

# **STORMWATER MANAGEMENT REPORT**

**For**

**RESIDENTIAL**

**4 STORY MULTI-FAMILY**

**88 RT 1 & 9**

**Block 6303, Lot 31**

**JERSEY CITY**

**HUDSON COUNTY, NJ**

**MARCH 10, 2022**

Prepared by

**Douglas C. Pelikan, PE**

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## Table of contents:

Cover

Page 1 Introduction

Page 3 Summary of Flows

Page 4 **Existing Condition Routing Diagram (SCS) Node Summaries**

Page 5 Existing Condition Water Quality

Page 6 Existing Condition 2 Year Storm

Page 7 Existing Condition 10 Year Storm

Page 8 Existing Condition 100 Year Storm

Page 9 **Existing Condition Routing Diagram (DELMARVA) Node Summaries**

Page 10 Existing Condition Water Quality Storm

Page 11 Existing Condition 2 Year Storm

Page 12 Existing Condition 10 Year Storm

Page 13 Existing Condition 100 Year Storm

Page 14 **Proposed Condition (SCS) Routing Diagram**

Page 15 Proposed Condition Water Quality Storm

Page 16 Proposed Condition 2 yr Storm

Page 17 Proposed Condition 10 yr Storm

Page 18 Proposed Condition 100 yr Storm

Page 19 **Proposed Condition (DELMARVA) Routing Diagram**

Page 20 Proposed Condition Water Quality Storm

Page 21 Proposed Condition 2 yr Storm

Page 22 Proposed Condition 10 yr Storm

Page 23 Proposed Condition 100 yr Storm

## INTRODUCTION

The drainage calculations for this report have been prepared in accordance with the general requirements of JERSEY CITY Land Development Ordinances, the HUDSON COUNTY Land Development Standards, and the NJDEP Storm Water Management Regulations.

The ANY proposed internal drainage systems and/or detention/infiltration systems were designed with the following standards:

1. For water quality, the NJ DEP 2-hr 1.25 NJ WQ STORM wa's used.
2. The 100 yr. storm frequency design storm was used for the internal drainage system.
3. Peak outflows from the basins will be attenuated such that, in the developed condition, the 2 yr. design flow will be a maximum of 50% of the pre-developed condition; the 10 yr. design flow will be a maximum of 75% of the pre-developed condition; and the 100 yr. design flow will be a maximum of 80% of the pre- developed condition, **if the project should increase the impervious surface by more than ¼ ac. The project is 5,000 sf in total therefore attenuation is not required. However runoff in the proposed condition may not exceed the runoff in the existing condition.**
4. The project consists of 6,638 sf of existing impervious surfaces & 175 sf of existing pervious surfaces for a total of 6813 sf.

The proposed condition of the site consists of 6,673 sf of impervious surface. The net increase of 140 sf of regulated impervious surface is below the limits of regulation.

Since the total area of the site, 6,813 sf of disturbance will be made, a net increase of regulated impervious surface is being made of 35 sf, no motor surface is being created, and the project fits the criteria for minor site plan. Therefore detention of 0.6 gal /sf of impervious surface increase is NOT required.

5. See sheet 1 & 2 of site plans for summary of flows and runoff area plan

We are available to discuss any questions concerning this report.

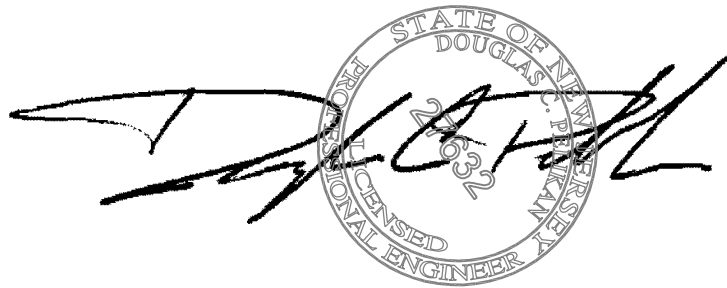


A handwritten signature in black ink, appearing to read "D. C. Pelikan", written over a horizontal line.

