



**STORMWATER MANAGEMENT
CALCULATIONS
FOR
BLOCK 257, LOT 4
TOWNSHIP OF DENNIS
CAPE MAY COUNTY, NJ**

EDA #9746

A handwritten signature in blue ink, reading 'Joseph H. Maffei', is written over a horizontal line.

**Joseph H. Maffei, PE, PP
N.J.P.E. License #37894**

**5/13/24
Date**

STORMWATER MANAGEMENT CALCULATIONS

Existing Conditions

The project site consists of an area of 16.04 Acres. The parcel consists of woodland/grassland combination conditions. The soil type for the project site is (DocBO) Downer Loamy Sand o to 5% slope.

Drainage Design

The project site consists of three (3) watershed areas:

Watershed #1 consists of a woodland/grassland combination condition. This watershed is located within the northwestern portion of the project site. The watershed drains in a northwesterly direction towards the Westcott Road right-of-way.

Watershed #2 consists of a woodland/grassland combination condition. This watershed is located within the western portion of the project site. The watershed drains in a westerly direction.

Watershed #3 consists of a woodland/grassland combination condition. This watershed is located within the eastern portion of the project site. The watershed drains in an easterly direction towards the Kings Highway and Tattlers Road right-of-way.

The proposed stormwater storage facilities have been designed to incorporate green infrastructure measures by capturing, filtering, and infiltrating stormwater to help restore the natural water cycle. Specifically, the stormwater system incorporates an infiltration basin to provide a simple disconnection of flows and to infiltrate clean runoff close to the initial source. All of the proposed watershed areas contributing flows to the subsurface infiltration basins have been created to be less than 2.50 acre maximum required for small scale structures.

2-Year Post Development Design Storm Groundwater Recharge

• Pre-Development Storage:	12,545 CF
• Post-Development Storage:	17,206 CF
• Total Storage Required:	4,661 CF
• Total Storage Available	75,095 CF
• Basin #1B (Elev. 23.60)	18,120 CF
• Basin #1C (Elev. 23.80)	14,069 CF
• Basin #1D (Elev. 23.75)	15,246 CF
• Basin #1E (Elev. 24.15)	15,289 CF
• Basin #1F (Elev. 24.25)	12,371 CF

Meteorological Data-Current Storm Event

(New Jersey 24 Hour Rainfall Frequency Data – Cape May County)

2-Year	3.34 Inches
10-Year	5.22 Inches
100- Year	9.07 Inches

Pre-Development Conditions – Watershed #1 – 12.90 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Woodland/Grassland Combination	32	6.75 Acres
Grass/Landscaping Stone	39	2.50 Acres
Impervious	96	0.69 Acres
Woodland	98	0.26 Acres
	30	2.70 Acres

TC = 85.50 Minutes

<u>Design Storm</u>	<u>Pre-Development Peak Inflow</u>	<u>Pre-Development Peak Outflow</u>
2-YR	3.41 CFS	3.41 CFS
10-YR	5.43 CFS	5.43 CFS
100-YR	9.53 CFS	9.53 CFS

Pre-Development Conditions – Watershed #2 – 1.56 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Woodland/Grassland Combination	32	1.30 Acres
Woodland	30	0.26 Acres

TC = 31.90 Minutes

<u>Design Storm</u>	<u>Pre-Development Peak Inflow</u>	<u>Pre-Development Peak Outflow</u>
2-YR	0.00 CFS	0.00 CFS
10-YR	0.01 CFS	0.01 CFS
100-YR	0.31 CFS	0.31 CFS

Pre-Development Runoff – Watershed #3 – 1.58 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Woodland/Grassland Combination	32	0.66 Acres
Woodland	30	0.92 Acres

TC = 30.00 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow</u>	<u>Post Development Routed Peak Outflow</u>
2-YR	0.00 CFS	0.00 CFS
10-YR	0.01 CFS	0.01 CFS
100-YR	0.28 CFS	0.28 CFS

Post-Development Runoff – Watershed #1A – 3.04 Acres – No Improvements

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Grass Landscaping	39	0.46 Acres
Woodland	30	2.58 Acres

TC = 63.10 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow</u>	<u>Post-Development Routed Peak Outflow</u>
2-YR	0.00 CFS	0.00 CFS
10-YR	0.01 CFS	0.01 CFS
100-YR	0.43 CFS	0.43 CFS

