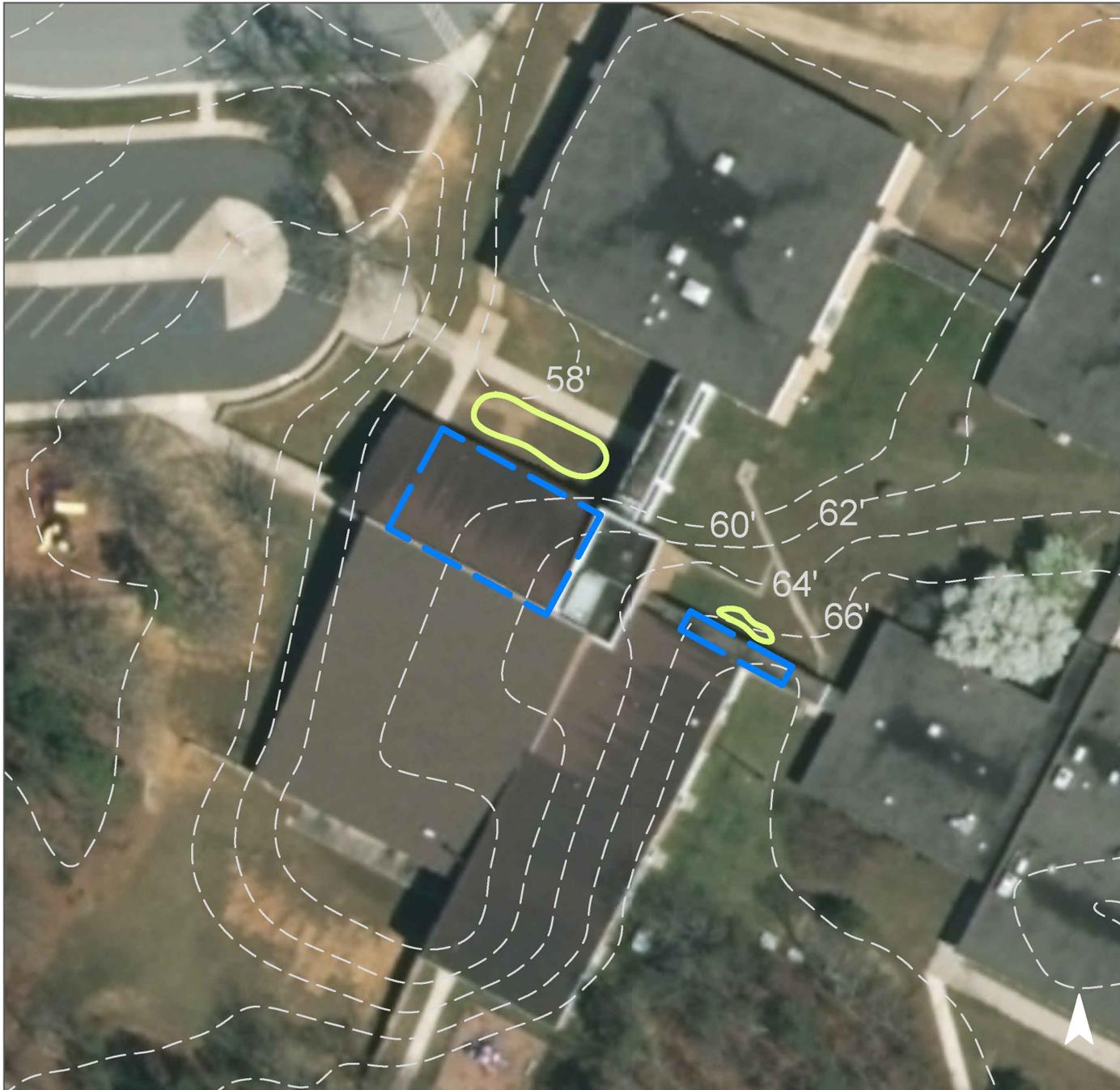


Rain gardens be installed on the north side of the open space between the walkways to capture, treat, and infiltrate stormwater runoff from the rooftop using existing connected downspouts. A preliminary soil assessment suggests that the soils have suitable drainage characteristics for green infrastructure.

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"
12	335,815	16.2	170	1,541.9	0.262	9.21

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
Bioretention systems	0.090	15	6,570	0.25	860	\$4,300

GREEN INFRASTRUCTURE RECOMMENDATIONS



Rieck Avenue Elementary School

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



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)	Annual	Water Quality Storm (1.25" over 2-hours)	Annual
											(cu.ft.)	(cu.ft.)	(Mgal)	(Mgal)
HANKINS POND TRIBUTARIES SITES	30.67	1,335,870				14.25	620,655	29.9	313.5	2,849.7	64,652	2,275,735	0.484	17.02
1 Millville Memorial High School Total Site Info	10.96	477,415	333	1	48.971	5.37	233,795	11.3	118.1	1,073.4	24,354	857,248	0.182	6.41
2 Millville Public Charter School Total Site Info	19.71	858,455	264	2.01	45.0647	8.88	386,860	18.7	195.4	1,776.2	40,298	1,418,487	0.301	10.61
MAURICE RIVER SITES	20.80	1,217,605				17.70	770,990	37.2	389.4	3,539.9	80,311	2,826,963	0.601	21.15
3 Lakeside Middle School Total Site Info	20.80	906,080	227	1	69.8233	14.52	632,655	30.5	319.5	2,904.8	65,902	2,319,735	0.493	17.35
4 Mount Pleasant Elementary School Total Site Info	0.00	311,525	34	1	44.4057	3.18	138,335	6.7	69.9	635.1	14,410	507,228	0.108	3.79
WHITE MARSH RUN SITES	66.73	2,906,890				7.71	335,815	16.2	169.6	1,541.9	34,981	1,231,322	0.262	9.21
5 Rieck Avenue Elementary School Total Site Info	66.73	2,906,890	70	49	11.5524	7.71	335,815	16.2	169.6	1,541.9	34,981	1,231,322	0.262	9.21

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	Unit Cost (\$/unit)	Unit	Total Cost (\$)	I.C. Treated %
	Area (SF)	Area (ac)									
HANKINS POND TRIBUTARIES SITES	14,840	0.34	0.387	65	28,370	1.07				\$59,000	5.8%
1 Millville Memorial High School											
Pervious pavement	11,640	0.27	0.303	51	22,250	0.84	2,200	\$25	SF	\$55,000	5.0%
Total Site Info	11,640	0.27	0.303	51	22,250	0.84				\$55,000	5.0%
2 Millville Public Charter School											
Bioretention system	3,200	0.07	0.083	14	6,120	0.23	800	\$5	SF	\$4,000	0.8%
Total Site Info	3,200	0.07	0.083	14	6,120	0.23				\$4,000	0.8%
MAURICE RIVER SITES	28,480	0.65	0.742	124	54,450	2.05				\$103,925	5.4%
3 Lakeside Middle School											
Bioretention systems	5,435	0.12	0.142	24	10,390	0.39	1,375	\$5	SF	\$6,875	0.9%
Pervious pavement	21,410	0.49	0.558	93	40,930	1.54	3,800	\$25	SF	\$95,000	3.4%
Total Site Info	26,845	0.62	0.699	117	51,320	1.93				\$101,875	4.2%
4 Mount Pleasant Elementary School											
Bioretention system	1,635	0.04	0.043	7	3,130	0.12	410	\$5	SF	\$2,050	1.2%
Total Site Info	1,635	0.04	0.043	7	3,130	0.12				\$2,050	1.2%
WHITE MARSH RUN SITES	3,440	0.08	0.090	15	6,570	0.25				\$4,300	1.0%
5 Rieck Avenue Elementary School											
Bioretention systems	3,440	0.08	0.090	15	6,570	0.25	860	\$5	SF	\$4,300	1.0%
Total Site Info	3,440	0.08	0.090	15	6,570	0.25				\$4,300	1.0%