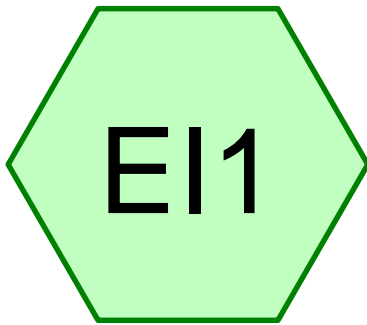
Douglas C. Pelikan, PE: NJ PE# GE27632

# SUMMARY OF FLOWS

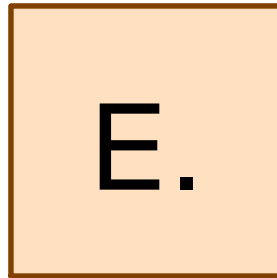
	EXISTING CONDITION		PROPOSED CONDITION	
EVENT	PEAK RUNOFF		PEAK RUNOFF	
	SCS (CFS)	DELMARVA (CFS)	SCS (CFS)	DELMARVA (CFS)
WTR QUAL	0.46	0.46	0.46	0.46
2 YR	0.58	0.54	0.58	0.54
10 YR	0.95	0.88	0.95	0.88
100 YR	1.49	1.39	1.49	1.39



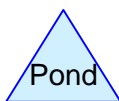
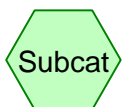
Handwritten signature and professional engineer seal for Douglas C. Piekman, State of New Jersey, License No. 28032.



EXISTING BLDG &  
WALKS



OFF SITE



**Drainage Diagram for 88 RT 1+9-MUKTI**

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**88 RT 1+9-MUKTI**

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EXISTING CONDITION (SCS)  
NJ DEP 2-hr 1 WQ Rainfall=1.25"

Page 5

**Summary for Subcatchment EI1: EXISTING BLDG & WALKS**

Runoff = 0.46 cfs @ 1.08 hrs, Volume= 0.012 af, Depth= 0.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

NJ DEP 2-hr 1 WQ Rainfall=1.25"

Area (sf)	CN	Description
6,638	98	Paved parking & roofs
175	61	>75% Grass cover, Good, HSG B
6,813	97	Weighted Average
175		Pervious Area
6,638		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	141	0.0200	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.40"

**Summary for Reach E.: OFF SITE**

Inflow Area = 0.156 ac, 97.43% Impervious, Inflow Depth = 0.94" for 1 WQ event

Inflow = 0.46 cfs @ 1.08 hrs, Volume= 0.012 af

Outflow = 0.46 cfs @ 1.08 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

**88 RT 1+9-MUKTI**

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EXISTING CONDITION (SCS)  
Type III 24-hr 2 YR HUD Rainfall=3.30"

Page 6

**Summary for Subcatchment EI1: EXISTING BLDG & WALKS**

Runoff = 0.58 cfs @ 12.02 hrs, Volume= 0.039 af, Depth= 2.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Type III 24-hr 2 YR HUD Rainfall=3.30"

Area (sf)	CN	Description
6,638	98	Paved parking & roofs
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6,813	97	Weighted Average
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6,638		Impervious Area

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**Summary for Reach E.: OFF SITE**

Inflow Area = 0.156 ac, 97.43% Impervious, Inflow Depth = 2.96" for 2 YR HUD event

Inflow = 0.58 cfs @ 12.02 hrs, Volume= 0.039 af

Outflow = 0.58 cfs @ 12.02 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs



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EXISTING CONDITION (SCS)  
Type III 24-hr 10YR HUD Rainfall=5.30"

Page 7

**Summary for Subcatchment EI1: EXISTING BLDG & WALKS**

Runoff = 0.95 cfs @ 12.02 hrs, Volume= 0.064 af, Depth= 4.95"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Type III 24-hr 10YR HUD Rainfall=5.30"