Post-Development Runoff – Watershed #1B – 2.44 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Woodland/Grass Combination	32	1.74 Acres
Grassland/Landscaping	39	0.70 Acres

TC = 61.30 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow Basin #1B</u>	<u>Post-Development Routed Peak Outflow Basin #1B</u>
2-YR	0.00 CFS	0.00 CFS
10-YR	0.02 CFS	0.00 CFS
100-YR	0.51 CFS	0.00 CFS

Post-Development Runoff – Watershed #1C – 1.55 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Grass/Landscaping	39	0.32 Acres
Stone	96	0.34 Acres
Woodland/Grassland Combination	32	0.852 Acres
Impervious	98	0.038 Acres

TC = 51.70 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow Basin #1C</u>	<u>Post-Development Routed Peak Outflow Basin #1C</u>
2-YR	1.45 CFS	0.00 CFS
10-YR	2.30 CFS	0.00 CFS
100-YR	4.05 CFS	0.11 CFS

Post-Development Runoff – Watershed #1D – 1.80 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Grass Landscaping	39	1.33 Acres
Stone	96	0.25 Acres
Impervious	98	0.22 Acres

TC = 22.60 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow-Basin #1D</u>	<u>Post-Development Routed Peak Outflow Basin #1D</u>
2-YR	1.74 CFS	0.00 CFS
10-YR	2.76 CFS	0.00 CFS
100-YR	4.98 CFS	0.42 CFS

Post-Development Runoff – Watershed #1E – 2.07 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Woodland/Grass Combination	32	1.838 Acres
Impervious	98	0.21 Acres
Stone	96	0.022 Acres

TC = 55.10 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow Basin #1E</u>	<u>Post-Development Routed Peak Outflow Basin #1E</u>
2-YR	0.90 CFS	0.00 CFS
10-YR	1.42 CFS	0.00 CFS
100-YR	2.48 CFS	0.00 CFS

Post-Development Runoff – Watershed #1F – 2.20 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Grass/Landscaping	39	0.50 Acres
Stone	96	0.21 Acres
Woodland/Grassland Combination	32	1.481 Acres
Impervious	98	0.009 Acres

TC = 62.00 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow Basin #1F</u>	<u>Post-Development Routed Peak Outflow Basin #1F</u>
2-YR	0.75 CFS	0.00 CFS
10-YR	1.20 CFS	0.00 CFS
100-YR	2.12 CFS	0.12 CFS

Post-Development Runoff – Watershed #2 – 1.36 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Woodland/Grassland Combination	32	1.10 Acres
Woodland	30	0.26 Acres
TC = 42.40 Minutes		

<u>Design Storm</u>	<u>Post-Development Peak Inflow</u>	<u>Post-Development Routed Peak Outflow</u>
2-YR	0.00 CFS	0.00 CFS
10-YR	0.01 CFS	0.01 CFS
100-YR	0.27 CFS	0.27 CFS

Post-Development – Watershed #3 – 1.58 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Woodland/Grassland Combination	32	0.66 Acres
Woodland	30	0.92 Acres

TC = 30.00 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow</u>	<u>Post-Development Peak Outflow</u>
2-YR	0.00 CFS	0.00 CFS
10-YR	0.01 CFS	0.01 CFS
100-YR	0.28 CFS	0.28 CFS

Drainage Calculations

The drainage calculations for the project site were derived using the TR-55 Method of Hydrology Rainfall Type NOAA C Delmarva Unit Hydrograph.

Post-Development Flows at Discharge Point #1A – No Improvements

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #1</u>	<u>Post-Development Peak Flows Watershed #1A</u>
2-YR	3.41 CFS	0.00 CFS
10-YR	5.43 CFS	0.01 CFS
100-YR	9.53 CFS	0.43 CFS

Post-Development Flows at Discharge Point #1B

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #1</u>	<u>Post-Development Peak Flows</u>	<u>Post-Development Routed Peak Flows Watershed #1B</u>	
2-YR	3.41 CFS	0.00 CFS	0.00 CFS	0.00%
10-YR	5.43 CFS	0.02 CFS	0.00 CFS	0.36%
100-YR	9.53 CFS	0.51 CFS	0.00 CFS	5.35%

The proposed stormwater storage facility has been designed to release the post-development peak flows for the 2-, 10- and 100-Year design storms below their respective pre-development peak flows.

The proposed stormwater system has been designed to meet the NJDEP Stormwater Management Rules. The Stormwater Management System has been designed to reduce the post-construction load of Total Suspended Solids (TSS) in stormwater runoff generated from

the water quality design storm by 80% by utilizing an infiltration basin. The system meets the 80% TSS removal required by the NJDEP Stormwater Management Rules.

Infiltration Basin

80% Removal

Infiltration Basin #1B Storage Volumes

<u>Elevation</u>	<u>Storage Volume</u>
22.50	0 CF
23.00	7,492 CF
24.00	26,484 CF
24.75	45,433 CF

	<u>Elevation</u>
Water Quality Design Storm.....	22.50
2-Year Design Storm	22.50
10-Year Design Storm	22.56
100-Year Design Storm	23.41

Post-Development Flows at Discharge Point #1C

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #1</u>	<u>Post-Development Peak Flows</u>	<u>Post-Development Routed Peak Flows Watershed #1C</u>	
2-YR	3.41 CFS	1.45 CFS	0.00 CFS	0.00%
10-YR	5.43 CFS	2.30 CFS	0.00 CFS	0.00%
100-YR	9.53 CFS	4.05 CFS	0.11 CFS	1.15%

The proposed stormwater storage facility has been designed to release the post-development peak flows for the 2-, 10- and 100-Year design storms below their respective pre-development peak flows.

The proposed stormwater system has been designed to meet the NJDEP Stormwater Management Rules. The Stormwater Management System has been designed to reduce the post-construction load of Total Suspended Solids (TSS) in stormwater runoff generated from the water quality design storm by 80% by utilizing an infiltration basin. The system meets the 80% TSS removal required by the NJDEP Stormwater Management Rules.

Infiltration Basin

80% Removal

Infiltration Basin #1C Storage Volumes

<u>Elevation</u>	<u>Storage Volume</u>
22.00	0 CF
23.00	7,187 CF
24.00	15,943 CF
24.87	24,088 CF

	<u>Elevation</u>
Water Quality Design Storm.....	22.18
2-Year Design Storm	22.58
10-Year Design Storm	22.97
100-Year Design Storm	23.82

Post-Development Flows at Discharge Point #1D

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #1</u>	<u>Post-Development Peak Flows</u>	<u>Post-Development Routed Peak Flows Watershed #1D</u>	
2-YR	3.41 CFS	1.74 CFS	0.00 CFS	0.00%
10-YR	5.43 CFS	2.76 CFS	0.00 CFS	0.00%
100-YR	9.53 CFS	4.98 CFS	0.42 CFS	4.40%

The proposed stormwater storage facility has been designed to release the post-development peak flows for the 2-, 10- and 100-Year design storms below their respective pre-development peak flows.

The proposed stormwater system has been designed to meet the NJDEP Stormwater Management Rules. The Stormwater Management System has been designed to reduce the post-construction load of Total Suspended Solids (TSS) in stormwater runoff generated from the water quality design storm by 80% by utilizing an infiltration basin. The system meets the 80% TSS removal required by the NJDEP Stormwater Management Rules.

Infiltration Basin

80% Removal

Infiltration Basin #1D Storage Volumes

<u>Elevation</u>	<u>Storage Volume</u>
22.25	0 CF
23.00	7,013 CF
24.00	18,295 CF
24.85	29,708 CF

	<u>Elevation</u>
Water Quality Design Storm.....	22.43
2-Year Design Storm	22.81
10-Year Design Storm	23.24
100-Year Design Storm	23.79

Post-Development Flows at Discharge Point #1E

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #1</u>	<u>Post-Development Peak Flows</u>	<u>Post-Development Routed Peak Flows Watershed #1E</u>	
2-YR	3.41 CFS	0.90 CFS	0.00 CFS	0.00%
10-YR	5.43 CFS	1.42 CFS	0.00 CFS	0.00%
100-YR	9.53 CFS	2.48 CFS	0.00 CFS	0.00%

The proposed stormwater storage facility has been designed to release the post-development peak flows for the 2-, 10- and 100-Year design storms below their respective pre-development peak flows.