Area (sf)	CN	Description
6,638	98	Paved parking & roofs
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**Summary for Reach E.: OFF SITE**

Inflow Area = 0.156 ac, 97.43% Impervious, Inflow Depth = 4.95" for 10YR HUD event

Inflow = 0.95 cfs @ 12.02 hrs, Volume= 0.064 af

Outflow = 0.95 cfs @ 12.02 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

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EXISTING CONDITION (SCS)  
Type III 24-hr 100 YR HUD Rainfall=8.30"

Page 8

**Summary for Subcatchment EI1: EXISTING BLDG & WALKS**

Runoff = 1.49 cfs @ 12.02 hrs, Volume= 0.103 af, Depth= 7.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Type III 24-hr 100 YR HUD Rainfall=8.30"

Area (sf)	CN	Description
6,638	98	Paved parking & roofs
175	61	>75% Grass cover, Good, HSG B
6,813	97	Weighted Average
175		Pervious Area
6,638		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	141	0.0200	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.40"

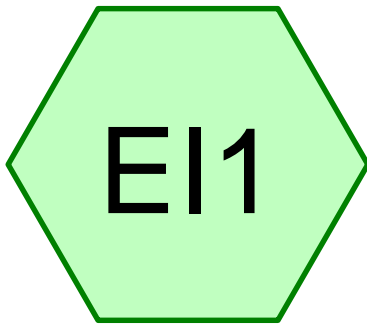
**Summary for Reach E.: OFF SITE**

Inflow Area = 0.156 ac, 97.43% Impervious, Inflow Depth = 7.94" for 100 YR HUD event

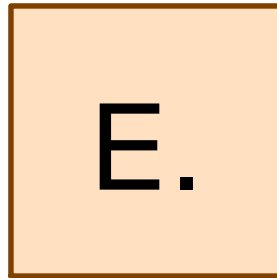
Inflow = 1.49 cfs @ 12.02 hrs, Volume= 0.103 af

Outflow = 1.49 cfs @ 12.02 hrs, Volume= 0.103 af, Atten= 0%, Lag= 0.0 min

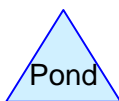
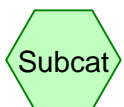
Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs



EXISTING BLDG &  
WALKS



OFF SITE



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EXISTING CONDITION (DELMARVA)

NJ DEP 2-hr 1 WQ Rainfall=1.25"

Page 10

**Summary for Subcatchment EI1: EXISTING BLDG & WALKS**

Runoff = 0.46 cfs @ 1.08 hrs, Volume= 0.012 af, Depth= 0.94"

Runoff by SCS TR-20 method, UH=Delmarva, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

NJ DEP 2-hr 1 WQ Rainfall=1.25"

Area (sf)	CN	Description
6,638	98	Paved parking & roofs
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6,813	97	Weighted Average
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6,638		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	141	0.0200	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.40"

**Summary for Reach E.: OFF SITE**

Inflow Area = 0.156 ac, 97.43% Impervious, Inflow Depth = 0.94" for 1 WQ event

Inflow = 0.46 cfs @ 1.08 hrs, Volume= 0.012 af

Outflow = 0.46 cfs @ 1.08 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

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EXISTING CONDITION (DELMARVA)  
Type III 24-hr 2 YR HUD Rainfall=3.30"

Page 11

**Summary for Subcatchment EI1: EXISTING BLDG & WALKS**

Runoff = 0.54 cfs @ 12.03 hrs, Volume= 0.039 af, Depth= 2.96"

Runoff by SCS TR-20 method, UH=Delmarva, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Type III 24-hr 2 YR HUD Rainfall=3.30"

Area (sf)	CN	Description
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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	141	0.0200	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.40"

**Summary for Reach E.: OFF SITE**

Inflow Area = 0.156 ac, 97.43% Impervious, Inflow Depth = 2.96" for 2 YR HUD event

Inflow = 0.54 cfs @ 12.03 hrs, Volume= 0.039 af

Outflow = 0.54 cfs @ 12.03 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

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EXISTING CONDITION (DELMARVA)  
Type III 24-hr 10YR HUD Rainfall=5.30"

Page 12

**Summary for Subcatchment EI1: EXISTING BLDG & WALKS**

Runoff = 0.88 cfs @ 12.03 hrs, Volume= 0.064 af, Depth= 4.95"

Runoff by SCS TR-20 method, UH=Delmarva, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Type III 24-hr 10YR HUD Rainfall=5.30"

Area (sf)	CN	Description
6,638	98	Paved parking & roofs
175	61	>75% Grass cover, Good, HSG B
6,813	97	Weighted Average
175		Pervious Area
6,638		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	141	0.0200	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.40"

**Summary for Reach E.: OFF SITE**

Inflow Area = 0.156 ac, 97.43% Impervious, Inflow Depth = 4.95" for 10YR HUD event

Inflow = 0.88 cfs @ 12.03 hrs, Volume= 0.064 af

Outflow = 0.88 cfs @ 12.03 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

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EXISTING CONDITION (DELMARVA)  
Type III 24-hr 100 YR HUD Rainfall=8.30"

Page 13

**Summary for Subcatchment EI1: EXISTING BLDG & WALKS**

Runoff = 1.39 cfs @ 12.03 hrs, Volume= 0.103 af, Depth= 7.94"

Runoff by SCS TR-20 method, UH=Delmarva, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Type III 24-hr 100 YR HUD Rainfall=8.30"

Area (sf)	CN	Description
6,638	98	Paved parking & roofs
175	61	>75% Grass cover, Good, HSG B
6,813	97	Weighted Average
175		Pervious Area
6,638		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	141	0.0200	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.40"

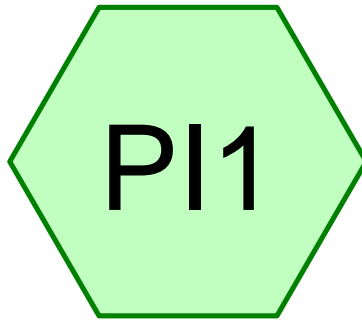
**Summary for Reach E.: OFF SITE**

Inflow Area = 0.156 ac, 97.43% Impervious, Inflow Depth = 7.94" for 100 YR HUD event

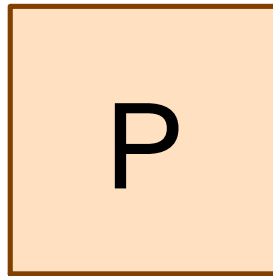
Inflow = 1.39 cfs @ 12.03 hrs, Volume= 0.103 af

Outflow = 1.39 cfs @ 12.03 hrs, Volume= 0.103 af, Atten= 0%, Lag= 0.0 min

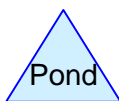
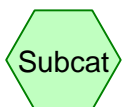
Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs



PROPOSED BLDG &  
WALKS



OFF SITE TO PERRY



**Drainage Diagram for 88 RT 1+9-MUKTI**

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PROPOSED CONDITION (SCS)  
NJ DEP 2-hr 1 WQ Rainfall=1.25"

Page 15

**Summary for Subcatchment PI1: PROPOSED BLDG & WALKS**

Runoff = 0.46 cfs @ 1.08 hrs, Volume= 0.012 af, Depth= 0.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

NJ DEP 2-hr 1 WQ Rainfall=1.25"

Area (sf)	CN	Description
6,673	98	Paved parking & roofs
140	61	>75% Grass cover, Good, HSG B
6,813	97	Weighted Average
140		Pervious Area
6,673		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	141	0.0200	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.40"

**Summary for Reach P: OFF SITE TO PERRY**

Inflow Area = 0.156 ac, 97.95% Impervious, Inflow Depth = 0.94" for 1 WQ event

Inflow = 0.46 cfs @ 1.08 hrs, Volume= 0.012 af

Outflow = 0.46 cfs @ 1.08 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

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PROPOSED CONDITION (SCS)  
Type III 24-hr 2 YR HUD Rainfall=3.30"