The proposed stormwater system has been designed to meet the NJDEP Stormwater Management Rules. The Stormwater Management System has been designed to reduce the post-construction load of Total Suspended Solids (TSS) in stormwater runoff generated from the water quality design storm by 80% by utilizing an infiltration basin. The system meets the 80% TSS removal required by the NJDEP Stormwater Management Rules.

Infiltration Basin

80% Removal

Infiltration Basin #1E Storage Volumes

<u>Elevation</u>	<u>Storage Volume</u>
22.25	0 CF
23.00	5,445 CF
24.00	13,895 CF
25.00	23,718 CF
25.18	25,308 CF

	<u>Elevation</u>
Water Quality Design Storm.....	22.37
2-Year Design Storm	22.62
10-Year Design Storm	22.87
100-Year Design Storm	23.94

Post-Development Flows at Discharge Point #1F

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #1</u>	<u>Post-Development Peak Flows</u>	<u>Post-Development Routed Peak Flows Watershed #1F</u>	
2-YR	3.41 CFS	0.75 CFS	0.00 CFS	0.00%
10-YR	5.43 CFS	1.20 CFS	0.00 CFS	0.00%
100-YR	9.53 CFS	2.12 CFS	0.12 CFS	1.25%

The proposed stormwater storage facility has been designed to release the post-development peak flows for the 2-, 10- and 100-Year design storms below their respective pre-development peak flows.

The proposed stormwater system has been designed to meet the NJDEP Stormwater Management Rules. The Stormwater Management System has been designed to reduce the post-construction load of Total Suspended Solids (TSS) in stormwater runoff generated from the water quality design storm by 80% by utilizing an infiltration basin. The system meets the 80% TSS removal required by the NJDEP Stormwater Management Rules.

Infiltration Basin

80% Removal

Infiltration Basin #1F Storage Volumes

<u>Elevation</u>	<u>Storage Volume</u>
23.00	0 CF
24.00	9,626 CF
25.00	21,475 CF
25.30	25,482 CF

	<u>Elevation</u>
Water Quality Design Storm.....	23.08
2-Year Design Storm	23.26
10-Year Design Storm	23.49
100-Year Design Storm	24.26

Post-Development Flows at Discharge Point #1 – No Improvements

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #1</u>	<u>Total Post-Development Peak Flows Watershed #1A, #1B, #1C, #1D, #1E & #1F</u>	
2-YR	3.41 CFS	0.00 CFS	0.00%
10-YR	5.43 CFS	0.01 CFS	0.18%
100-YR	9.53 CFS	0.82 CFS	8.60%

Post-Development Flows at Discharge Point #2 – No Improvements

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #2</u>	<u>Post-Development Peak Flows Discharge Point #2</u>
2-YR	0.00 CFS	0.00 CFS
10-YR	0.01 CFS	0.01 CFS
100-YR	0.27 CFS	0.27 CFS

Post-Development Flows at Discharge Point #3 – No Improvements

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #3</u>	<u>Post-Development Peak Flows Discharge Point #3</u>
2-YR	0.00 CFS	0.00 CFS
10-YR	0.01 CFS	0.01 CFS
100-YR	0.28 CFS	0.28 CFS

Meteorological Data-Future Storm Event

(New Jersey 24 Hour Rainfall Frequency Data – Cape May County)

2-Year	3.93 Inches
10-Year	6.28 Inches
100- Year	11.52 Inches

Pre-Development Conditions – Watershed #1 – 12.90 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Stone	96	0.69 Acres
Impervious	98	0.26 Acres
Woodland	30	2.70 Acres
Woodland/Grassland Combination	32	6.75 Acres
Grass/Landscaping	39	2.50 Acres

TC = 82.00 Minutes

<u>Design Storm</u>	<u>Pre-Development Peak Inflow</u>	<u>Pre-Development Peak Outflow</u>
2-YR	4.05 CFS	4.05 CFS
10-YR	6.56 CFS	6.56 CFS
100-YR	12.17 CFS	12.17 CFS

Pre-Development Conditions – Watershed #2 – 1.56 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Woodland/Grassland Combination	32	1.30 Acres
Woodland	30	0.26 Acres