Page 16

**Summary for Subcatchment PI1: PROPOSED BLDG & WALKS**

Runoff = 0.58 cfs @ 12.02 hrs, Volume= 0.039 af, Depth= 2.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Type III 24-hr 2 YR HUD Rainfall=3.30"

Area (sf)	CN	Description
6,673	98	Paved parking & roofs
140	61	>75% Grass cover, Good, HSG B
6,813	97	Weighted Average
140		Pervious Area
6,673		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	141	0.0200	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.40"

**Summary for Reach P: OFF SITE TO PERRY**

Inflow Area = 0.156 ac, 97.95% Impervious, Inflow Depth = 2.96" for 2 YR HUD event

Inflow = 0.58 cfs @ 12.02 hrs, Volume= 0.039 af

Outflow = 0.58 cfs @ 12.02 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

**88 RT 1+9-MUKTI**

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PROPOSED CONDITION (SCS)  
Type III 24-hr 10YR HUD Rainfall=5.30"

Page 17

**Summary for Subcatchment PI1: PROPOSED BLDG & WALKS**

Runoff = 0.95 cfs @ 12.02 hrs, Volume= 0.064 af, Depth= 4.95"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	141	0.0200	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.40"

**Summary for Reach P: OFF SITE TO PERRY**

Inflow Area = 0.156 ac, 97.95% Impervious, Inflow Depth = 4.95" for 10YR HUD event

Inflow = 0.95 cfs @ 12.02 hrs, Volume= 0.064 af

Outflow = 0.95 cfs @ 12.02 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

**88 RT 1+9-MUKTI**

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PROPOSED CONDITION (SCS)  
Type III 24-hr 100 YR HUD Rainfall=8.30"

Page 18

**Summary for Subcatchment PI1: PROPOSED BLDG & WALKS**

Runoff = 1.49 cfs @ 12.02 hrs, Volume= 0.103 af, Depth= 7.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Type III 24-hr 100 YR HUD Rainfall=8.30"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
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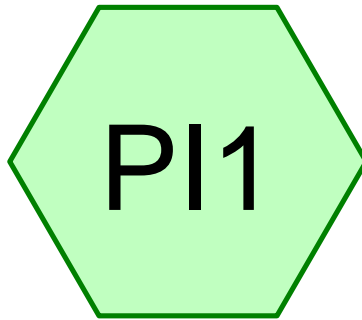
**Summary for Reach P: OFF SITE TO PERRY**

Inflow Area = 0.156 ac, 97.95% Impervious, Inflow Depth = 7.94" for 100 YR HUD event

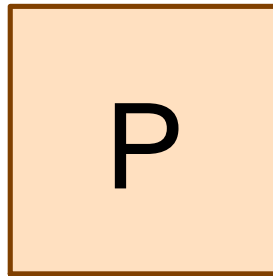
Inflow = 1.49 cfs @ 12.02 hrs, Volume= 0.103 af

Outflow = 1.49 cfs @ 12.02 hrs, Volume= 0.103 af, Atten= 0%, Lag= 0.0 min

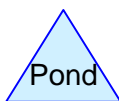
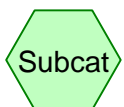
Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs



PROPOSED BLDG &  
WALKS



OFF SITE TO PERRY



**Drainage Diagram for 88 RT 1+9-MUKTI**

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**88 RT 1+9-MUKTI**

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PROPOSED CONDITION (DELMARVA)

NJ DEP 2-hr 1 WQ Rainfall=1.25"

Page 20

**Summary for Subcatchment PI1: PROPOSED BLDG & WALKS**

Runoff = 0.46 cfs @ 1.08 hrs, Volume= 0.012 af, Depth= 0.94"

Runoff by SCS TR-20 method, UH=Delmarva, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