TC = 30.10 Minutes

<u>Design Storm</u>	<u>Pre-Development Peak Inflow</u>	<u>Pre-Development Peak Outflow</u>
2-YR	0.00 CFS	0.00 CFS
10-YR	0.03 CFS	0.03 CFS
100-YR	0.89 CFS	0.89 CFS

Pre-Development Runoff – Watershed #3 – 1.58 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Woodland/Grassland Combination	32	0.66 Acres
Woodland	30	0.92 Acres

TC = 27.90 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow</u>	<u>Post Development Routed Peak Outflow</u>
2-YR	0.00 CFS	0.00 CFS
10-YR	0.02 CFS	0.02 CFS
100-YR	0.84 CFS	0.84 CFS

Post-Development Runoff – Watershed #1A – 3.04 Acres – No Improvements

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Grass Landscaping	39	0.46 Acres
Woodland	30	2.58 Acres

TC = 59.70 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow</u>	<u>Post-Development Routed Peak Outflow</u>
2-YR	0.00 CFS	0.00 CFS
10-YR	0.05 CFS	0.05 CFS
100-YR	1.13 CFS	1.13 CFS

Post-Development Runoff – Watershed #1B – 2.44 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Woodland/Grass Combination	32	1.74 Acres
Grassland/Landscaping	39	0.70 Acres

TC = 57.20 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow Basin #1B</u>	<u>Post-Development Routed Peak Outflow Basin #1B</u>
2-YR	0.00 CFS	0.00 CFS
10-YR	0.09 CFS	0.00 CFS
100-YR	2.11 CFS	1.40 CFS

Post-Development Runoff – Watershed #1C – 1.55 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Grass/Landscaping	39	0.32 Acres
Stone	96	0.34 Acres
Woodland/Grassland Combination	32	0.852 Acres
Impervious	98	0.038 Acres

TC = 48.60 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow Basin #1C</u>	<u>Post-Development Routed Peak Outflow Basin #1C</u>
2-YR	1.72 CFS	0.00 CFS
10-YR	2.79 CFS	0.00 CFS
100-YR	5.18 CFS	0.66 CFS

Post-Development Runoff – Watershed #1D – 1.80 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Grass Landscaping	39	1.33 Acres
Stone	96	0.25 Acres
Impervious	98	0.22 Acres

TC = 21.30 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow-Basin #1D</u>	<u>Post-Development Routed Peak Outflow Basin #1D</u>
2-YR	2.08 CFS	0.00 CFS
10-YR	3.36 CFS	0.00 CFS
100-YR	6.80 CFS	2.06 CFS

Post-Development Runoff – Watershed #1E – 2.07 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Woodland/Grass Combination	32	1.838 Acres
Impervious	98	0.21 Acres
Stone	96	0.022 Acres

TC = 51.30 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow Basin #1E</u>	<u>Post-Development Routed Peak Outflow Basin #1E</u>
2-YR	1.07 CFS	0.00 CFS
10-YR	1.71 CFS	0.00 CFS
100-YR	3.16 CFS	0.33 CFS

Post-Development Runoff – Watershed #1F – 2.20 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Grass/Landscaping	39	0.50 Acres
Stone	96	0.21 Acres
Woodland/Grassland Combination	32	1.481 Acres
Impervious	98	0.009 Acres

TC = 58.40 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow Basin #1F</u>	<u>Post-Development Routed Peak Outflow Basin #1F</u>
2-YR	0.90 CFS	0.00 CFS
10-YR	1.47 CFS	0.00 CFS
100-YR	2.75 CFS	0.72 CFS

Post-Development Runoff – Watershed #2 – 1.36 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Woodland/Grassland Combination	32	1.10 Acres
Woodland	30	0.26 Acres

TC = 30.10 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow</u>	<u>Post-Development Routed Peak Outflow</u>
2-YR	0.00 CFS	0.00 CFS
10-YR	0.03 CFS	0.03 CFS
100-YR	0.77 CFS	0.77 CFS

Post-Development – Watershed #3 – 1.58 Acres

<u>Cover Type</u>	<u>CN Value</u>	<u>Area</u>
Woodland/Grassland Combination	32	0.66 Acres
Woodland	30	0.92 Acres

TC = 27.90 Minutes

<u>Design Storm</u>	<u>Post-Development Peak Inflow</u>	<u>Post-Development Peak Outflow</u>
2-YR	0.00 CFS	0.00 CFS
10-YR	0.02 CFS	0.02 CFS
100-YR	0.84 CFS	0.84 CFS

Drainage Calculations

The drainage calculations for the project site were derived using the TR-55 Method of Hydrology Rainfall Type NOAA C Delmarva Unit Hydrograph.

Post-Development Flows at Discharge Point #1A – No Improvements

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #1</u>	<u>Post-Development Peak Flows Watershed #1A</u>
2-YR	4.05 CFS	0.00 CFS
10-YR	6.56 CFS	0.05 CFS
100-YR	12.17 CFS	1.13 CFS

Post-Development Flows at Discharge Point #1B

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #1</u>	<u>Post-Development Peak Flows</u>	<u>Post-Development Routed Peak Flows Watershed #1B</u>	
2-YR	4.05 CFS	0.00 CFS	0.00 CFS	0.00%
10-YR	6.56 CFS	0.09 CFS	0.00 CFS	0.00%
100-YR	12.17 CFS	2.11 CFS	1.40 CFS	11.50%

The proposed stormwater storage facility has been designed to release the post-development peak flows for the 2-, 10- and 100-Year design storms below their respective pre-development peak flows.

The proposed stormwater system has been designed to meet the NJDEP Stormwater Management Rules. The Stormwater Management System has been designed to reduce the post-construction load of Total Suspended Solids (TSS) in stormwater runoff generated from the water quality design storm by 80% by utilizing an infiltration basin. The system meets the 80% TSS removal required by the NJDEP Stormwater Management Rules.

Infiltration Basin

80% Removal

Infiltration Basin #1B Storage Volumes

<u>Elevation</u>	<u>Storage Volume</u>
22.50	0 CF
23.00	7,492 CF
24.00	26,484 CF
24.75	45,433 CF

	<u>Elevation</u>
Water Quality Design Storm.....	22.50
2-Year Design Storm	22.51
10-Year Design Storm	22.67
100-Year Design Storm	23.69

Post-Development Flows at Discharge Point #1C

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #1</u>	<u>Post-Development Peak Flows</u>	<u>Post-Development Routed Peak Flows Watershed #1C</u>	
2-YR	4.05 CFS	1.72 CFS	0.00 CFS	0.00%
10-YR	6.56 CFS	2.79 CFS	0.00 CFS	0.00%
100-YR	12.17 CFS	5.18 CFS	0.66 CFS	5.42%

The proposed stormwater storage facility has been designed to release the post-development peak flows for the 2-, 10- and 100-Year design storms below their respective pre-development peak flows.

The proposed stormwater system has been designed to meet the NJDEP Stormwater Management Rules. The Stormwater Management System has been designed to reduce the post-construction load of Total Suspended Solids (TSS) in stormwater runoff generated from the water quality design storm by 80% by utilizing an infiltration basin. The system meets the 80% TSS removal required by the NJDEP Stormwater Management Rules.

Infiltration Basin

80% Removal

Infiltration Basin #1C Storage Volumes

<u>Elevation</u>	<u>Storage Volume</u>
22.00	0 CF
23.00	7,187 CF
24.00	15,943 CF
24.87	24,088 CF

	<u>Elevation</u>
Water Quality Design Storm.....	22.18
2-Year Design Storm	22.69
10-Year Design Storm	23.24
100-Year Design Storm	23.87

Post-Development Flows at Discharge Point #1D

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #1</u>	<u>Post-Development Peak Flows</u>	<u>Post-Development Routed Peak Flows Watershed #1D</u>	
2-YR	4.05 CFS	2.08 CFS	0.00 CFS	0.00%
10-YR	6.56 CFS	3.36 CFS	0.00 CFS	0.00%
100-YR	12.17 CFS	6.80 CFS	2.06 CFS	16.92%

The proposed stormwater storage facility has been designed to release the post-development peak flows for the 2-, 10- and 100-Year design storms below their respective pre-development peak flows.

The proposed stormwater system has been designed to meet the NJDEP Stormwater Management Rules. The Stormwater Management System has been designed to reduce the post-construction load of Total Suspended Solids (TSS) in stormwater runoff generated from the water quality design storm by 80% by utilizing an infiltration basin. The system meets the 80% TSS removal required by the NJDEP Stormwater Management Rules.

Infiltration Basin

80% Removal

Infiltration Basin #1D Storage Volumes

<u>Elevation</u>	<u>Storage Volume</u>
22.25	0 CF
23.00	7,013 CF
24.00	18,295 CF
24.85	29,708 CF

	<u>Elevation</u>
Water Quality Design Storm.....	22.43
2-Year Design Storm	22.93
10-Year Design Storm	23.53
100-Year Design Storm	23.86

Post-Development Flows at Discharge Point #1E

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #1</u>	<u>Post-Development Peak Flows</u>	<u>Post-Development Routed Peak Flows Watershed #1E</u>	
2-YR	4.05 CFS	1.07 CFS	0.00 CFS	0.00%
10-YR	6.56 CFS	1.71 CFS	0.00 CFS	0.00%
100-YR	12.17 CFS	3.16 CFS	0.33 CFS	2.71%

The proposed stormwater storage facility has been designed to release the post-development peak flows for the 2-, 10- and 100-Year design storms below their respective pre-development peak flows.

The proposed stormwater system has been designed to meet the NJDEP Stormwater Management Rules. The Stormwater Management System has been designed to reduce the post-construction load of Total Suspended Solids (TSS) in stormwater runoff generated from the water quality design storm by 80% by utilizing an infiltration basin. The system meets the 80% TSS removal required by the NJDEP Stormwater Management Rules.

Infiltration Basin

80% Removal

Infiltration Basin #1E Storage Volumes

<u>Elevation</u>	<u>Storage Volume</u>
22.25	0 CF
23.00	5,445 CF
24.00	13,895 CF
25.00	23,718 CF
25.18	25,308 CF

	<u>Elevation</u>
Water Quality Design Storm.....	22.37
2-Year Design Storm	22.69
10-Year Design Storm	23.10
100-Year Design Storm	24.18

Post-Development Flows at Discharge Point #1F

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #1</u>	<u>Post-Development Peak Flows</u>	<u>Post-Development Routed Peak Flows Watershed #1F</u>	
2-YR	4.05 CFS	0.90 CFS	0.00 CFS	0.00%
10-YR	6.56 CFS	1.47 CFS	0.00 CFS	0.00%
100-YR	12.17 CFS	2.75 CFS	0.72 CFS	5.92%

The proposed stormwater storage facility has been designed to release the post-development peak flows for the 2-, 10- and 100-Year design storms below their respective pre-development peak flows.

The proposed stormwater system has been designed to meet the NJDEP Stormwater Management Rules. The Stormwater Management System has been designed to reduce the post-construction load of Total Suspended Solids (TSS) in stormwater runoff generated from the water quality design storm by 80% by utilizing an infiltration basin. The system meets the 80% TSS removal required by the NJDEP Stormwater Management Rules.

Infiltration Basin

80% Removal

Infiltration Basin #1F Storage Volumes

<u>Elevation</u>	<u>Storage Volume</u>
23.00	0 CF
24.00	9,626 CF
25.00	21,475 CF
25.30	25,482 CF

	<u>Elevation</u>
Water Quality Design Storm.....	23.08
2-Year Design Storm	23.32
10-Year Design Storm	23.70
100-Year Design Storm	24.30

Post-Development Flows at Discharge Point #1 – No Improvements

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #1</u>	<u>Total Post-Development Peak Flows Watershed #1A, #1B, #1C, #1D, #1E & #1F</u>	
2-YR	4.05 CFS	0.00 CFS	0.00%
10-YR	6.56 CFS	0.05 CFS	0.76%
100-YR	12.17 CFS	3.04 CFS	24.97%

Post-Development Flows at Discharge Point #2 – No Improvements

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #2</u>	<u>Post-Development Peak Flows Discharge Point #2</u>
2-YR	0.00 CFS	0.00 CFS
10-YR	0.03 CFS	0.03 CFS
100-YR	0.89 CFS	0.77 CFS

Post-Development Flows at Discharge Point #3 – No Improvements

<u>Design Storm</u>	<u>Pre-Development Peak Flows Watershed #3</u>	<u>Post-Development Peak Flows Discharge Point #3</u>
2-YR	0.00 CFS	0.00 CFS
10-YR	0.02 CFS	0.02 CFS
100-YR	0.84 CFS	0.84 CFS