NJ DEP 2-hr 1 WQ Rainfall=1.25"

Area (sf)	CN	Description
6,673	98	Paved parking & roofs
140	61	>75% Grass cover, Good, HSG B
6,813	97	Weighted Average
140		Pervious Area
6,673		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	141	0.0200	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.40"

**Summary for Reach P: OFF SITE TO PERRY**

Inflow Area = 0.156 ac, 97.95% Impervious, Inflow Depth = 0.94" for 1 WQ event

Inflow = 0.46 cfs @ 1.08 hrs, Volume= 0.012 af

Outflow = 0.46 cfs @ 1.08 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

**88 RT 1+9-MUKTI**

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PROPOSED CONDITION (DELMARVA)  
Type III 24-hr 2 YR HUD Rainfall=3.30"

Page 21

**Summary for Subcatchment PI1: PROPOSED BLDG & WALKS**

Runoff = 0.54 cfs @ 12.03 hrs, Volume= 0.039 af, Depth= 2.96"

Runoff by SCS TR-20 method, UH=Delmarva, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Type III 24-hr 2 YR HUD Rainfall=3.30"

Area (sf)	CN	Description
6,673	98	Paved parking & roofs
140	61	>75% Grass cover, Good, HSG B
6,813	97	Weighted Average
140		Pervious Area
6,673		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	141	0.0200	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.40"

**Summary for Reach P: OFF SITE TO PERRY**

Inflow Area = 0.156 ac, 97.95% Impervious, Inflow Depth = 2.96" for 2 YR HUD event

Inflow = 0.54 cfs @ 12.03 hrs, Volume= 0.039 af

Outflow = 0.54 cfs @ 12.03 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

**88 RT 1+9-MUKTI**

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PROPOSED CONDITION (DELMARVA)  
Type III 24-hr 10YR HUD Rainfall=5.30"

Page 22

**Summary for Subcatchment PI1: PROPOSED BLDG & WALKS**

Runoff = 0.88 cfs @ 12.03 hrs, Volume= 0.064 af, Depth= 4.95"

Runoff by SCS TR-20 method, UH=Delmarva, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Type III 24-hr 10YR HUD Rainfall=5.30"

Area (sf)	CN	Description
6,673	98	Paved parking & roofs
140	61	>75% Grass cover, Good, HSG B
6,813	97	Weighted Average
140		Pervious Area
6,673		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	141	0.0200	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.40"

**Summary for Reach P: OFF SITE TO PERRY**

Inflow Area = 0.156 ac, 97.95% Impervious, Inflow Depth = 4.95" for 10YR HUD event

Inflow = 0.88 cfs @ 12.03 hrs, Volume= 0.064 af

Outflow = 0.88 cfs @ 12.03 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs



**88 RT 1+9-MUKTI**

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PROPOSED CONDITION (DELMARVA)  
Type III 24-hr 100 YR HUD Rainfall=8.30"

Page 23

**Summary for Subcatchment PI1: PROPOSED BLDG & WALKS**

Runoff = 1.39 cfs @ 12.03 hrs, Volume= 0.103 af, Depth= 7.94"

Runoff by SCS TR-20 method, UH=Delmarva, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Type III 24-hr 100 YR HUD Rainfall=8.30"

Area (sf)	CN	Description
6,673	98	Paved parking & roofs
140	61	>75% Grass cover, Good, HSG B
6,813	97	Weighted Average
140		Pervious Area
6,673		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	141	0.0200	1.52		<b>Sheet Flow,</b> Smooth surfaces n= 0.011 P2= 3.40"

**Summary for Reach P: OFF SITE TO PERRY**

Inflow Area = 0.156 ac, 97.95% Impervious, Inflow Depth = 7.94" for 100 YR HUD event

Inflow = 1.39 cfs @ 12.03 hrs, Volume= 0.103 af

Outflow = 1.39 cfs @ 12.03 hrs, Volume= 0.103 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs