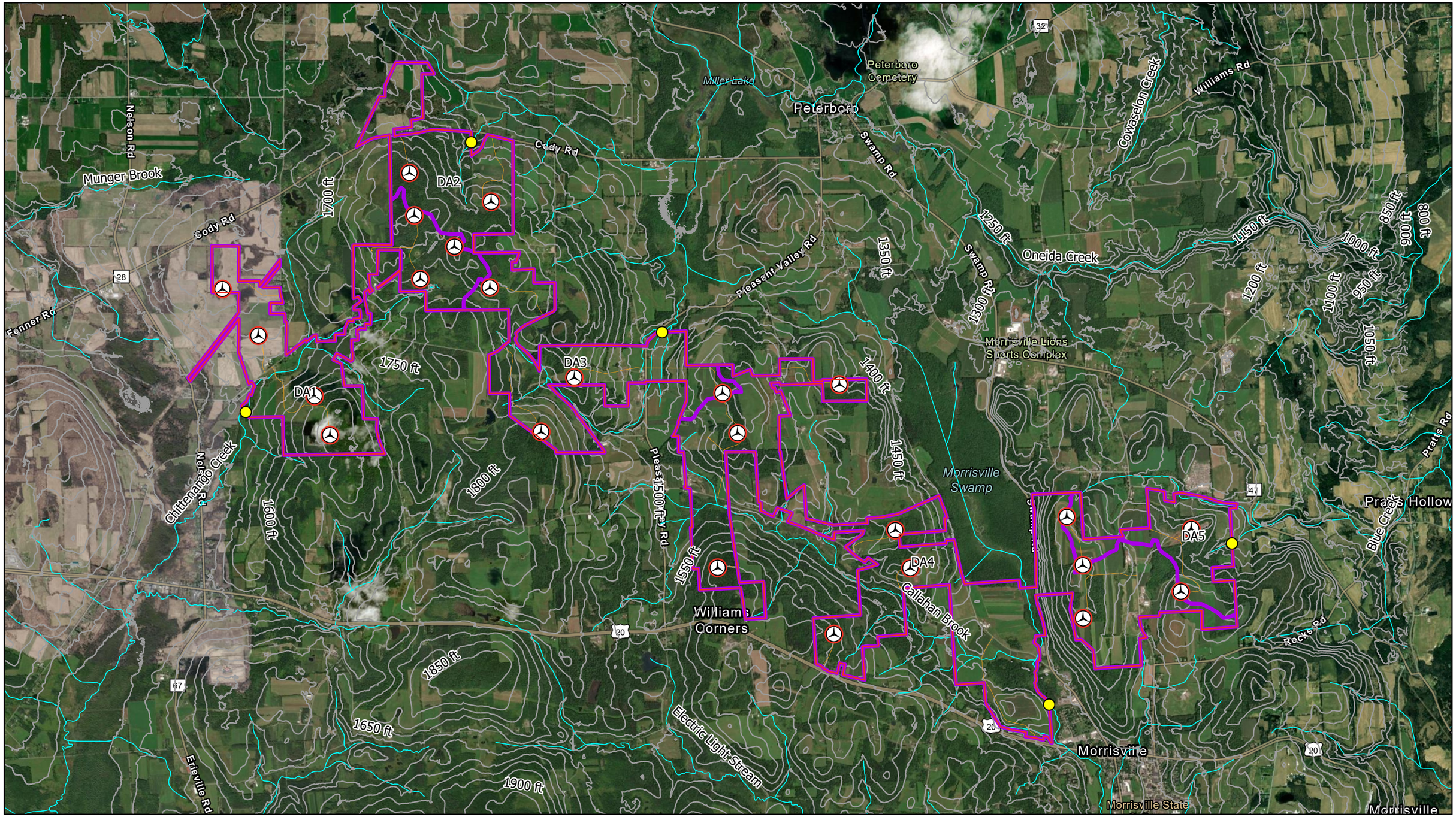

Data Source(s): Westwood (2023); Esri WMS Basemap Imagery (Accessed 2023); USGS (2023); FEMA (2023); USDA (2023)

Legend

- Project Boundary
- County Boundary
- NHD Flowlines
- Discharge Locations
- Proposed Access Roads
- Turbine Array
- Drainage Areas
- 50ft Contour Intervals

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Hoffman Wind Project

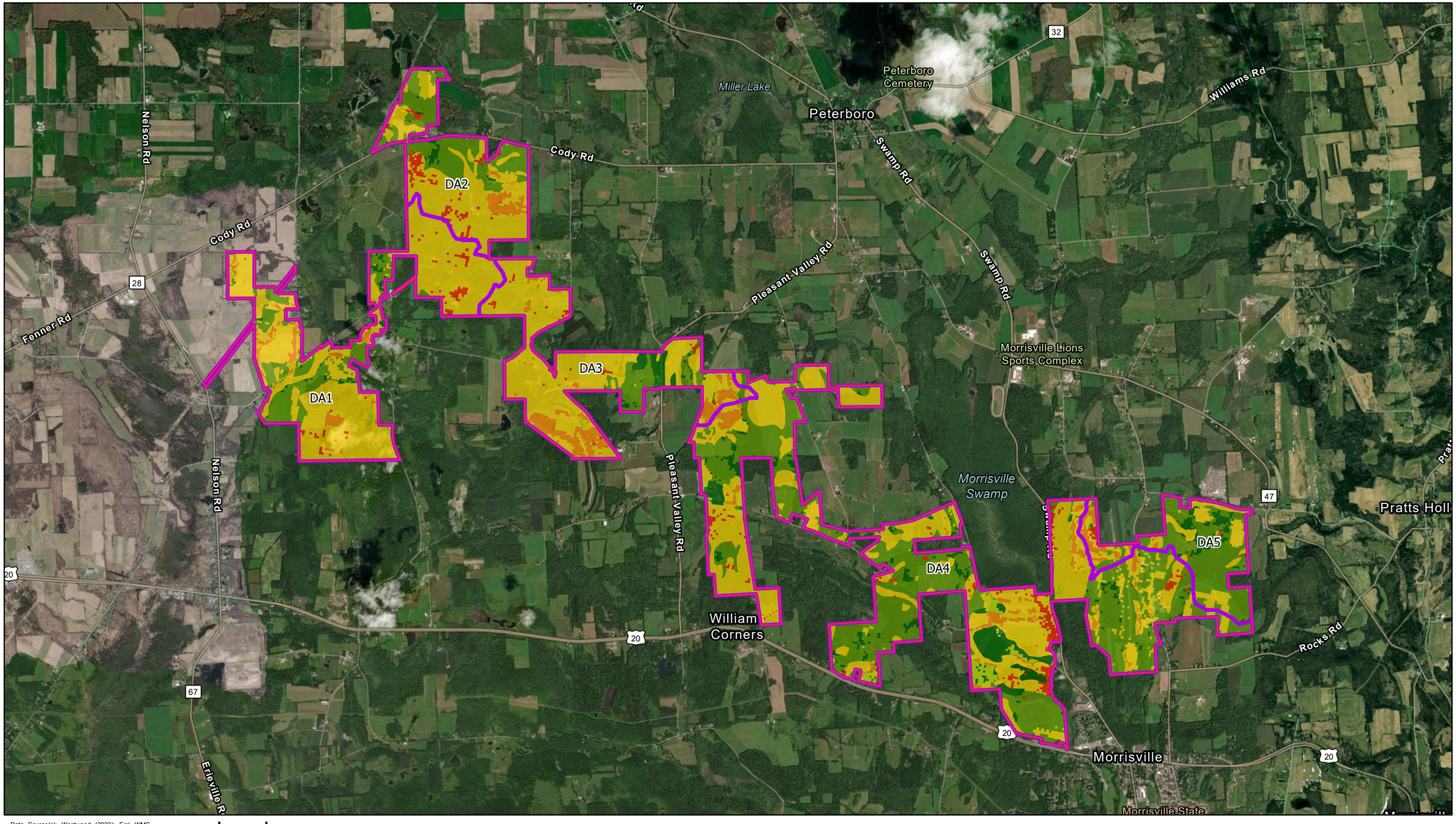
Madison County, New York

Exhibit 2: Proposed Drainage Map

N

0 Feet 3,500

July 21, 2023



Data Source(s): Westwood (2023); Esri WMS Basemap Imagery (Accessed 2023); USGS (2023); FEMA (2023); USDA (2023)

Legend

- Project Boundary
- Drainage Areas
- County Boundary

Curve Number

- 40 - 49
- 50 - 59
- 60 - 69
- 70 - 79
- 80 - 89
- 90 - 99

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N

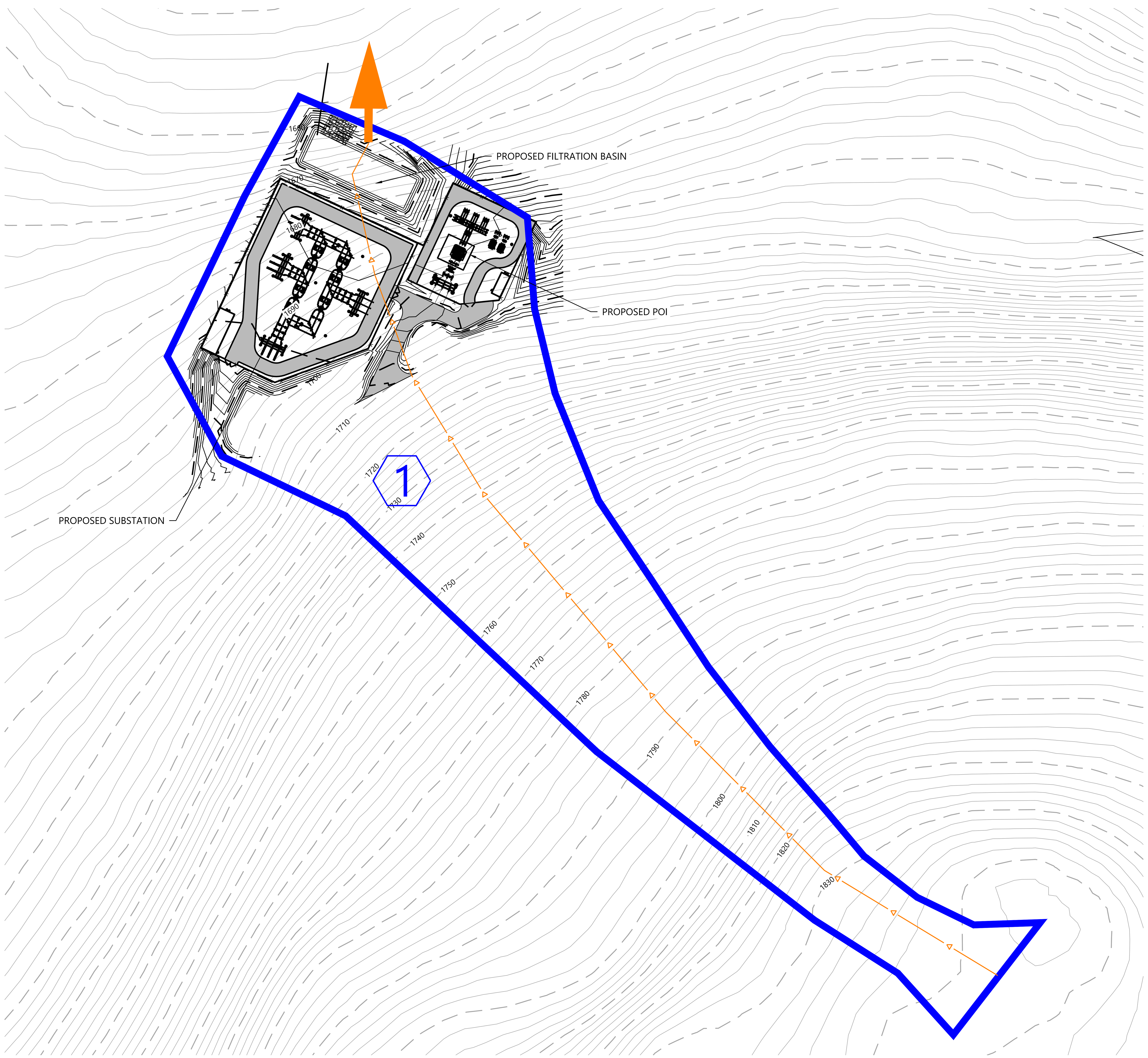
0 Feet 3,500

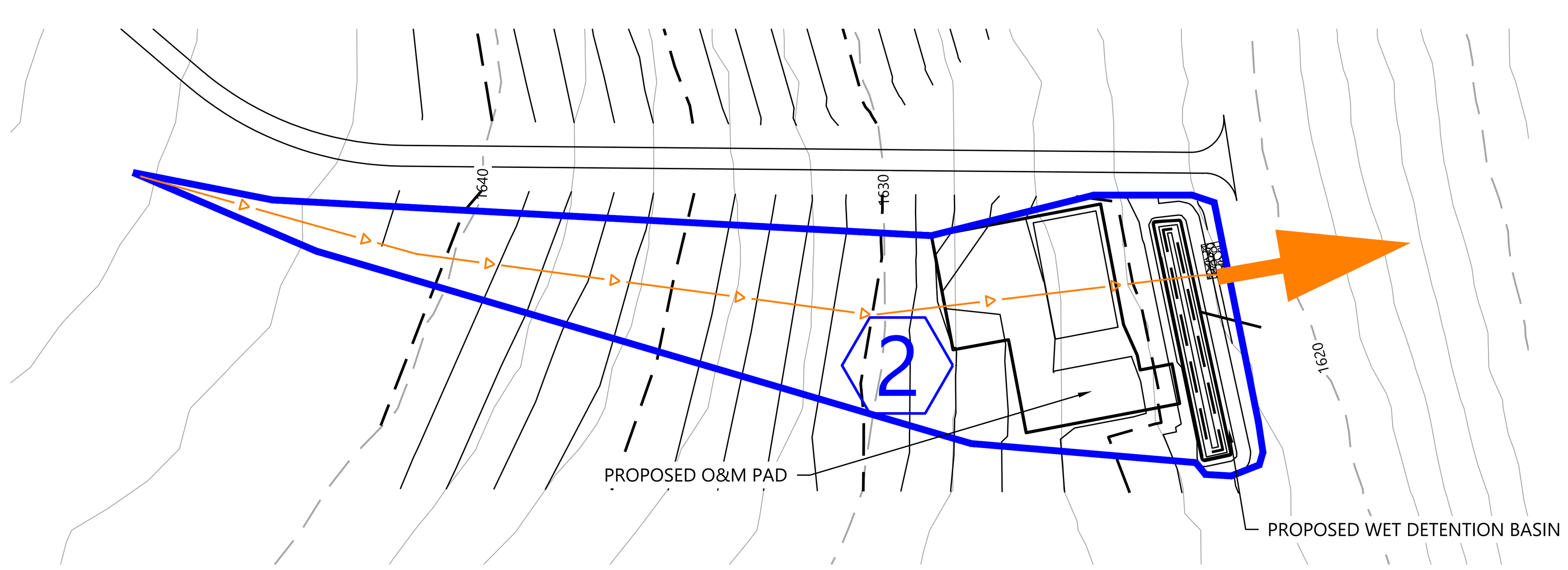
Hoffman Wind Project

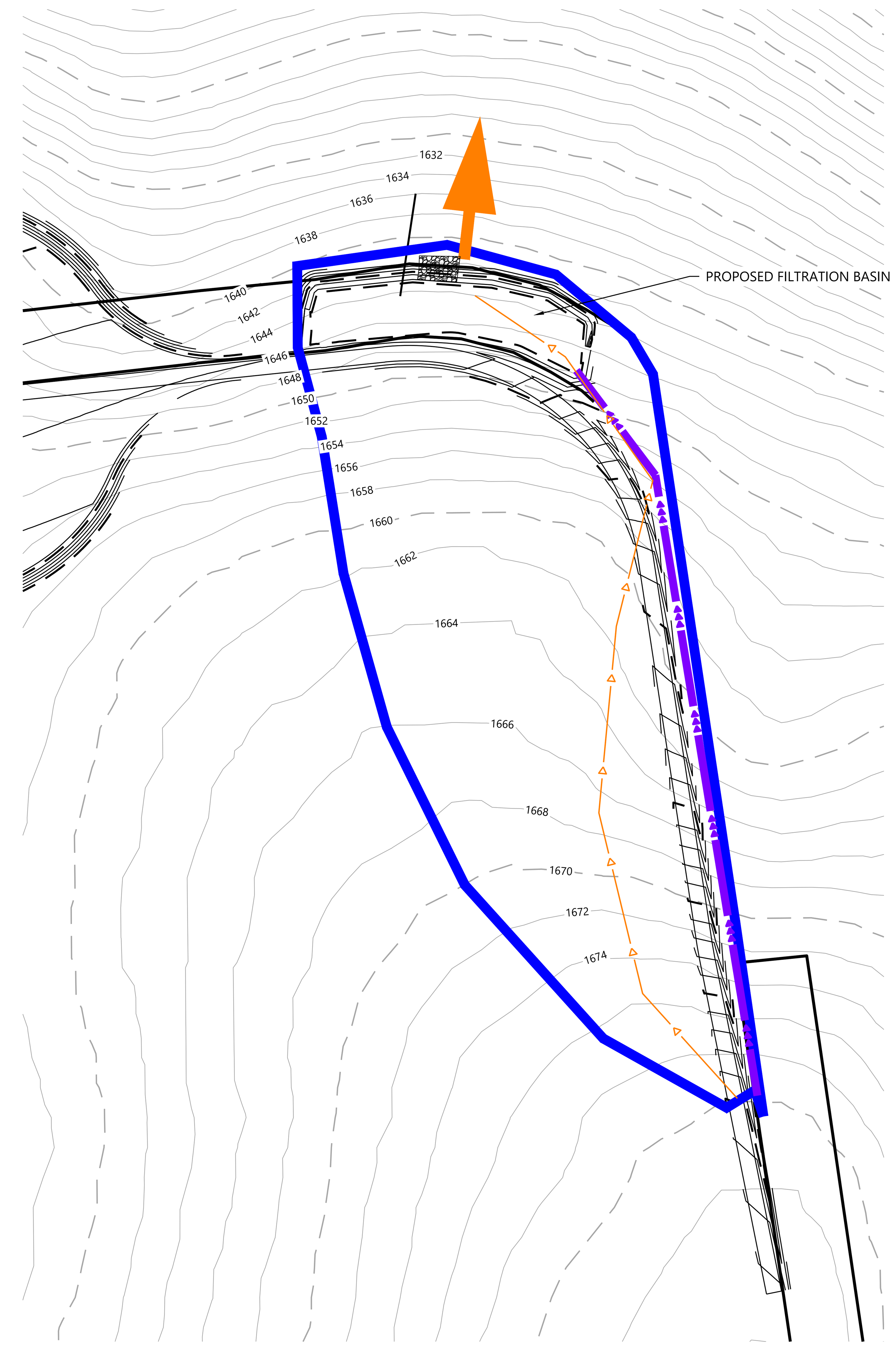
Madison County, New York

Exhibit 3: Curve Number Map

July 21, 2023







LEGEND:

- PROJECT BOUNDARY
- EX. INDEX CONTOUR
- EX. INTERVAL CONTOUR
- EX. TREELINE
- EX. PAVED ROAD
- EX. GRAVEL ROAD
- EX. BUILDING
- EX. CULVERT
- EX. STREAM CHANNEL
- PROPOSED ACCESS ROAD
- PROPOSED SECURITY FENCE
- PROPOSED INDEX CONTOUR
- PROPOSED INTERVAL CONTOUR
- PROPOSED EMERGENCY OVERFLOW OUTLET
- PROPOSED CULVERT
- PROPOSED DRAINAGE AREA BOUNDARY
- PROPOSED SWALE
- PROPOSED TIME OF CONCENTRATION LINE
- DISCHARGE LOCATION
- DRAINAGE AREA LABEL

Westwood

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Westwood Professional Services, Inc.

PREPARED FOR:

liberty renewables

90 State Street, Suite 700
Albany, NY 12207

REVISIONS:

#	DATE	COMMENT

Hoffman Wind Project

Madison County, New York

Substation, POI, and O&M Pad Drainage Map

NOT FOR CONSTRUCTION

DATE: 01/31/2024

SHEET: 4

Appendix A

Atlas 14 Rainfall Data

NOAA Atlas 14, Volume 10, Version 3
Location name: Town of Fenner, New York, USA*
Latitude: 42.9569°, Longitude: -75.7273°
Elevation: 1594 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.283** (0.226-0.349)	**0.340** (0.271-0.420)	**0.433** (0.345-0.537)	**0.510** (0.404-0.635)	**0.617** (0.470-0.797)	**0.698** (0.520-0.917)	**0.782** (0.563-1.06)	**0.876** (0.595-1.21)	**1.01** (0.658-1.43)	**1.12** (0.710-1.61)
10-min	**0.401** (0.320-0.495)	**0.482** (0.385-0.595)	**0.614** (0.488-0.761)	**0.724** (0.572-0.901)	**0.875** (0.666-1.13)	**0.988** (0.736-1.30)	**1.11** (0.798-1.50)	**1.24** (0.842-1.71)	**1.43** (0.932-2.03)	**1.59** (1.01-2.29)
15-min	**0.472** (0.377-0.582)	**0.567** (0.452-0.700)	**0.722** (0.574-0.896)	**0.851** (0.673-1.06)	**1.03** (0.784-1.33)	**1.16** (0.866-1.53)	**1.30** (0.938-1.76)	**1.46** (0.992-2.01)	**1.68** (1.10-2.39)	**1.87** (1.18-2.69)
30-min	**0.643** (0.514-0.795)	**0.773** (0.618-0.956)	**0.986** (0.784-1.22)	**1.16** (0.918-1.45)	**1.40** (1.07-1.81)	**1.59** (1.18-2.09)	**1.78** (1.28-2.41)	**1.99** (1.36-2.75)	**2.30** (1.50-3.26)	**2.55** (1.62-3.67)
60-min	**0.815** (0.652-1.01)	**0.980** (0.783-1.21)	**1.25** (0.994-1.55)	**1.47** (1.16-1.84)	**1.78** (1.36-2.30)	**2.01** (1.50-2.64)	**2.26** (1.62-3.06)	**2.53** (1.72-3.48)	**2.92** (1.90-4.13)	**3.23** (2.05-4.66)
2-hr	**1.04** (0.835-1.27)	**1.23** (0.989-1.51)	**1.55** (1.24-1.90)	**1.81** (1.44-2.23)	**2.17** (1.66-2.78)	**2.44** (1.83-3.18)	**2.72** (1.98-3.66)	**3.04** (2.08-4.16)	**3.50** (2.30-4.92)	**3.88** (2.48-5.54)
3-hr	**1.18** (0.956-1.45)	**1.40** (1.13-1.71)	**1.74** (1.40-2.14)	**2.03** (1.62-2.50)	**2.43** (1.87-3.10)	**2.72** (2.05-3.54)	**3.04** (2.21-4.06)	**3.39** (2.33-4.61)	**3.90** (2.57-5.44)	**4.31** (2.77-6.12)
6-hr	**1.46** (1.19-1.78)	**1.72** (1.40-2.09)	**2.14** (1.73-2.61)	**2.49** (2.00-3.04)	**2.96** (2.30-3.75)	**3.32** (2.52-4.28)	**3.70** (2.72-4.91)	**4.13** (2.86-5.56)	**4.74** (3.14-6.56)	**5.24** (3.38-7.36)
12-hr	**1.78** (1.46-2.15)	**2.10** (1.72-2.53)	**2.61** (2.13-3.16)	**3.04** (2.46-3.70)	**3.63** (2.84-4.56)	**4.08** (3.11-5.20)	**4.54** (3.35-5.97)	**5.06** (3.53-6.75)	**5.80** (3.88-7.95)	**6.41** (4.17-8.92)
24-hr	**2.12** (1.75-2.54)	**2.49** (2.05-2.99)	**3.10** (2.54-3.72)	**3.60** (2.94-4.34)	**4.29** (3.38-5.35)	**4.82** (3.70-6.10)	**5.36** (3.98-6.98)	**5.96** (4.19-7.89)	**6.82** (4.59-9.26)	**7.51** (4.92-10.4)
2-day	**2.48** (2.06-2.95)	**2.89** (2.40-3.44)	**3.55** (2.94-4.24)	**4.10** (3.37-4.92)	**4.86** (3.85-6.01)	**5.44** (4.21-6.82)	**6.03** (4.51-7.78)	**6.68** (4.73-8.77)	**7.60** (5.16-10.2)	**8.33** (5.50-11.4)
3-day	**2.75** (2.30-3.26)	**3.18** (2.65-3.77)	**3.88** (3.22-4.61)	**4.45** (3.68-5.32)	**5.25** (4.18-6.45)	**5.85** (4.55-7.30)	**6.47** (4.86-8.29)	**7.15** (5.08-9.32)	**8.09** (5.51-10.8)	**8.84** (5.86-12.0)
4-day	**2.99** (2.50-3.54)	**3.43** (2.87-4.06)	**4.15** (3.46-4.92)	**4.74** (3.93-5.65)	**5.56** (4.44-6.82)	**6.19** (4.82-7.69)	**6.83** (5.13-8.70)	**7.52** (5.36-9.76)	**8.46** (5.79-11.3)	**9.22** (6.13-12.5)
7-day	**3.64** (3.06-4.27)	**4.10** (3.45-4.82)	**4.86** (4.07-5.73)	**5.50** (4.57-6.50)	**6.36** (5.10-7.73)	**7.03** (5.50-8.66)	**7.71** (5.81-9.71)	**8.41** (6.04-10.8)	**9.35** (6.44-12.4)	**10.1** (6.75-13.5)
10-day	**4.24** (3.58-4.96)	**4.74** (4.00-5.55)	**5.55** (4.66-6.52)	**6.22** (5.20-7.34)	**7.15** (5.76-8.64)	**7.87** (6.18-9.63)	**8.58** (6.48-10.7)	**9.31** (6.72-11.9)	**10.3** (7.10-13.5)	**11.0** (7.39-14.7)
20-day	**6.05** (5.15-7.03)	**6.66** (5.66-7.76)	**7.67** (6.50-8.94)	**8.50** (7.16-9.95)	**9.65** (7.82-11.6)	**10.5** (8.33-12.8)	**11.4** (8.68-14.1)	**12.3** (8.93-15.6)	**13.4** (9.33-17.4)	**14.2** (9.62-18.8)
30-day	**7.58** (6.48-8.78)	**8.30** (7.08-9.61)	**9.46** (8.04-11.0)	**10.4** (8.81-12.1)	**11.8** (9.56-14.0)	**12.8** (10.1-15.4)	**13.8** (10.5-17.0)	**14.8** (10.8-18.7)	**16.0** (11.2-20.7)	**16.9** (11.5-22.2)
45-day	**9.53** (8.18-11.0)	**10.4** (8.88-11.9)	**11.7** (9.99-13.5)	**12.8** (10.9-14.9)	**14.3** (11.7-17.0)	**15.5** (12.4-18.6)	**16.7** (12.8-20.4)	**17.8** (13.1-22.4)	**19.2** (13.5-24.7)	**20.1** (13.8-26.3)
60-day	**11.2** (9.64-12.9)	**12.1** (10.4-13.9)	**13.6** (11.6-15.6)	**14.8** (12.6-17.1)	**16.5** (13.5-19.4)	**17.8** (14.2-21.2)	**19.1** (14.6-23.2)	**20.2** (14.9-25.3)	**21.7** (15.3-27.8)	**22.7** (15.6-29.6)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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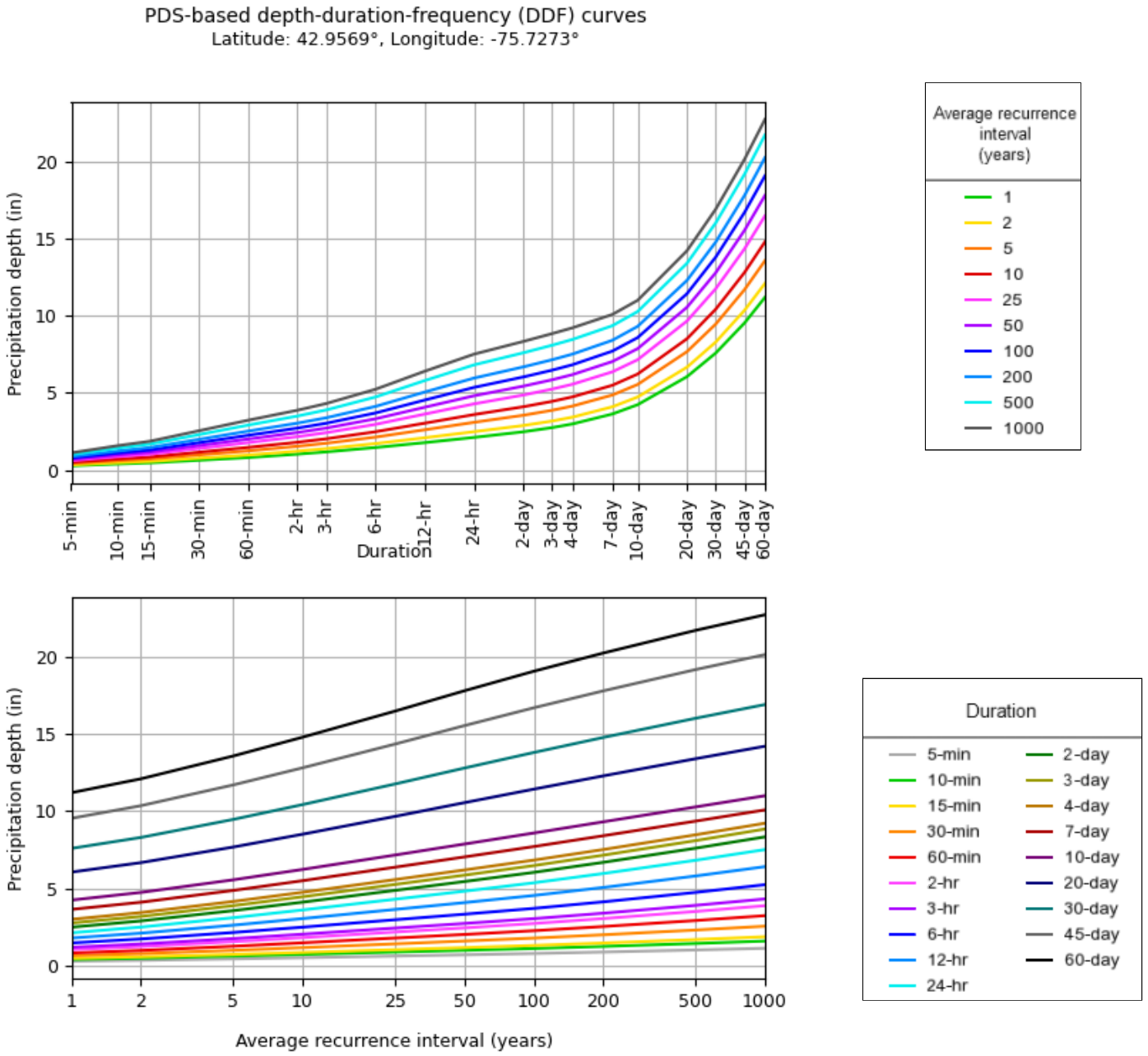
PF graphical



NOAA Atlas 14, Volume 10, Version 3

Created (GMT): Fri Jun 30 12:52:16 2023

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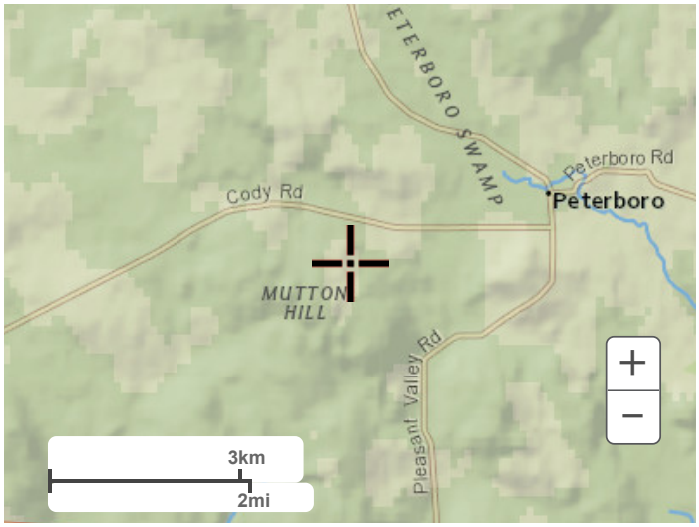
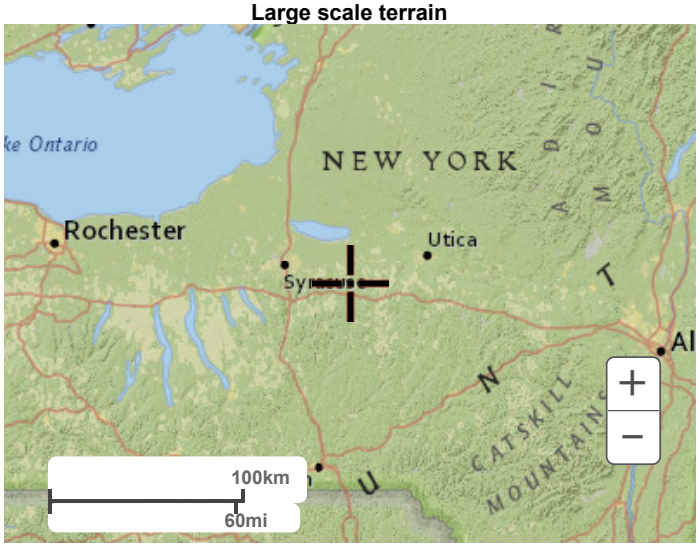
Maps & aerials

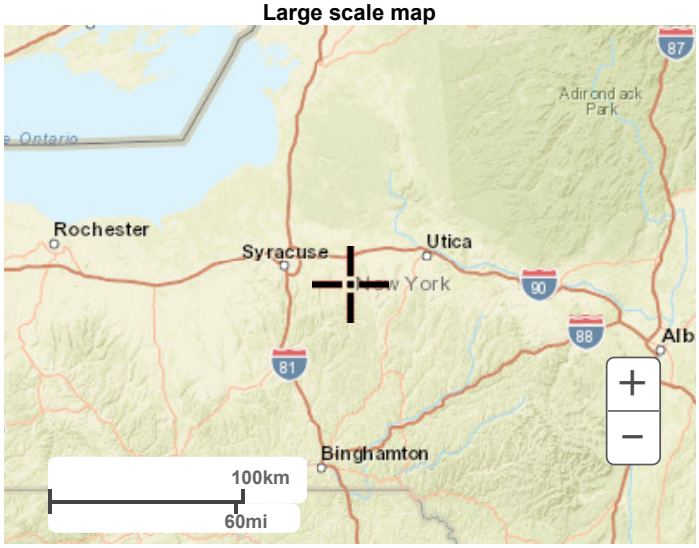
Small scale terrain



Large scale terrain



Large scale map



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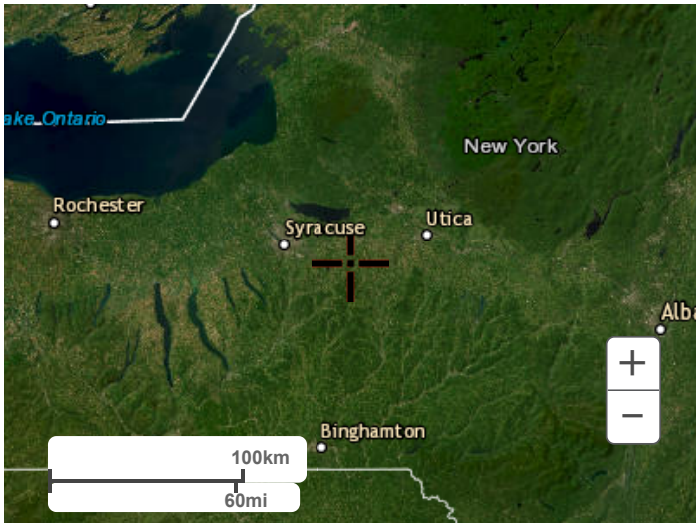

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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Appendix B

Required Water Quality and Channel Protection Volumes

State of New York Stormwater Mangement Calculator

Project: Hoffman Wind - Substation and POI

Date: 1/31/2024

By: KMZ

Step 1	**Caclulate Overall Water Quality Volume WQ_v**			
	P (90%)	1	Inches	
	Imp Surfaces	2.12	Acres	
	Rv	0.950		
	Area	2.12	Ac	
North	**WQ_v**	**0.168**	Acft	

State of New York Stormwater Mangement Calculator

Project: Hoffman Wind - O&M Pad

Date: 1/31/2024

By: KMZ

Step 1	**Caclulate Overall Water Quality Volume WQ_v**			
	P (90%)	1	Inches	
	Imp Surfaces	0.44	Acres	
	Rv	0.950		
	Area	0.44	Ac	
North	**WQ_v**	**0.035**	Acft	

State of New York Stormwater Mangement Calculator

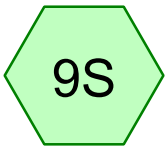
Project: Hoffman Wind - Roadside Basin

Date: 1/31/2024

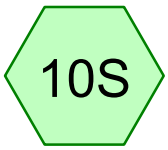
By: KMZ

Step 1	**Caclulate Overall Water Quality Volume WQ_v**			
	P (90%)	1	Inches	
	Imp Surfaces	0.47	Acres	
	Rv	0.950		
	Area	0.47	Ac	
North	**WQ_v**	**0.037**	Acft	

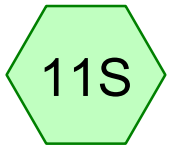
Impervious Runoff for
CPv



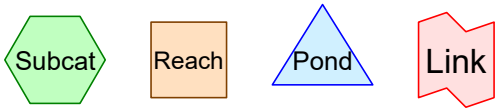
Substation and POI



O&M Pad



Roadside Runoff



Routing Diagram for 2023-10-31 Sub and O&M Pad Basins
Prepared by Westwood Professional Services, Printed 1/31/2024

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.300	98	Paved parking, HSG B (9S)
0.910	98	Paved parking, HSG D (10S, 11S)
3.210	**98**	**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	2.300	0.000	0.910	0.000	3.210	Paved parking	9S, 10S, 11S
0.000	**2.300**	**0.000**	**0.910**	**0.000**	**3.210**	**TOTAL AREA**	

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 9S: Substation and POI Runoff Area=2.300 ac 100.00% Impervious Runoff Depth=1.89"
Flow Length=167' Slope=0.0500 '/' Tc=1.6 min CN=98 Runoff=7.55 cfs 0.363 af

Subcatchment 10S: O&M Pad Runoff Area=0.440 ac 100.00% Impervious Runoff Depth=1.89"
Flow Length=846' Slope=0.0240 '/' Tc=8.5 min CN=98 Runoff=1.09 cfs 0.069 af

Subcatchment 11S: Roadside Runoff Runoff Area=0.470 ac 100.00% Impervious Runoff Depth=1.89"
Flow Length=916' Slope=0.0450 '/' Tc=6.6 min CN=98 Runoff=1.28 cfs 0.074 af

Total Runoff Area = 3.210 ac Runoff Volume = 0.506 af Average Runoff Depth = 1.89"
0.00% Pervious = 0.000 ac 100.00% Impervious = 3.210 ac

Summary for Subcatchment 9S: Substation and POI

Runoff = 7.55 cfs @ 12.00 hrs, Volume= 0.363 af, Depth= 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 1-yr Rainfall=2.12"

Area (ac)	CN	Description
2.300	98	Paved parking, HSG B
2.300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	167	0.0500	1.73		**Lag/CN Method,**

Summary for Subcatchment 10S: O&M Pad

Runoff = 1.09 cfs @ 12.06 hrs, Volume= 0.069 af, Depth= 1.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 1-yr Rainfall=2.12"

Area (ac)	CN	Description
0.440	98	Paved parking, HSG D
0.440		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	846	0.0240	1.66		**Lag/CN Method,**

Summary for Subcatchment 11S: Roadside Runoff

Runoff = 1.28 cfs @ 12.04 hrs, Volume= 0.074 af, Depth= 1.89"
Routed to nonexistent node 2R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 1-yr Rainfall=2.12"

Area (ac)	CN	Description
0.470	98	Paved parking, HSG D
0.470		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	916	0.0450	2.31		**Lag/CN Method,**

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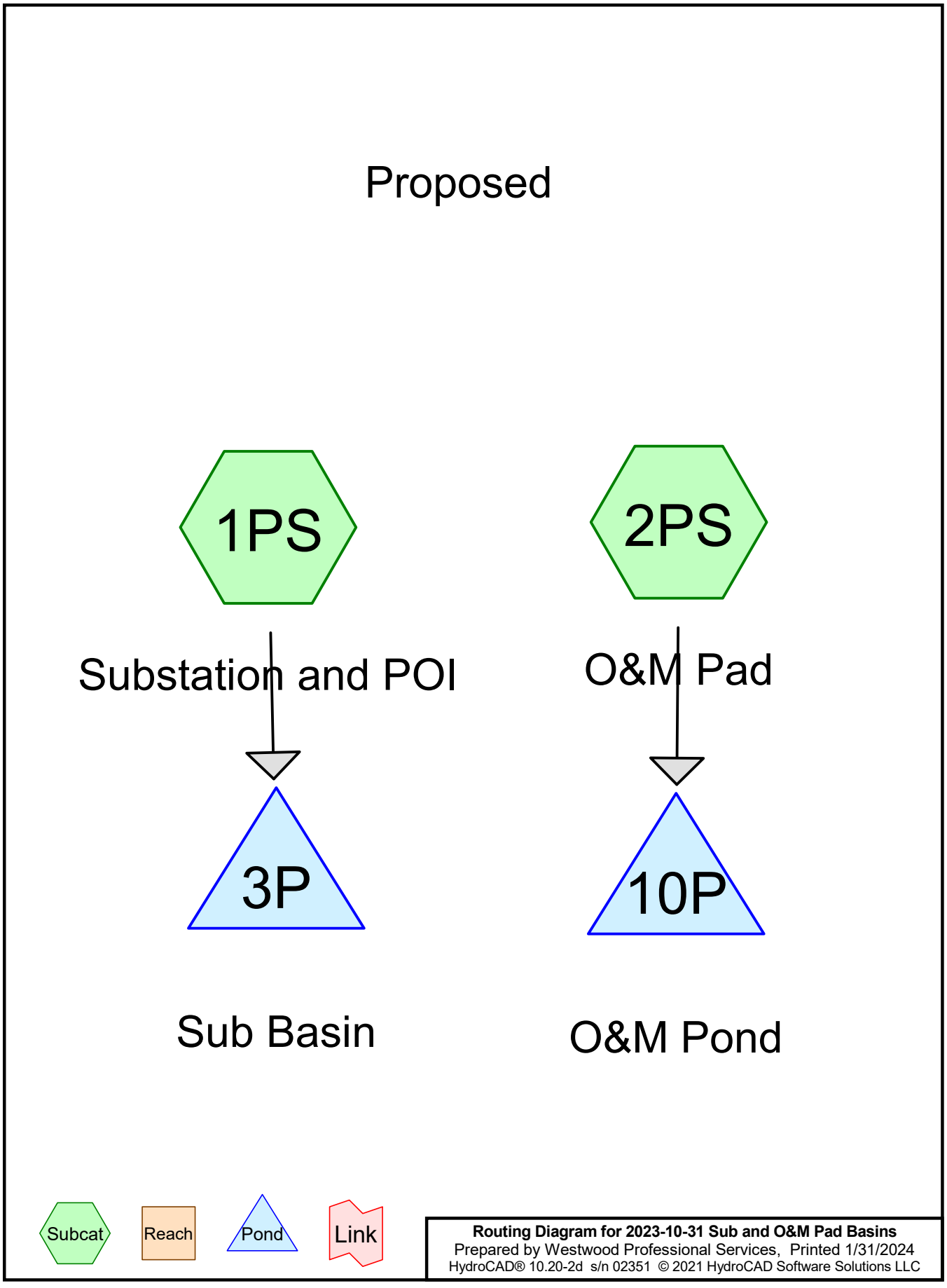
Appendix C

Provided Storage Calculations


Proposed
1PS
2PS
Substation and POI
O&M Pad
3P
10P
Sub Basin
O&M Pond
Subcat
Reach
Pond
Link
Routing Diagram for 2023-10-31 Sub and O&M Pad Basins
Prepared by Westwood Professional Services, Printed 1/31/2024
HydroCAD® 10.20-2d s/n 02351 © 2021 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.670	78	Meadow, non-grazed, HSG D (2PS)
2.300	98	Paved parking, HSG B (1PS)
0.440	98	Paved parking, HSG D (2PS)
7.300	78	Row crops, straight row, Good, HSG B (1PS)
0.900	89	Row crops, straight row, Good, HSG D (1PS)
12.610	**83**	**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	1.670	0.000	1.670	Meadow, non-grazed	2PS
0.000	2.300	0.000	0.440	0.000	2.740	Paved parking	1PS , 2PS
0.000	7.300	0.000	0.900	0.000	8.200	Row crops, straight row, Good	1PS
0.000	**9.600**	**0.000**	**3.010**	**0.000**	**12.610**	**TOTAL AREA**	

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1PS: Substation and POI Runoff Area=10.500 ac 21.90% Impervious Runoff Depth=0.78"
Flow Length=1,624' Slope=0.1100 '/' Tc=12.8 min CN=83 Runoff=8.96 cfs 0.681 af

Subcatchment 2PS: O&M Pad Runoff Area=2.110 ac 20.85% Impervious Runoff Depth=0.73"
Flow Length=846' Slope=0.0240 '/' Tc=16.8 min CN=82 Runoff=1.45 cfs 0.128 af

Pond 3P: Sub Basin Peak Elev=1,663.26' Storage=0.252 af Inflow=8.96 cfs 0.681 af
Primary=1.00 cfs 0.681 af Secondary=0.00 cfs 0.000 af Outflow=1.00 cfs 0.681 af

Pond 10P: O&M Pond Peak Elev=1,622.21' Storage=0.167 af Inflow=1.45 cfs 0.128 af
Primary=0.42 cfs 0.127 af Secondary=0.00 cfs 0.000 af Outflow=0.42 cfs 0.127 af

Total Runoff Area = 12.610 ac Runoff Volume = 0.809 af Average Runoff Depth = 0.77"
78.27% Pervious = 9.870 ac 21.73% Impervious = 2.740 ac

Summary for Subcatchment 1PS: Substation and POI

Runoff = 8.96 cfs @ 12.13 hrs, Volume= 0.681 af, Depth= 0.78"
Routed to Pond 3P : Sub Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 1-yr Rainfall=2.12"

Area (ac)	CN	Description
2.300	98	Paved parking, HSG B
0.900	89	Row crops, straight row, Good, HSG D
7.300	78	Row crops, straight row, Good, HSG B
10.500	83	Weighted Average
8.200		78.10% Pervious Area
2.300		21.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	1,624	0.1100	2.11		**Lag/CN Method,**

Summary for Subcatchment 2PS: O&M Pad

Runoff = 1.45 cfs @ 12.19 hrs, Volume= 0.128 af, Depth= 0.73"
Routed to Pond 10P : O&M Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 1-yr Rainfall=2.12"

Area (ac)	CN	Description
0.440	98	Paved parking, HSG D
1.670	78	Meadow, non-grazed, HSG D
2.110	82	Weighted Average
1.670		79.15% Pervious Area
0.440		20.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	846	0.0240	0.84		**Lag/CN Method,**

Summary for Pond 3P: Sub Basin

Inflow Area = 10.500 ac, 21.90% Impervious, Inflow Depth = 0.78" for 1-yr event
Inflow = 8.96 cfs @ 12.13 hrs, Volume= 0.681 af
Outflow = 1.00 cfs @ 11.92 hrs, Volume= 0.681 af, Atten= 89%, Lag= 0.0 min
Primary = 1.00 cfs @ 11.92 hrs, Volume= 0.681 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 1,663.26' @ 13.09 hrs Surf.Area= 0.221 ac Storage= 0.252 af

Plug-Flow detention time= 91.5 min calculated for 0.681 af (100% of inflow)
Center-of-Mass det. time= 91.5 min (960.7 - 869.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,662.00'	0.690 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,662.00	0.180	0.000	0.000
1,663.00	0.210	0.195	0.195
1,664.00	0.250	0.230	0.425
1,665.00	0.280	0.265	0.690

Device	Routing	Invert	Outlet Devices
#1	Secondary	1,664.40'	**30.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Primary	1,662.00'	**1.00 cfs Exfiltration at all elevations** Phase-In= 0.05'

Primary OutFlow Max=1.00 cfs @ 11.92 hrs HW=1,662.06' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 1.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,662.00' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 3P: Sub Basin

Elevation (feet)	Surface (acres)	Storage (acre-feet)
1,662.00	0.180	0.000
1,662.05	0.181	0.009
1,662.10	0.183	0.018
1,662.15	0.185	0.027
1,662.20	0.186	0.037
1,662.25	0.187	0.046
1,662.30	0.189	0.055
1,662.35	0.190	0.065
1,662.40	0.192	0.074
1,662.45	0.194	0.084
1,662.50	0.195	0.094
1,662.55	0.196	0.104
1,662.60	0.198	0.113
1,662.65	0.200	0.123
1,662.70	0.201	0.133
1,662.75	0.202	0.143
1,662.80	0.204	0.154
1,662.85	0.205	0.164
1,662.90	0.207	0.174
1,662.95	0.209	0.185
1,663.00	0.210	0.195
1,663.05	0.212	0.206
1,663.10	0.214	0.216
1,663.15	0.216	0.227
1,663.20	0.218	0.238
1,663.25	0.220	0.249
1,663.30	0.222	0.260
1,663.35	0.224	0.271
1,663.40	0.226	0.282
1,663.45	0.228	0.294
1,663.50	0.230	0.305
1,663.55	0.232	0.317
1,663.60	0.234	0.328
1,663.65	0.236	0.340
1,663.70	0.238	0.352
1,663.75	0.240	0.364
1,663.80	0.242	0.376
1,663.85	0.244	0.388
1,663.90	0.246	0.400
1,663.95	0.248	0.413
1,664.00	0.250	0.425
1,664.05	0.251	0.438
1,664.10	0.253	0.450
1,664.15	0.255	0.463
1,664.20	0.256	0.476
1,664.25	0.258	0.488
1,664.30	0.259	0.501
1,664.35	0.260	0.514
1,664.40	0.262	0.527
1,664.45	0.264	0.541
1,664.50	0.265	0.554
1,664.55	0.266	0.567
1,664.60	0.268	0.580
1,664.65	0.270	0.594
1,664.70	0.271	0.607
1,664.75	0.272	0.621
1,664.80	0.274	0.635
1,664.85	0.275	0.648
1,664.90	0.277	0.662
1,664.95	0.279	0.676
1,665.00	**0.280**	**0.690**

Summary for Pond 10P: O&M Pond

Inflow Area = 2.110 ac, 20.85% Impervious, Inflow Depth = 0.73" for 1-yr event
Inflow = 1.45 cfs @ 12.19 hrs, Volume= 0.128 af
Outflow = 0.42 cfs @ 12.71 hrs, Volume= 0.127 af, Atten= 71%, Lag= 30.9 min
Primary = 0.42 cfs @ 12.71 hrs, Volume= 0.127 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 1,621.70' Surf.Area= 0.070 ac Storage= 0.123 af
Peak Elev= 1,622.21' @ 12.71 hrs Surf.Area= 0.099 ac Storage= 0.167 af (0.044 af above start)

Plug-Flow detention time= 1,401.9 min calculated for 0.004 af (3% of inflow)
Center-of-Mass det. time= 133.7 min (1,011.0 - 877.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,619.00'	0.359 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,619.00	0.015	0.000	0.000
1,620.00	0.040	0.028	0.028
1,621.00	0.060	0.050	0.077
1,621.70	0.070	0.046	0.123
1,622.00	0.090	0.024	0.147
1,623.00	0.130	0.110	0.257
1,623.70	0.160	0.102	0.359

Device	Routing	Invert	Outlet Devices
#1	Primary	1,621.70'	**12.0" Round Culvert** L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,621.70' / 1,621.50' S= 0.0040 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.79 sf
#2	Secondary	1,623.20'	**20.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.42 cfs @ 12.71 hrs HW=1,622.21' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 0.42 cfs @ 1.51 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,621.70' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 10P: O&M Pond

Elevation (feet)	Surface (acres)	Storage (acre-feet)
1,619.00	0.015	0.000
1,619.05	0.016	0.001
1,619.10	0.017	0.002
1,619.15	0.019	0.003
1,619.20	0.020	0.004
1,619.25	0.021	0.005
1,619.30	0.022	0.006
1,619.35	0.024	0.007
1,619.40	0.025	0.008
1,619.45	0.026	0.009
1,619.50	0.028	0.011
1,619.55	0.029	0.012
1,619.60	0.030	0.013
1,619.65	0.031	0.015
1,619.70	0.033	0.017
1,619.75	0.034	0.018
1,619.80	0.035	0.020
1,619.85	0.036	0.022
1,619.90	0.038	0.024
1,619.95	0.039	0.026
1,620.00	0.040	0.028
1,620.05	0.041	0.030
1,620.10	0.042	0.032
1,620.15	0.043	0.034
1,620.20	0.044	0.036
1,620.25	0.045	0.038
1,620.30	0.046	0.040
1,620.35	0.047	0.043
1,620.40	0.048	0.045
1,620.45	0.049	0.048
1,620.50	0.050	0.050
1,620.55	0.051	0.053
1,620.60	0.052	0.055
1,620.65	0.053	0.058
1,620.70	0.054	0.060
1,620.75	0.055	0.063
1,620.80	0.056	0.066
1,620.85	0.057	0.069
1,620.90	0.058	0.072
1,620.95	0.059	0.075
1,621.00	0.060	0.077
1,621.05	0.061	0.081
1,621.10	0.061	0.084
1,621.15	0.062	0.087
1,621.20	0.063	0.090
1,621.25	0.064	0.093
1,621.30	0.064	0.096
1,621.35	0.065	0.099
1,621.40	0.066	0.103
1,621.45	0.066	0.106
1,621.50	0.067	0.109
1,621.55	0.068	0.113
1,621.60	0.069	0.116
1,621.65	0.069	0.120
1,621.70	0.070	0.123
1,621.75	0.073	0.127
1,621.80	0.077	0.130
1,621.85	0.080	0.134
1,621.90	0.083	0.138
1,621.95	0.087	0.143
1,622.00	0.090	0.147
1,622.05	0.092	0.152
1,622.10	0.094	0.156
1,622.15	0.096	0.161
1,622.20	0.098	0.166
1,622.25	0.100	0.171
1,622.30	0.102	0.176
1,622.35	0.104	0.181
1,622.40	0.106	0.186
1,622.45	0.108	0.192
1,622.50	0.110	0.197
1,622.55	0.112	0.203
1,622.60	0.114	0.208
1,622.65	0.116	0.214
1,622.70	0.118	0.220
1,622.75	0.120	0.226
1,622.80	0.122	0.232
1,622.85	0.124	0.238
1,622.90	0.126	0.244
1,622.95	0.128	0.251
1,623.00	0.130	0.257
1,623.05	0.132	0.264
1,623.10	0.134	0.270
1,623.15	0.136	0.277
1,623.20	0.139	0.284
1,623.25	0.141	0.291
1,623.30	0.143	0.298
1,623.35	0.145	0.305
1,623.40	0.147	0.312
1,623.45	0.149	0.320
1,623.50	0.151	0.327
1,623.55	0.154	0.335
1,623.60	0.156	0.343
1,623.65	0.158	0.351
1,623.70	**0.160**	**0.359**

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1PS: Substation and POI Runoff Area=10.500 ac 21.90% Impervious Runoff Depth=1.94"
Flow Length=1,624' Slope=0.1100 '/' Tc=12.8 min CN=83 Runoff=23.52 cfs 1.700 af

Subcatchment 2PS: O&M Pad Runoff Area=2.110 ac 20.85% Impervious Runoff Depth=1.87"
Flow Length=846' Slope=0.0240 '/' Tc=16.8 min CN=82 Runoff=3.93 cfs 0.328 af

Pond 3P: Sub Basin Peak Elev=1,664.61' Storage=0.582 af Inflow=23.52 cfs 1.700 af
Primary=1.00 cfs 1.337 af Secondary=7.83 cfs 0.363 af Outflow=8.83 cfs 1.700 af

Pond 10P: O&M Pond Peak Elev=1,622.78' Storage=0.230 af Inflow=3.93 cfs 0.328 af
Primary=1.49 cfs 0.326 af Secondary=0.00 cfs 0.000 af Outflow=1.49 cfs 0.326 af

Total Runoff Area = 12.610 ac Runoff Volume = 2.028 af Average Runoff Depth = 1.93"
78.27% Pervious = 9.870 ac 21.73% Impervious = 2.740 ac

Summary for Subcatchment 1PS: Substation and POI

Runoff = 23.52 cfs @ 12.13 hrs, Volume= 1.700 af, Depth= 1.94"
Routed to Pond 3P : Sub Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 10-yr Rainfall=3.60"

Area (ac)	CN	Description
2.300	98	Paved parking, HSG B
0.900	89	Row crops, straight row, Good, HSG D
7.300	78	Row crops, straight row, Good, HSG B
10.500	83	Weighted Average
8.200		78.10% Pervious Area
2.300		21.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	1,624	0.1100	2.11		**Lag/CN Method,**

Summary for Subcatchment 2PS: O&M Pad

Runoff = 3.93 cfs @ 12.19 hrs, Volume= 0.328 af, Depth= 1.87"
Routed to Pond 10P : O&M Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 10-yr Rainfall=3.60"

Area (ac)	CN	Description
0.440	98	Paved parking, HSG D
1.670	78	Meadow, non-grazed, HSG D
2.110	82	Weighted Average
1.670		79.15% Pervious Area
0.440		20.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	846	0.0240	0.84		**Lag/CN Method,**

Summary for Pond 3P: Sub Basin

Inflow Area = 10.500 ac, 21.90% Impervious, Inflow Depth = 1.94" for 10-yr event
Inflow = 23.52 cfs @ 12.13 hrs, Volume= 1.700 af
Outflow = 8.83 cfs @ 12.41 hrs, Volume= 1.700 af, Atten= 62%, Lag= 17.1 min
Primary = 1.00 cfs @ 11.41 hrs, Volume= 1.337 af
Secondary = 7.83 cfs @ 12.41 hrs, Volume= 0.363 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 1,664.61' @ 12.41 hrs Surf.Area= 0.268 ac Storage= 0.582 af

Plug-Flow detention time= 192.4 min calculated for 1.700 af (100% of inflow)
Center-of-Mass det. time= 192.4 min (1,033.0 - 840.6)

Volume	Invert	Avail.Storage	Storage Description
#1	1,662.00'	0.690 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,662.00	0.180	0.000	0.000
1,663.00	0.210	0.195	0.195
1,664.00	0.250	0.230	0.425
1,665.00	0.280	0.265	0.690

Device	Routing	Invert	Outlet Devices
#1	Secondary	1,664.40'	**30.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Primary	1,662.00'	**1.00 cfs Exfiltration at all elevations** Phase-In= 0.05'

Primary OutFlow Max=1.00 cfs @ 11.41 hrs HW=1,662.06' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 1.00 cfs)

Secondary OutFlow Max=7.81 cfs @ 12.41 hrs HW=1,664.61' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 7.81 cfs @ 1.27 fps)

Stage-Area-Storage for Pond 3P: Sub Basin

Elevation (feet)	Surface (acres)	Storage (acre-feet)
1,662.00	0.180	0.000
1,662.05	0.181	0.009
1,662.10	0.183	0.018
1,662.15	0.185	0.027
1,662.20	0.186	0.037
1,662.25	0.187	0.046
1,662.30	0.189	0.055
1,662.35	0.190	0.065
1,662.40	0.192	0.074
1,662.45	0.194	0.084
1,662.50	0.195	0.094
1,662.55	0.196	0.104
1,662.60	0.198	0.113
1,662.65	0.200	0.123
1,662.70	0.201	0.133
1,662.75	0.202	0.143
1,662.80	0.204	0.154
1,662.85	0.205	0.164
1,662.90	0.207	0.174
1,662.95	0.209	0.185
1,663.00	0.210	0.195
1,663.05	0.212	0.206
1,663.10	0.214	0.216
1,663.15	0.216	0.227
1,663.20	0.218	0.238
1,663.25	0.220	0.249
1,663.30	0.222	0.260
1,663.35	0.224	0.271
1,663.40	0.226	0.282
1,663.45	0.228	0.294
1,663.50	0.230	0.305
1,663.55	0.232	0.317
1,663.60	0.234	0.328
1,663.65	0.236	0.340
1,663.70	0.238	0.352
1,663.75	0.240	0.364
1,663.80	0.242	0.376
1,663.85	0.244	0.388
1,663.90	0.246	0.400
1,663.95	0.248	0.413
1,664.00	0.250	0.425
1,664.05	0.251	0.438
1,664.10	0.253	0.450
1,664.15	0.255	0.463
1,664.20	0.256	0.476
1,664.25	0.258	0.488
1,664.30	0.259	0.501
1,664.35	0.260	0.514
1,664.40	0.262	0.527
1,664.45	0.264	0.541
1,664.50	0.265	0.554
1,664.55	0.266	0.567
1,664.60	0.268	0.580
1,664.65	0.270	0.594
1,664.70	0.271	0.607
1,664.75	0.272	0.621
1,664.80	0.274	0.635
1,664.85	0.275	0.648
1,664.90	0.277	0.662
1,664.95	0.279	0.676
1,665.00	**0.280**	**0.690**

Summary for Pond 10P: O&M Pond

Inflow Area = 2.110 ac, 20.85% Impervious, Inflow Depth = 1.87" for 10-yr event
Inflow = 3.93 cfs @ 12.19 hrs, Volume= 0.328 af
Outflow = 1.49 cfs @ 12.55 hrs, Volume= 0.326 af, Atten= 62%, Lag= 21.5 min
Primary = 1.49 cfs @ 12.55 hrs, Volume= 0.326 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 1,621.70' Surf.Area= 0.070 ac Storage= 0.123 af
Peak Elev= 1,622.78' @ 12.55 hrs Surf.Area= 0.121 ac Storage= 0.230 af (0.107 af above start)

Plug-Flow detention time= 316.3 min calculated for 0.203 af (62% of inflow)
Center-of-Mass det. time= 88.8 min (936.5 - 847.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,619.00'	0.359 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,619.00	0.015	0.000	0.000
1,620.00	0.040	0.028	0.028
1,621.00	0.060	0.050	0.077
1,621.70	0.070	0.046	0.123
1,622.00	0.090	0.024	0.147
1,623.00	0.130	0.110	0.257
1,623.70	0.160	0.102	0.359

Device	Routing	Invert	Outlet Devices
#1	Primary	1,621.70'	**12.0" Round Culvert** L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,621.70' / 1,621.50' S= 0.0040 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.79 sf
#2	Secondary	1,623.20'	**20.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.49 cfs @ 12.55 hrs HW=1,622.78' (Free Discharge)
1=Culvert (Barrel Controls 1.49 cfs @ 2.18 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,621.70' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Stage-Area-Storage for Pond 10P: O&M Pond

Elevation (feet)	Surface (acres)	Storage (acre-feet)
1,619.00	0.015	0.000
1,619.05	0.016	0.001
1,619.10	0.017	0.002
1,619.15	0.019	0.003
1,619.20	0.020	0.004
1,619.25	0.021	0.005
1,619.30	0.022	0.006
1,619.35	0.024	0.007
1,619.40	0.025	0.008
1,619.45	0.026	0.009
1,619.50	0.028	0.011
1,619.55	0.029	0.012
1,619.60	0.030	0.013
1,619.65	0.031	0.015
1,619.70	0.033	0.017
1,619.75	0.034	0.018
1,619.80	0.035	0.020
1,619.85	0.036	0.022
1,619.90	0.038	0.024
1,619.95	0.039	0.026
1,620.00	0.040	0.028
1,620.05	0.041	0.030
1,620.10	0.042	0.032
1,620.15	0.043	0.034
1,620.20	0.044	0.036
1,620.25	0.045	0.038
1,620.30	0.046	0.040
1,620.35	0.047	0.043
1,620.40	0.048	0.045
1,620.45	0.049	0.048
1,620.50	0.050	0.050
1,620.55	0.051	0.053
1,620.60	0.052	0.055
1,620.65	0.053	0.058
1,620.70	0.054	0.060
1,620.75	0.055	0.063
1,620.80	0.056	0.066
1,620.85	0.057	0.069
1,620.90	0.058	0.072
1,620.95	0.059	0.075
1,621.00	0.060	0.077
1,621.05	0.061	0.081
1,621.10	0.061	0.084
1,621.15	0.062	0.087
1,621.20	0.063	0.090
1,621.25	0.064	0.093
1,621.30	0.064	0.096
1,621.35	0.065	0.099
1,621.40	0.066	0.103
1,621.45	0.066	0.106
1,621.50	0.067	0.109
1,621.55	0.068	0.113
1,621.60	0.069	0.116
1,621.65	0.069	0.120
1,621.70	0.070	0.123
1,621.75	0.073	0.127
1,621.80	0.077	0.130
1,621.85	0.080	0.134
1,621.90	0.083	0.138
1,621.95	0.087	0.143
1,622.00	0.090	0.147
1,622.05	0.092	0.152
1,622.10	0.094	0.156
1,622.15	0.096	0.161
1,622.20	0.098	0.166
1,622.25	0.100	0.171
1,622.30	0.102	0.176
1,622.35	0.104	0.181
1,622.40	0.106	0.186
1,622.45	0.108	0.192
1,622.50	0.110	0.197
1,622.55	0.112	0.203
1,622.60	0.114	0.208
1,622.65	0.116	0.214
1,622.70	0.118	0.220
1,622.75	0.120	0.226
1,622.80	0.122	0.232
1,622.85	0.124	0.238
1,622.90	0.126	0.244
1,622.95	0.128	0.251
1,623.00	0.130	0.257
1,623.05	0.132	0.264
1,623.10	0.134	0.270
1,623.15	0.136	0.277
1,623.20	0.139	0.284
1,623.25	0.141	0.291
1,623.30	0.143	0.298
1,623.35	0.145	0.305
1,623.40	0.147	0.312
1,623.45	0.149	0.320
1,623.50	0.151	0.327
1,623.55	0.154	0.335
1,623.60	0.156	0.343
1,623.65	0.158	0.351
1,623.70	**0.160**	**0.359**

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1PS: Substation and POI Runoff Area=10.500 ac 21.90% Impervious Runoff Depth=3.50"
Flow Length=1,624' Slope=0.1100 '/' Tc=12.8 min CN=83 Runoff=42.42 cfs 3.064 af

Subcatchment 2PS: O&M Pad Runoff Area=2.110 ac 20.85% Impervious Runoff Depth=3.40"
Flow Length=846' Slope=0.0240 '/' Tc=16.8 min CN=82 Runoff=7.20 cfs 0.598 af

Pond 3P: Sub Basin Peak Elev=1,664.94' Storage=0.673 af Inflow=42.42 cfs 3.064 af
Primary=1.00 cfs 1.672 af Secondary=36.00 cfs 1.392 af Outflow=37.00 cfs 3.064 af

Pond 10P: O&M Pond Peak Elev=1,623.31' Storage=0.300 af Inflow=7.20 cfs 0.598 af
Primary=2.05 cfs 0.551 af Secondary=2.11 cfs 0.045 af Outflow=4.15 cfs 0.597 af

Total Runoff Area = 12.610 ac Runoff Volume = 3.662 af Average Runoff Depth = 3.49"
78.27% Pervious = 9.870 ac 21.73% Impervious = 2.740 ac

Summary for Subcatchment 1PS: Substation and POI

Runoff = 42.42 cfs @ 12.13 hrs, Volume= 3.064 af, Depth= 3.50"
Routed to Pond 3P : Sub Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr Rainfall=5.36"

Area (ac)	CN	Description
2.300	98	Paved parking, HSG B
0.900	89	Row crops, straight row, Good, HSG D
7.300	78	Row crops, straight row, Good, HSG B
10.500	83	Weighted Average
8.200		78.10% Pervious Area
2.300		21.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	1,624	0.1100	2.11		**Lag/CN Method,**

Summary for Subcatchment 2PS: O&M Pad

Runoff = 7.20 cfs @ 12.18 hrs, Volume= 0.598 af, Depth= 3.40"
Routed to Pond 10P : O&M Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr Rainfall=5.36"

Area (ac)	CN	Description
0.440	98	Paved parking, HSG D
1.670	78	Meadow, non-grazed, HSG D
2.110	82	Weighted Average
1.670		79.15% Pervious Area
0.440		20.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	846	0.0240	0.84		**Lag/CN Method,**

Summary for Pond 3P: Sub Basin

Inflow Area = 10.500 ac, 21.90% Impervious, Inflow Depth = 3.50" for 100-yr event
Inflow = 42.42 cfs @ 12.13 hrs, Volume= 3.064 af
Outflow = 37.00 cfs @ 12.19 hrs, Volume= 3.064 af, Atten= 13%, Lag= 3.6 min
Primary = 1.00 cfs @ 10.37 hrs, Volume= 1.672 af
Secondary = 36.00 cfs @ 12.19 hrs, Volume= 1.392 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 1,664.94' @ 12.19 hrs Surf.Area= 0.278 ac Storage= 0.673 af

Plug-Flow detention time= 143.5 min calculated for 3.064 af (100% of inflow)
Center-of-Mass det. time= 143.4 min (965.9 - 822.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,662.00'	0.690 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,662.00	0.180	0.000	0.000
1,663.00	0.210	0.195	0.195
1,664.00	0.250	0.230	0.425
1,665.00	0.280	0.265	0.690

Device	Routing	Invert	Outlet Devices
#1	Secondary	1,664.40'	**30.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Primary	1,662.00'	**1.00 cfs Exfiltration at all elevations** Phase-In= 0.05'

Primary OutFlow Max=1.00 cfs @ 10.37 hrs HW=1,662.06' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 1.00 cfs)

Secondary OutFlow Max=35.95 cfs @ 12.19 hrs HW=1,664.94' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 35.95 cfs @ 2.22 fps)

Stage-Area-Storage for Pond 3P: Sub Basin

Elevation (feet)	Surface (acres)	Storage (acre-feet)
1,662.00	0.180	0.000
1,662.05	0.181	0.009
1,662.10	0.183	0.018
1,662.15	0.185	0.027
1,662.20	0.186	0.037
1,662.25	0.187	0.046
1,662.30	0.189	0.055
1,662.35	0.190	0.065
1,662.40	0.192	0.074
1,662.45	0.194	0.084
1,662.50	0.195	0.094
1,662.55	0.196	0.104
1,662.60	0.198	0.113
1,662.65	0.200	0.123
1,662.70	0.201	0.133
1,662.75	0.202	0.143
1,662.80	0.204	0.154
1,662.85	0.205	0.164
1,662.90	0.207	0.174
1,662.95	0.209	0.185
1,663.00	0.210	0.195
1,663.05	0.212	0.206
1,663.10	0.214	0.216
1,663.15	0.216	0.227
1,663.20	0.218	0.238
1,663.25	0.220	0.249
1,663.30	0.222	0.260
1,663.35	0.224	0.271
1,663.40	0.226	0.282
1,663.45	0.228	0.294
1,663.50	0.230	0.305
1,663.55	0.232	0.317
1,663.60	0.234	0.328
1,663.65	0.236	0.340
1,663.70	0.238	0.352
1,663.75	0.240	0.364
1,663.80	0.242	0.376
1,663.85	0.244	0.388
1,663.90	0.246	0.400
1,663.95	0.248	0.413
1,664.00	0.250	0.425
1,664.05	0.251	0.438
1,664.10	0.253	0.450
1,664.15	0.255	0.463
1,664.20	0.256	0.476
1,664.25	0.258	0.488
1,664.30	0.259	0.501
1,664.35	0.260	0.514
1,664.40	0.262	0.527
1,664.45	0.264	0.541
1,664.50	0.265	0.554
1,664.55	0.266	0.567
1,664.60	0.268	0.580
1,664.65	0.270	0.594
1,664.70	0.271	0.607
1,664.75	0.272	0.621
1,664.80	0.274	0.635
1,664.85	0.275	0.648
1,664.90	0.277	0.662
1,664.95	0.279	0.676
1,665.00	**0.280**	**0.690**

Summary for Pond 10P: O&M Pond

Inflow Area = 2.110 ac, 20.85% Impervious, Inflow Depth = 3.40" for 100-yr event
Inflow = 7.20 cfs @ 12.18 hrs, Volume= 0.598 af
Outflow = 4.15 cfs @ 12.38 hrs, Volume= 0.597 af, Atten= 42%, Lag= 11.6 min
Primary = 2.05 cfs @ 12.38 hrs, Volume= 0.551 af
Secondary = 2.11 cfs @ 12.38 hrs, Volume= 0.045 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 1,621.70' Surf.Area= 0.070 ac Storage= 0.123 af
Peak Elev= 1,623.31' @ 12.38 hrs Surf.Area= 0.143 ac Storage= 0.300 af (0.177 af above start)

Plug-Flow detention time= 207.3 min calculated for 0.474 af (79% of inflow)
Center-of-Mass det. time= 73.1 min (902.3 - 829.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,619.00'	0.359 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,619.00	0.015	0.000	0.000
1,620.00	0.040	0.028	0.028
1,621.00	0.060	0.050	0.077
1,621.70	0.070	0.046	0.123
1,622.00	0.090	0.024	0.147
1,623.00	0.130	0.110	0.257
1,623.70	0.160	0.102	0.359

Device	Routing	Invert	Outlet Devices
#1	Primary	1,621.70'	**12.0" Round Culvert** L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,621.70' / 1,621.50' S= 0.0040 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.79 sf
#2	Secondary	1,623.20'	**20.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=2.05 cfs @ 12.38 hrs HW=1,623.31' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 2.05 cfs @ 2.60 fps)

Secondary OutFlow Max=2.08 cfs @ 12.38 hrs HW=1,623.31' (Free Discharge)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 2.08 cfs @ 0.93 fps)

Stage-Area-Storage for Pond 10P: O&M Pond

Elevation (feet)	Surface (acres)	Storage (acre-feet)
1,619.00	0.015	0.000
1,619.05	0.016	0.001
1,619.10	0.017	0.002
1,619.15	0.019	0.003
1,619.20	0.020	0.004
1,619.25	0.021	0.005
1,619.30	0.022	0.006
1,619.35	0.024	0.007
1,619.40	0.025	0.008
1,619.45	0.026	0.009
1,619.50	0.028	0.011
1,619.55	0.029	0.012
1,619.60	0.030	0.013
1,619.65	0.031	0.015
1,619.70	0.033	0.017
1,619.75	0.034	0.018
1,619.80	0.035	0.020
1,619.85	0.036	0.022
1,619.90	0.038	0.024
1,619.95	0.039	0.026
1,620.00	0.040	0.028
1,620.05	0.041	0.030
1,620.10	0.042	0.032
1,620.15	0.043	0.034
1,620.20	0.044	0.036
1,620.25	0.045	0.038
1,620.30	0.046	0.040
1,620.35	0.047	0.043
1,620.40	0.048	0.045
1,620.45	0.049	0.048
1,620.50	0.050	0.050
1,620.55	0.051	0.053
1,620.60	0.052	0.055
1,620.65	0.053	0.058
1,620.70	0.054	0.060
1,620.75	0.055	0.063
1,620.80	0.056	0.066
1,620.85	0.057	0.069
1,620.90	0.058	0.072
1,620.95	0.059	0.075
1,621.00	0.060	0.077
1,621.05	0.061	0.081
1,621.10	0.061	0.084
1,621.15	0.062	0.087
1,621.20	0.063	0.090
1,621.25	0.064	0.093
1,621.30	0.064	0.096
1,621.35	0.065	0.099
1,621.40	0.066	0.103
1,621.45	0.066	0.106
1,621.50	0.067	0.109
1,621.55	0.068	0.113
1,621.60	0.069	0.116
1,621.65	0.069	0.120
1,621.70	0.070	0.123
1,621.75	0.073	0.127
1,621.80	0.077	0.130
1,621.85	0.080	0.134
1,621.90	0.083	0.138
1,621.95	0.087	0.143
1,622.00	0.090	0.147
1,622.05	0.092	0.152
1,622.10	0.094	0.156
1,622.15	0.096	0.161
1,622.20	0.098	0.166
1,622.25	0.100	0.171
1,622.30	0.102	0.176
1,622.35	0.104	0.181
1,622.40	0.106	0.186
1,622.45	0.108	0.192
1,622.50	0.110	0.197
1,622.55	0.112	0.203
1,622.60	0.114	0.208
1,622.65	0.116	0.214
1,622.70	0.118	0.220
1,622.75	0.120	0.226
1,622.80	0.122	0.232
1,622.85	0.124	0.238
1,622.90	0.126	0.244
1,622.95	0.128	0.251
1,623.00	0.130	0.257
1,623.05	0.132	0.264
1,623.10	0.134	0.270
1,623.15	0.136	0.277
1,623.20	0.139	0.284
1,623.25	0.141	0.291
1,623.30	0.143	0.298
1,623.35	0.145	0.305
1,623.40	0.147	0.312
1,623.45	0.149	0.320
1,623.50	0.151	0.327
1,623.55	0.154	0.335
1,623.60	0.156	0.343
1,623.65	0.158	0.351
1,623.70	**0.160**	**0.359**

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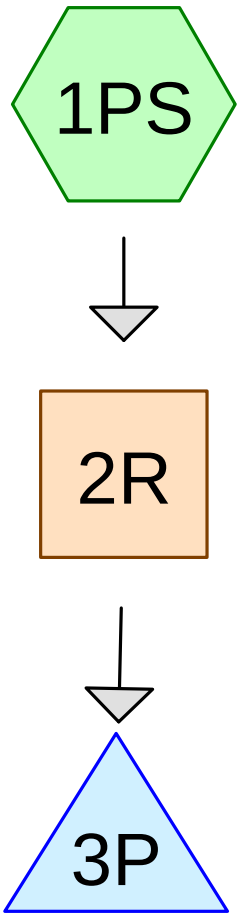
Proposed



Roadside Filtration Basin

Subcat Reach Pond Link

Routing Diagram for 2024-01-22 Filtration Basins
Prepared by Westwood Professional Services, Printed 1/30/2024

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.470	98	Paved parking, HSG D (1PS)
5.370	77	Woods, Good, HSG D (1PS)
5.840	**79**	**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.470	0.000	0.470	Paved parking	1PS
0.000	0.000	0.000	5.370	0.000	5.370	Woods, Good	1PS
0.000	**0.000**	**0.000**	**5.840**	**0.000**	**5.840**	**TOTAL AREA**	

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1PS: Runoff Area=5.840 ac 8.05% Impervious Runoff Depth=0.59"
Flow Length=916' Slope=0.0450 '/' Tc=14.4 min CN=79 Runoff=3.34 cfs 0.289 af

Reach 2R: Avg. Flow Depth=0.35' Max Vel=4.39 fps Inflow=3.34 cfs 0.289 af
n=0.022 L=820.0' S=0.0311 '/' Capacity=31.83 cfs Outflow=3.17 cfs 0.289 af

Pond 3P: Roadside Filtration Basin Peak Elev=1,644.84' Storage=0.114 af Inflow=3.17 cfs 0.289 af
Primary=0.34 cfs 0.289 af Secondary=0.00 cfs 0.000 af Outflow=0.34 cfs 0.289 af

Total Runoff Area = 5.840 ac Runoff Volume = 0.289 af Average Runoff Depth = 0.59"
91.95% Pervious = 5.370 ac 8.05% Impervious = 0.470 ac

Summary for Subcatchment 1PS:

Runoff = 3.34 cfs @ 12.17 hrs, Volume= 0.289 af, Depth= 0.59"
Routed to Reach 2R :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 1-yr Rainfall=2.12"

Area (ac)	CN	Description
5.370	77	Woods, Good, HSG D
0.470	98	Paved parking, HSG D
5.840	79	Weighted Average
5.370		91.95% Pervious Area
0.470		8.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	916	0.0450	1.06		**Lag/CN Method,**

Summary for Reach 2R:

Inflow Area = 5.840 ac, 8.05% Impervious, Inflow Depth = 0.59" for 1-yr event
Inflow = 3.34 cfs @ 12.17 hrs, Volume= 0.289 af
Outflow = 3.17 cfs @ 12.26 hrs, Volume= 0.289 af, Atten= 5%, Lag= 5.6 min
Routed to Pond 3P : Roadside Filtration Basin

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 4.39 fps, Min. Travel Time= 3.1 min
Avg. Velocity = 1.69 fps, Avg. Travel Time= 8.1 min

Peak Storage= 592 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.35' , Surface Width= 3.11'
Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 31.83 cfs

1.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 7.00'
Length= 820.0' Slope= 0.0311 '/'
Inlet Invert= 1,670.00', Outlet Invert= 1,644.50'

Stage-Area-Storage for Reach 2R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
1,670.00	0.0	0
1,670.01	0.0	8
1,670.02	0.0	17
1,670.03	0.0	27
1,670.04	0.0	37
1,670.05	0.1	47
1,670.06	0.1	58
1,670.07	0.1	69
1,670.08	0.1	81
1,670.09	0.1	94
1,670.10	0.1	107
1,670.11	0.1	120
1,670.12	0.2	134
1,670.13	0.2	148
1,670.14	0.2	163
1,670.15	0.2	178
1,670.16	0.2	194
1,670.17	0.3	210
1,670.18	0.3	227
1,670.19	0.3	245
1,670.20	0.3	262
1,670.21	0.3	281
1,670.22	0.4	299
1,670.23	0.4	319
1,670.24	0.4	338
1,670.25	0.4	359
1,670.26	0.5	379
1,670.27	0.5	401
1,670.28	0.5	422
1,670.29	0.5	445
1,670.30	0.6	467
1,670.31	0.6	491
1,670.32	0.6	514
1,670.33	0.7	538
1,670.34	0.7	563
1,670.35	0.7	588
1,670.36	0.7	614
1,670.37	0.8	640
1,670.38	0.8	667
1,670.39	0.8	694
1,670.40	0.9	722
1,670.41	0.9	750
1,670.42	0.9	778
1,670.43	1.0	807
1,670.44	1.0	837
1,670.45	1.1	867
1,670.46	1.1	898
1,670.47	1.1	929
1,670.48	1.2	960
1,670.49	1.2	992
1,670.50	1.3	1,025
1,670.51	1.3	1,058
1,670.52	1.3	1,092
1,670.53	1.4	1,126
1,670.54	1.4	1,160
1,670.55	1.5	1,195
1,670.56	1.5	1,231
1,670.57	1.5	1,267
1,670.58	1.6	1,303
1,670.59	1.6	1,340
1,670.60	1.7	1,378
1,670.61	1.7	1,416
1,670.62	1.8	1,454
1,670.63	1.8	1,493
1,670.64	1.9	1,532
1,670.65	1.9	1,572
1,670.66	2.0	1,613
1,670.67	2.0	1,654
1,670.68	2.1	1,695
1,670.69	2.1	1,737
1,670.70	2.2	1,779
1,670.71	2.2	1,822
1,670.72	2.3	1,866
1,670.73	2.3	1,910
1,670.74	2.4	1,954
1,670.75	2.4	1,999
1,670.76	2.5	2,044
1,670.77	2.5	2,090
1,670.78	2.6	2,136
1,670.79	2.7	2,183
1,670.80	2.7	2,230
1,670.81	2.8	2,278
1,670.82	2.8	2,327
1,670.83	2.9	2,375
1,670.84	3.0	2,425
1,670.85	3.0	2,474
1,670.86	3.1	2,525
1,670.87	3.1	2,575
1,670.88	3.2	2,627
1,670.89	3.3	2,678
1,670.90	3.3	2,731
1,670.91	3.4	2,783
1,670.92	3.5	2,837
1,670.93	3.5	2,890
1,670.94	3.6	2,944
1,670.95	3.7	2,999
1,670.96	3.7	3,054
1,670.97	3.8	3,110
1,670.98	3.9	3,166
1,670.99	3.9	3,223
1,671.00	**4.0**	**3,280**

Summary for Pond 3P: Roadside Filtration Basin

Inflow Area = 5.840 ac, 8.05% Impervious, Inflow Depth = 0.59" for 1-yr event
Inflow = 3.17 cfs @ 12.26 hrs, Volume= 0.289 af
Outflow = 0.34 cfs @ 13.71 hrs, Volume= 0.289 af, Atten= 89%, Lag= 87.2 min
Primary = 0.34 cfs @ 13.71 hrs, Volume= 0.289 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 1,644.84' @ 13.71 hrs Surf.Area= 0.341 ac Storage= 0.114 af

Plug-Flow detention time= 144.8 min calculated for 0.289 af (100% of inflow)
Center-of-Mass det. time= 144.8 min (1,041.9 - 897.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,644.50'	0.557 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,644.50	0.320	0.000	0.000
1,645.00	0.350	0.167	0.167
1,645.50	0.390	0.185	0.353
1,646.00	0.430	0.205	0.557

Device	Routing	Invert	Outlet Devices
#1	Secondary	1,645.50'	**30.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Primary	1,641.50'	**6.0" Round Culvert** L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,641.50' / 1,641.00' S= 0.0100 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.20 sf
#3	Device 2	1,644.50'	**1.000 in/hr Exfiltration over Surface area** Phase-In= 0.05'

Primary OutFlow Max=0.34 cfs @ 13.71 hrs HW=1,644.84' (Free Discharge)
↑—**2=Culvert** (Passes 0.34 cfs of 0.71 cfs potential flow)
↑—**3=Exfiltration** (Exfiltration Controls 0.34 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,644.50' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Stage-Area-Storage for Pond 3P: Roadside Filtration Basin

Elevation (feet)	Surface (acres)	Storage (acre-feet)
1,644.50	0.320	0.000
1,644.52	0.321	0.006
1,644.54	0.322	0.013
1,644.56	0.324	0.019
1,644.58	0.325	0.026
1,644.60	0.326	0.032
1,644.62	0.327	0.039
1,644.64	0.328	0.045
1,644.66	0.330	0.052
1,644.68	0.331	0.059
1,644.70	0.332	0.065
1,644.72	0.333	0.072
1,644.74	0.334	0.079
1,644.76	0.336	0.085
1,644.78	0.337	0.092
1,644.80	0.338	0.099
1,644.82	0.339	0.105
1,644.84	0.340	0.112
1,644.86	0.342	0.119
1,644.88	0.343	0.126
1,644.90	0.344	0.133
1,644.92	0.345	0.140
1,644.94	0.346	0.147
1,644.96	0.348	0.154
1,644.98	0.349	0.161
1,645.00	0.350	0.167
1,645.02	0.352	0.175
1,645.04	0.353	0.182
1,645.06	0.355	0.189
1,645.08	0.356	0.196
1,645.10	0.358	0.203
1,645.12	0.360	0.210
1,645.14	0.361	0.217
1,645.16	0.363	0.225
1,645.18	0.364	0.232
1,645.20	0.366	0.239
1,645.22	0.368	0.246
1,645.24	0.369	0.254
1,645.26	0.371	0.261
1,645.28	0.372	0.269
1,645.30	0.374	0.276
1,645.32	0.376	0.284
1,645.34	0.377	0.291
1,645.36	0.379	0.299
1,645.38	0.380	0.306
1,645.40	0.382	0.314
1,645.42	0.384	0.322
1,645.44	0.385	0.329
1,645.46	0.387	0.337
1,645.48	0.388	0.345
1,645.50	0.390	0.353
1,645.52	0.392	0.360
1,645.54	0.393	0.368
1,645.56	0.395	0.376
1,645.58	0.396	0.384
1,645.60	0.398	0.392
1,645.62	0.400	0.400
1,645.64	0.401	0.408
1,645.66	0.403	0.416
1,645.68	0.404	0.424
1,645.70	0.406	0.432
1,645.72	0.408	0.440
1,645.74	0.409	0.448
1,645.76	0.411	0.457
1,645.78	0.412	0.465
1,645.80	0.414	0.473
1,645.82	0.416	0.481
1,645.84	0.417	0.490
1,645.86	0.419	0.498
1,645.88	0.420	0.506
1,645.90	0.422	0.515
1,645.92	0.424	0.523
1,645.94	0.425	0.532
1,645.96	0.427	0.540
1,645.98	0.428	0.549
1,646.00	**0.430**	**0.557**

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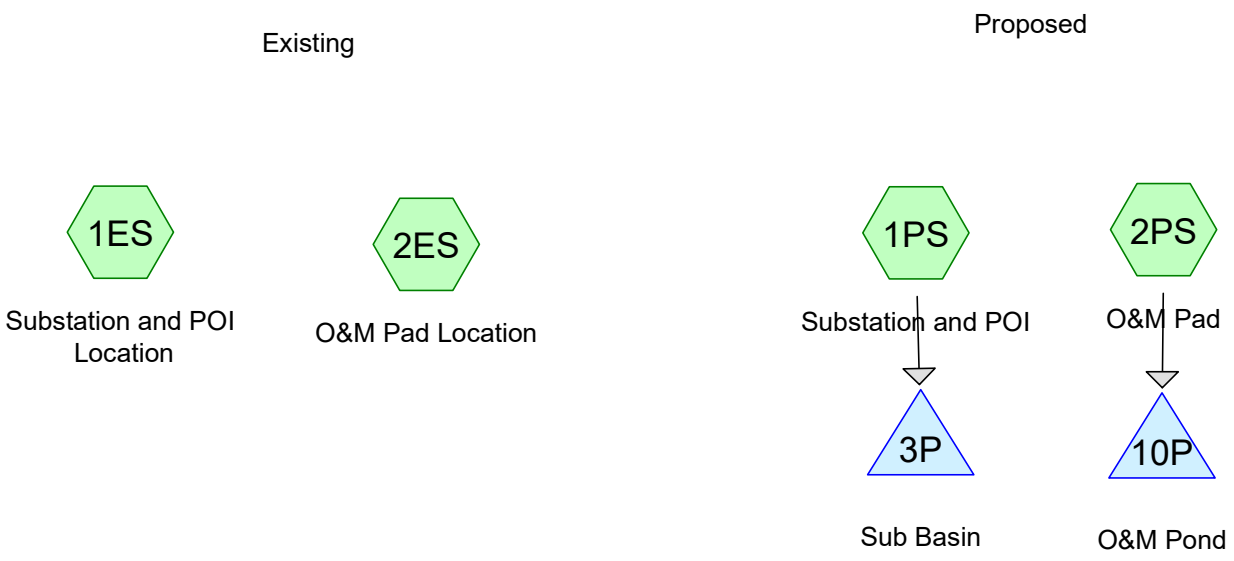
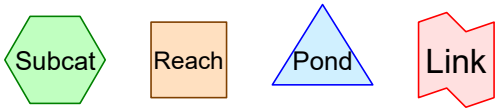
Appendix D

Substation, POI, and O&M Pad Runoff Rate Calculations





Routing Diagram for 2023-10-31 Sub and O&M Pad Basins
Prepared by Westwood Professional Services, Printed 1/31/2024

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.670	78	Meadow, non-grazed, HSG D (2PS)
2.300	98	Paved parking, HSG B (1PS)
0.440	98	Paved parking, HSG D (2PS)
14.600	78	Row crops, straight row, Good, HSG B (1ES, 1PS)
6.210	89	Row crops, straight row, Good, HSG D (1ES, 1PS, 2ES)
25.220	**83**	**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	1.670	0.000	1.670	Meadow, non-grazed	2PS
0.000	2.300	0.000	0.440	0.000	2.740	Paved parking	1PS, 2PS
0.000	14.600	0.000	6.210	0.000	20.810	Row crops, straight row, Good	1ES, 1PS, 2ES
0.000	**16.900**	**0.000**	**8.320**	**0.000**	**25.220**	**TOTAL AREA**	

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1ES: Substation and POI Runoff Area=10.500 ac 0.00% Impervious Runoff Depth=0.68"
Flow Length=1,624' Slope=0.1100 '/' Tc=13.7 min CN=81 Runoff=7.35 cfs 0.597 af

Subcatchment 1PS: Substation and POI Runoff Area=10.500 ac 21.90% Impervious Runoff Depth=0.78"
Flow Length=1,624' Slope=0.1100 '/' Tc=12.8 min CN=83 Runoff=8.96 cfs 0.681 af

Subcatchment 2ES: O&M Pad Location Runoff Area=2.110 ac 0.00% Impervious Runoff Depth=1.13"
Flow Length=846' Slope=0.0240 '/' Tc=13.1 min CN=89 Runoff=2.70 cfs 0.198 af

Subcatchment 2PS: O&M Pad Runoff Area=2.110 ac 20.85% Impervious Runoff Depth=0.73"
Flow Length=846' Slope=0.0240 '/' Tc=16.8 min CN=82 Runoff=1.45 cfs 0.128 af

Pond 3P: Sub Basin Peak Elev=1,663.26' Storage=0.252 af Inflow=8.96 cfs 0.681 af
Primary=1.00 cfs 0.681 af Secondary=0.00 cfs 0.000 af Outflow=1.00 cfs 0.681 af

Pond 10P: O&M Pond Peak Elev=1,622.21' Storage=0.167 af Inflow=1.45 cfs 0.128 af
Primary=0.42 cfs 0.127 af Secondary=0.00 cfs 0.000 af Outflow=0.42 cfs 0.127 af

Total Runoff Area = 25.220 ac Runoff Volume = 1.604 af Average Runoff Depth = 0.76"
89.14% Pervious = 22.480 ac 10.86% Impervious = 2.740 ac

Summary for Subcatchment 1ES: Substation and POI Location

Runoff = 7.35 cfs @ 12.15 hrs, Volume= 0.597 af, Depth= 0.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 1-yr Rainfall=2.12"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG B
3.200	89	Row crops, straight row, Good, HSG D
7.300	78	Row crops, straight row, Good, HSG B
10.500	81	Weighted Average
10.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	1,624	0.1100	1.98		**Lag/CN Method,**

Summary for Subcatchment 1PS: Substation and POI

Runoff = 8.96 cfs @ 12.13 hrs, Volume= 0.681 af, Depth= 0.78"
Routed to Pond 3P : Sub Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 1-yr Rainfall=2.12"

Area (ac)	CN	Description
2.300	98	Paved parking, HSG B
0.900	89	Row crops, straight row, Good, HSG D
7.300	78	Row crops, straight row, Good, HSG B
10.500	83	Weighted Average
8.200		78.10% Pervious Area
2.300		21.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	1,624	0.1100	2.11		**Lag/CN Method,**

Summary for Subcatchment 2ES: O&M Pad Location

Runoff = 2.70 cfs @ 12.13 hrs, Volume= 0.198 af, Depth= 1.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 1-yr Rainfall=2.12"

Area (ac)	CN	Description
2.110	89	Row crops, straight row, Good, HSG D
2.110		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	846	0.0240	1.08		**Lag/CN Method,**

Summary for Subcatchment 2PS: O&M Pad

Runoff = 1.45 cfs @ 12.19 hrs, Volume= 0.128 af, Depth= 0.73"
Routed to Pond 10P : O&M Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 1-yr Rainfall=2.12"

Area (ac)	CN	Description
0.440	98	Paved parking, HSG D
1.670	78	Meadow, non-grazed, HSG D
2.110	82	Weighted Average
1.670		79.15% Pervious Area
0.440		20.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	846	0.0240	0.84		**Lag/CN Method,**

Summary for Pond 3P: Sub Basin

Inflow Area = 10.500 ac, 21.90% Impervious, Inflow Depth = 0.78" for 1-yr event
Inflow = 8.96 cfs @ 12.13 hrs, Volume= 0.681 af
Outflow = 1.00 cfs @ 11.92 hrs, Volume= 0.681 af, Atten= 89%, Lag= 0.0 min
Primary = 1.00 cfs @ 11.92 hrs, Volume= 0.681 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 1,663.26' @ 13.09 hrs Surf.Area= 0.221 ac Storage= 0.252 af

Plug-Flow detention time= 91.5 min calculated for 0.681 af (100% of inflow)
Center-of-Mass det. time= 91.5 min (960.7 - 869.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,662.00'	0.690 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,662.00	0.180	0.000	0.000
1,663.00	0.210	0.195	0.195
1,664.00	0.250	0.230	0.425
1,665.00	0.280	0.265	0.690

Device	Routing	Invert	Outlet Devices
#1	Secondary	1,664.40'	**30.0' long x 0.5' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00

Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2 Primary 1,662.00' **1.00 cfs Exfiltration at all elevations** Phase-In= 0.05'

Primary OutFlow Max=1.00 cfs @ 11.92 hrs HW=1,662.06' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 1.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,662.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 10P: O&M Pond

Inflow Area = 2.110 ac, 20.85% Impervious, Inflow Depth = 0.73" for 1-yr event
Inflow = 1.45 cfs @ 12.19 hrs, Volume= 0.128 af
Outflow = 0.42 cfs @ 12.71 hrs, Volume= 0.127 af, Atten= 71%, Lag= 30.9 min
Primary = 0.42 cfs @ 12.71 hrs, Volume= 0.127 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 1,621.70' Surf.Area= 0.070 ac Storage= 0.123 af
Peak Elev= 1,622.21' @ 12.71 hrs Surf.Area= 0.099 ac Storage= 0.167 af (0.044 af above start)

Plug-Flow detention time= 1,401.9 min calculated for 0.004 af (3% of inflow)
Center-of-Mass det. time= 133.7 min (1,011.0 - 877.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,619.00'	0.359 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,619.00	0.015	0.000	0.000
1,620.00	0.040	0.028	0.028
1,621.00	0.060	0.050	0.077
1,621.70	0.070	0.046	0.123
1,622.00	0.090	0.024	0.147
1,623.00	0.130	0.110	0.257
1,623.70	0.160	0.102	0.359

Device	Routing	Invert	Outlet Devices
#1	Primary	1,621.70'	**12.0" Round Culvert** L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,621.70' / 1,621.50' S= 0.0040 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.79 sf
#2	Secondary	1,623.20'	**20.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.42 cfs @ 12.71 hrs HW=1,622.21' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.42 cfs @ 1.51 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,621.70' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1ES: Substation and POI Runoff Area=10.500 ac 0.00% Impervious Runoff Depth=1.79"
Flow Length=1,624' Slope=0.1100 '/' Tc=13.7 min CN=81 Runoff=20.79 cfs 1.566 af

Subcatchment 1PS: Substation and POI Runoff Area=10.500 ac 21.90% Impervious Runoff Depth=1.94"
Flow Length=1,624' Slope=0.1100 '/' Tc=12.8 min CN=83 Runoff=23.52 cfs 1.700 af

Subcatchment 2ES: O&M Pad Location Runoff Area=2.110 ac 0.00% Impervious Runoff Depth=2.45"
Flow Length=846' Slope=0.0240 '/' Tc=13.1 min CN=89 Runoff=5.87 cfs 0.431 af

Subcatchment 2PS: O&M Pad Runoff Area=2.110 ac 20.85% Impervious Runoff Depth=1.87"
Flow Length=846' Slope=0.0240 '/' Tc=16.8 min CN=82 Runoff=3.93 cfs 0.328 af

Pond 3P: Sub Basin Peak Elev=1,664.61' Storage=0.582 af Inflow=23.52 cfs 1.700 af
Primary=1.00 cfs 1.337 af Secondary=7.83 cfs 0.363 af Outflow=8.83 cfs 1.700 af

Pond 10P: O&M Pond Peak Elev=1,622.78' Storage=0.230 af Inflow=3.93 cfs 0.328 af
Primary=1.49 cfs 0.326 af Secondary=0.00 cfs 0.000 af Outflow=1.49 cfs 0.326 af

Total Runoff Area = 25.220 ac Runoff Volume = 4.025 af Average Runoff Depth = 1.92"
89.14% Pervious = 22.480 ac 10.86% Impervious = 2.740 ac

Summary for Subcatchment 1ES: Substation and POI Location

Runoff = 20.79 cfs @ 12.14 hrs, Volume= 1.566 af, Depth= 1.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 10-yr Rainfall=3.60"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG B
3.200	89	Row crops, straight row, Good, HSG D
7.300	78	Row crops, straight row, Good, HSG B
10.500	81	Weighted Average
10.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	1,624	0.1100	1.98		**Lag/CN Method,**

Summary for Subcatchment 1PS: Substation and POI

Runoff = 23.52 cfs @ 12.13 hrs, Volume= 1.700 af, Depth= 1.94"
Routed to Pond 3P : Sub Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 10-yr Rainfall=3.60"

Area (ac)	CN	Description
2.300	98	Paved parking, HSG B
0.900	89	Row crops, straight row, Good, HSG D
7.300	78	Row crops, straight row, Good, HSG B
10.500	83	Weighted Average
8.200		78.10% Pervious Area
2.300		21.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	1,624	0.1100	2.11		**Lag/CN Method,**

Summary for Subcatchment 2ES: O&M Pad Location

Runoff = 5.87 cfs @ 12.13 hrs, Volume= 0.431 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 10-yr Rainfall=3.60"

Area (ac)	CN	Description
2.110	89	Row crops, straight row, Good, HSG D
2.110		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	846	0.0240	1.08		**Lag/CN Method,**

Summary for Subcatchment 2PS: O&M Pad

Runoff = 3.93 cfs @ 12.19 hrs, Volume= 0.328 af, Depth= 1.87"
Routed to Pond 10P : O&M Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 10-yr Rainfall=3.60"

Area (ac)	CN	Description
0.440	98	Paved parking, HSG D
1.670	78	Meadow, non-grazed, HSG D
2.110	82	Weighted Average
1.670		79.15% Pervious Area
0.440		20.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	846	0.0240	0.84		**Lag/CN Method,**

Summary for Pond 3P: Sub Basin

Inflow Area = 10.500 ac, 21.90% Impervious, Inflow Depth = 1.94" for 10-yr event
Inflow = 23.52 cfs @ 12.13 hrs, Volume= 1.700 af
Outflow = 8.83 cfs @ 12.41 hrs, Volume= 1.700 af, Atten= 62%, Lag= 17.1 min
Primary = 1.00 cfs @ 11.41 hrs, Volume= 1.337 af
Secondary = 7.83 cfs @ 12.41 hrs, Volume= 0.363 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 1,664.61' @ 12.41 hrs Surf.Area= 0.268 ac Storage= 0.582 af

Plug-Flow detention time= 192.4 min calculated for 1.700 af (100% of inflow)
Center-of-Mass det. time= 192.4 min (1,033.0 - 840.6)

Volume	Invert	Avail.Storage	Storage Description
#1	1,662.00'	0.690 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,662.00	0.180	0.000	0.000
1,663.00	0.210	0.195	0.195
1,664.00	0.250	0.230	0.425
1,665.00	0.280	0.265	0.690

Device	Routing	Invert	Outlet Devices
#1	Secondary	1,664.40'	**30.0' long x 0.5' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00

Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2 Primary 1,662.00' **1.00 cfs Exfiltration at all elevations** Phase-In= 0.05'

Primary OutFlow Max=1.00 cfs @ 11.41 hrs HW=1,662.06' (Free Discharge)
2=Exfiltration (Exfiltration Controls 1.00 cfs)

Secondary OutFlow Max=7.81 cfs @ 12.41 hrs HW=1,664.61' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 7.81 cfs @ 1.27 fps)

Summary for Pond 10P: O&M Pond

Inflow Area = 2.110 ac, 20.85% Impervious, Inflow Depth = 1.87" for 10-yr event
Inflow = 3.93 cfs @ 12.19 hrs, Volume= 0.328 af
Outflow = 1.49 cfs @ 12.55 hrs, Volume= 0.326 af, Atten= 62%, Lag= 21.5 min
Primary = 1.49 cfs @ 12.55 hrs, Volume= 0.326 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 1,621.70' Surf.Area= 0.070 ac Storage= 0.123 af
Peak Elev= 1,622.78' @ 12.55 hrs Surf.Area= 0.121 ac Storage= 0.230 af (0.107 af above start)

Plug-Flow detention time= 316.3 min calculated for 0.203 af (62% of inflow)
Center-of-Mass det. time= 88.8 min (936.5 - 847.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,619.00'	0.359 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,619.00	0.015	0.000	0.000
1,620.00	0.040	0.028	0.028
1,621.00	0.060	0.050	0.077
1,621.70	0.070	0.046	0.123
1,622.00	0.090	0.024	0.147
1,623.00	0.130	0.110	0.257
1,623.70	0.160	0.102	0.359

Device	Routing	Invert	Outlet Devices
#1	Primary	1,621.70'	**12.0" Round Culvert** L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,621.70' / 1,621.50' S= 0.0040 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.79 sf
#2	Secondary	1,623.20'	**20.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.49 cfs @ 12.55 hrs HW=1,622.78' (Free Discharge)
1=Culvert (Barrel Controls 1.49 cfs @ 2.18 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,621.70' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1ES: Substation and POI Runoff Area=10.500 ac 0.00% Impervious Runoff Depth=3.31"
Flow Length=1,624' Slope=0.1100 '/' Tc=13.7 min CN=81 Runoff=38.74 cfs 2.892 af

Subcatchment 1PS: Substation and POI Runoff Area=10.500 ac 21.90% Impervious Runoff Depth=3.50"
Flow Length=1,624' Slope=0.1100 '/' Tc=12.8 min CN=83 Runoff=42.42 cfs 3.064 af

Subcatchment 2ES: O&M Pad Location Runoff Area=2.110 ac 0.00% Impervious Runoff Depth=4.12"
Flow Length=846' Slope=0.0240 '/' Tc=13.1 min CN=89 Runoff=9.70 cfs 0.724 af

Subcatchment 2PS: O&M Pad Runoff Area=2.110 ac 20.85% Impervious Runoff Depth=3.40"
Flow Length=846' Slope=0.0240 '/' Tc=16.8 min CN=82 Runoff=7.20 cfs 0.598 af

Pond 3P: Sub Basin Peak Elev=1,664.94' Storage=0.673 af Inflow=42.42 cfs 3.064 af
Primary=1.00 cfs 1.672 af Secondary=36.00 cfs 1.392 af Outflow=37.00 cfs 3.064 af

Pond 10P: O&M Pond Peak Elev=1,623.31' Storage=0.300 af Inflow=7.20 cfs 0.598 af
Primary=2.05 cfs 0.551 af Secondary=2.11 cfs 0.045 af Outflow=4.15 cfs 0.597 af

Total Runoff Area = 25.220 ac Runoff Volume = 7.279 af Average Runoff Depth = 3.46"
89.14% Pervious = 22.480 ac 10.86% Impervious = 2.740 ac

Summary for Subcatchment 1ES: Substation and POI Location

Runoff = 38.74 cfs @ 12.14 hrs, Volume= 2.892 af, Depth= 3.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr Rainfall=5.36"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG B
3.200	89	Row crops, straight row, Good, HSG D
7.300	78	Row crops, straight row, Good, HSG B
10.500	81	Weighted Average
10.500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	1,624	0.1100	1.98		**Lag/CN Method,**

Summary for Subcatchment 1PS: Substation and POI

Runoff = 42.42 cfs @ 12.13 hrs, Volume= 3.064 af, Depth= 3.50"
Routed to Pond 3P : Sub Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr Rainfall=5.36"

Area (ac)	CN	Description
2.300	98	Paved parking, HSG B
0.900	89	Row crops, straight row, Good, HSG D
7.300	78	Row crops, straight row, Good, HSG B
10.500	83	Weighted Average
8.200		78.10% Pervious Area
2.300		21.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	1,624	0.1100	2.11		**Lag/CN Method,**

Summary for Subcatchment 2ES: O&M Pad Location

Runoff = 9.70 cfs @ 12.13 hrs, Volume= 0.724 af, Depth= 4.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr Rainfall=5.36"

Area (ac)	CN	Description
2.110	89	Row crops, straight row, Good, HSG D
2.110		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.1	846	0.0240	1.08		**Lag/CN Method,**

Summary for Subcatchment 2PS: O&M Pad

Runoff = 7.20 cfs @ 12.18 hrs, Volume= 0.598 af, Depth= 3.40"
Routed to Pond 10P : O&M Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr Rainfall=5.36"

Area (ac)	CN	Description
0.440	98	Paved parking, HSG D
1.670	78	Meadow, non-grazed, HSG D
2.110	82	Weighted Average
1.670		79.15% Pervious Area
0.440		20.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	846	0.0240	0.84		**Lag/CN Method,**

Summary for Pond 3P: Sub Basin

Inflow Area = 10.500 ac, 21.90% Impervious, Inflow Depth = 3.50" for 100-yr event
Inflow = 42.42 cfs @ 12.13 hrs, Volume= 3.064 af
Outflow = 37.00 cfs @ 12.19 hrs, Volume= 3.064 af, Atten= 13%, Lag= 3.6 min
Primary = 1.00 cfs @ 10.37 hrs, Volume= 1.672 af
Secondary = 36.00 cfs @ 12.19 hrs, Volume= 1.392 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 1,664.94' @ 12.19 hrs Surf.Area= 0.278 ac Storage= 0.673 af

Plug-Flow detention time= 143.5 min calculated for 3.064 af (100% of inflow)
Center-of-Mass det. time= 143.4 min (965.9 - 822.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,662.00'	0.690 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,662.00	0.180	0.000	0.000
1,663.00	0.210	0.195	0.195
1,664.00	0.250	0.230	0.425
1,665.00	0.280	0.265	0.690

Device	Routing	Invert	Outlet Devices
#1	Secondary	1,664.40'	**30.0' long x 0.5' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00

Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2 Primary 1,662.00' **1.00 cfs Exfiltration at all elevations** Phase-In= 0.05'

Primary OutFlow Max=1.00 cfs @ 10.37 hrs HW=1,662.06' (Free Discharge)
└**2=Exfiltration** (Exfiltration Controls 1.00 cfs)

Secondary OutFlow Max=35.95 cfs @ 12.19 hrs HW=1,664.94' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 35.95 cfs @ 2.22 fps)

Summary for Pond 10P: O&M Pond

Inflow Area = 2.110 ac, 20.85% Impervious, Inflow Depth = 3.40" for 100-yr event
Inflow = 7.20 cfs @ 12.18 hrs, Volume= 0.598 af
Outflow = 4.15 cfs @ 12.38 hrs, Volume= 0.597 af, Atten= 42%, Lag= 11.6 min
Primary = 2.05 cfs @ 12.38 hrs, Volume= 0.551 af
Secondary = 2.11 cfs @ 12.38 hrs, Volume= 0.045 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Starting Elev= 1,621.70' Surf.Area= 0.070 ac Storage= 0.123 af
Peak Elev= 1,623.31' @ 12.38 hrs Surf.Area= 0.143 ac Storage= 0.300 af (0.177 af above start)

Plug-Flow detention time= 207.3 min calculated for 0.474 af (79% of inflow)
Center-of-Mass det. time= 73.1 min (902.3 - 829.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,619.00'	0.359 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,619.00	0.015	0.000	0.000
1,620.00	0.040	0.028	0.028
1,621.00	0.060	0.050	0.077
1,621.70	0.070	0.046	0.123
1,622.00	0.090	0.024	0.147
1,623.00	0.130	0.110	0.257
1,623.70	0.160	0.102	0.359

Device	Routing	Invert	Outlet Devices
#1	Primary	1,621.70'	**12.0" Round Culvert** L= 50.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,621.70' / 1,621.50' S= 0.0040 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 0.79 sf
#2	Secondary	1,623.20'	**20.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=2.05 cfs @ 12.38 hrs HW=1,623.31' (Free Discharge)
└**1=Culvert** (Barrel Controls 2.05 cfs @ 2.60 fps)

Secondary OutFlow Max=2.08 cfs @ 12.38 hrs HW=1,623.31' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Weir Controls 2.08 cfs @ 0.93 fps)

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Appendix E

Overall Drainage Area Runoff Calculations

Subcat Reach Pond Link

Routing Diagram for 2023-11-10 PrePost Analysis
Prepared by Westwood MultiDisciplined Eng, Printed 11/15/2023

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1,639.600	74	Weighted (1ES, 1PS)
961.600	71	Weighted (2ES, 2PS)
1,238.000	75	Weighted (3ES, 3PS)
3,702.000	66	Weighted (4ES, 4PS)
648.200	64	Weighted (5ES, 5PS)
8,189.400	**69**	**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	8,189.400	8,189.400	Weighted	1ES, 1PS, 2ES, 2PS, 3ES, 3PS, 4ES, 4PS, 5ES, 5PS
0.000	**0.000**	**0.000**	**0.000**	**8,189.400**	**8,189.400**	**TOTAL AREA**	

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1ES: Runoff Area=819.800 ac 0.00% Impervious Runoff Depth=1.31"
Flow Length=5,491' Slope=0.0350 '/' Tc=79.3 min CN=74 Runoff=407.44 cfs 89.454 af

Subcatchment 1PS: Runoff Area=819.800 ac 0.00% Impervious Runoff Depth=1.31"
Flow Length=5,491' Slope=0.0350 '/' Tc=79.3 min CN=74 Runoff=407.44 cfs 89.454 af

Subcatchment 2ES: Runoff Area=480.800 ac 0.00% Impervious Runoff Depth=1.13"
Flow Length=3,585' Slope=0.0990 '/' Tc=36.4 min CN=71 Runoff=326.91 cfs 45.189 af

Subcatchment 2PS: Runoff Area=480.800 ac 0.00% Impervious Runoff Depth=1.13"
Flow Length=3,585' Slope=0.0990 '/' Tc=36.4 min CN=71 Runoff=326.91 cfs 45.189 af

Subcatchment 3ES: Runoff Area=619.000 ac 0.00% Impervious Runoff Depth=1.37"
Flow Length=4,006' Slope=0.0780 '/' Tc=40.1 min CN=75 Runoff=504.11 cfs 70.826 af

Subcatchment 3PS: Runoff Area=619.000 ac 0.00% Impervious Runoff Depth=1.37"
Flow Length=4,006' Slope=0.0780 '/' Tc=40.1 min CN=75 Runoff=504.11 cfs 70.826 af

Subcatchment 4ES: Runoff Area=1,851.000 ac 0.00% Impervious Runoff Depth=0.86"
Flow Length=5,913' Slope=0.0320 '/' Tc=109.2 min CN=66 Runoff=434.39 cfs 131.918 af

Subcatchment 4PS: Runoff Area=1,851.000 ac 0.00% Impervious Runoff Depth=0.86"
Flow Length=5,913' Slope=0.0320 '/' Tc=109.2 min CN=66 Runoff=434.39 cfs 131.918 af

Subcatchment 5ES: Runoff Area=324.100 ac 0.00% Impervious Runoff Depth=0.76"
Flow Length=3,029' Slope=0.1100 '/' Tc=36.3 min CN=64 Runoff=128.33 cfs 20.425 af

Subcatchment 5PS: Runoff Area=324.100 ac 0.00% Impervious Runoff Depth=0.76"
Flow Length=3,029' Slope=0.1100 '/' Tc=36.3 min CN=64 Runoff=128.33 cfs 20.425 af

Reach 1ER: Inflow=1,285.38 cfs 357.813 af
Outflow=1,285.38 cfs 357.813 af

Reach 1PR: Inflow=1,285.38 cfs 357.813 af
Outflow=1,285.38 cfs 357.813 af

Total Runoff Area = 8,189.400 ac Runoff Volume = 715.625 af Average Runoff Depth = 1.05"
100.00% Pervious = 8,189.400 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1ES:

Runoff = 407.44 cfs @ 13.12 hrs, Volume= 89.454 af, Depth= 1.31"
Routed to Reach 1ER :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 10-yr Rainfall=3.60"

	Area (ac)	CN	Description
*	819.800	74	Weighted
	819.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
79.3	5,491	0.0350	1.15		**Lag/CN Method,**

Summary for Subcatchment 1PS:

Runoff = 407.44 cfs @ 13.12 hrs, Volume= 89.454 af, Depth= 1.31"
Routed to Reach 1PR :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 10-yr Rainfall=3.60"

	Area (ac)	CN	Description
*	819.800	74	Weighted
	819.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
79.3	5,491	0.0350	1.15		**Lag/CN Method,**

Summary for Subcatchment 2ES:

Runoff = 326.91 cfs @ 12.50 hrs, Volume= 45.189 af, Depth= 1.13"
Routed to Reach 1ER :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 10-yr Rainfall=3.60"

	Area (ac)	CN	Description
*	480.800	71	Weighted
	480.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.4	3,585	0.0990	1.64		**Lag/CN Method,**

Summary for Subcatchment 2PS:

Runoff = 326.91 cfs @ 12.50 hrs, Volume= 45.189 af, Depth= 1.13"
Routed to Reach 1PR :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 10-yr Rainfall=3.60"

	Area (ac)	CN	Description
*	480.800	71	Weighted
	480.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.4	3,585	0.0990	1.64		**Lag/CN Method,**

Summary for Subcatchment 3ES:

Runoff = 504.11 cfs @ 12.52 hrs, Volume= 70.826 af, Depth= 1.37"
Routed to Reach 1ER :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 10-yr Rainfall=3.60"

	Area (ac)	CN	Description
*	619.000	75	Weighted
	619.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.1	4,006	0.0780	1.67		**Lag/CN Method,**

Summary for Subcatchment 3PS:

Runoff = 504.11 cfs @ 12.52 hrs, Volume= 70.826 af, Depth= 1.37"
Routed to Reach 1PR :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 10-yr Rainfall=3.60"

	Area (ac)	CN	Description
*	619.000	75	Weighted
	619.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.1	4,006	0.0780	1.67		**Lag/CN Method,**

Summary for Subcatchment 4ES:

Runoff = 434.39 cfs @ 13.59 hrs, Volume= 131.918 af, Depth= 0.86"
Routed to Reach 1ER :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 10-yr Rainfall=3.60"

	Area (ac)	CN	Description
*	1,851.000	66	Weighted
	1,851.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
109.2	5,913	0.0320	0.90		**Lag/CN Method,**

Summary for Subcatchment 4PS:

Runoff = 434.39 cfs @ 13.59 hrs, Volume= 131.918 af, Depth= 0.86"
Routed to Reach 1PR :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 10-yr Rainfall=3.60"

	Area (ac)	CN	Description
*	1,851.000	66	Weighted
	1,851.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
109.2	5,913	0.0320	0.90		**Lag/CN Method,**

Summary for Subcatchment 5ES:

Runoff = 128.33 cfs @ 12.54 hrs, Volume= 20.425 af, Depth= 0.76"
Routed to Reach 1ER :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 10-yr Rainfall=3.60"

	Area (ac)	CN	Description
*	324.100	64	Weighted
	324.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.3	3,029	0.1100	1.39		**Lag/CN Method,**

Summary for Subcatchment 5PS:

Runoff = 128.33 cfs @ 12.54 hrs, Volume= 20.425 af, Depth= 0.76"
Routed to Reach 1PR :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 10-yr Rainfall=3.60"

	Area (ac)	CN	Description
*	324.100	64	Weighted
	324.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.3	3,029	0.1100	1.39		**Lag/CN Method,**

Summary for Reach 1ER:

Inflow Area = 4,094.700 ac, 0.00% Impervious, Inflow Depth = 1.05" for 10-yr event
Inflow = 1,285.38 cfs @ 12.66 hrs, Volume= 357.813 af
Outflow = 1,285.38 cfs @ 12.66 hrs, Volume= 357.813 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Reach 1PR:

Inflow Area = 4,094.700 ac, 0.00% Impervious, Inflow Depth = 1.05" for 10-yr event
Inflow = 1,285.38 cfs @ 12.66 hrs, Volume= 357.813 af
Outflow = 1,285.38 cfs @ 12.66 hrs, Volume= 357.813 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1ES: Runoff Area=819.800 ac 0.00% Impervious Runoff Depth=2.22"
Flow Length=5,491' Slope=0.0350 '/' Tc=79.3 min CN=74 Runoff=716.05 cfs 151.768 af

Subcatchment 1PS: Runoff Area=819.800 ac 0.00% Impervious Runoff Depth=2.22"
Flow Length=5,491' Slope=0.0350 '/' Tc=79.3 min CN=74 Runoff=716.05 cfs 151.768 af

Subcatchment 2ES: Runoff Area=480.800 ac 0.00% Impervious Runoff Depth=1.98"
Flow Length=3,585' Slope=0.0990 '/' Tc=36.4 min CN=71 Runoff=603.80 cfs 79.388 af

Subcatchment 2PS: Runoff Area=480.800 ac 0.00% Impervious Runoff Depth=1.98"
Flow Length=3,585' Slope=0.0990 '/' Tc=36.4 min CN=71 Runoff=603.80 cfs 79.388 af

Subcatchment 3ES: Runoff Area=619.000 ac 0.00% Impervious Runoff Depth=2.30"
Flow Length=4,006' Slope=0.0780 '/' Tc=40.1 min CN=75 Runoff=871.14 cfs 118.854 af

Subcatchment 3PS: Runoff Area=619.000 ac 0.00% Impervious Runoff Depth=2.30"
Flow Length=4,006' Slope=0.0780 '/' Tc=40.1 min CN=75 Runoff=871.14 cfs 118.854 af

Subcatchment 4ES: Runoff Area=1,851.000 ac 0.00% Impervious Runoff Depth=1.61"
Flow Length=5,913' Slope=0.0320 '/' Tc=109.2 min CN=66 Runoff=896.94 cfs 247.764 af

Subcatchment 4PS: Runoff Area=1,851.000 ac 0.00% Impervious Runoff Depth=1.61"
Flow Length=5,913' Slope=0.0320 '/' Tc=109.2 min CN=66 Runoff=896.94 cfs 247.764 af

Subcatchment 5ES: Runoff Area=324.100 ac 0.00% Impervious Runoff Depth=1.46"
Flow Length=3,029' Slope=0.1100 '/' Tc=36.3 min CN=64 Runoff=283.13 cfs 39.565 af

Subcatchment 5PS: Runoff Area=324.100 ac 0.00% Impervious Runoff Depth=1.46"
Flow Length=3,029' Slope=0.1100 '/' Tc=36.3 min CN=64 Runoff=283.13 cfs 39.565 af

Reach 1ER: Inflow=2,413.43 cfs 637.339 af
Outflow=2,413.43 cfs 637.339 af

Reach 1PR: Inflow=2,413.43 cfs 637.339 af
Outflow=2,413.43 cfs 637.339 af

Total Runoff Area = 8,189.400 ac Runoff Volume = 1,274.678 af Average Runoff Depth = 1.87"
100.00% Pervious = 8,189.400 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1ES:

Runoff = 716.05 cfs @ 13.04 hrs, Volume= 151.768 af, Depth= 2.22"
Routed to Reach 1ER :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 50-yr Rainfall=4.82"

	Area (ac)	CN	Description
*	819.800	74	Weighted
	819.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
79.3	5,491	0.0350	1.15		**Lag/CN Method,**

Summary for Subcatchment 1PS:

Runoff = 716.05 cfs @ 13.04 hrs, Volume= 151.768 af, Depth= 2.22"
Routed to Reach 1PR :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 50-yr Rainfall=4.82"

	Area (ac)	CN	Description
*	819.800	74	Weighted
	819.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
79.3	5,491	0.0350	1.15		**Lag/CN Method,**

Summary for Subcatchment 2ES:

Runoff = 603.80 cfs @ 12.49 hrs, Volume= 79.388 af, Depth= 1.98"
Routed to Reach 1ER :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 50-yr Rainfall=4.82"

	Area (ac)	CN	Description
*	480.800	71	Weighted
	480.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.4	3,585	0.0990	1.64		**Lag/CN Method,**

Summary for Subcatchment 2PS:

Runoff = 603.80 cfs @ 12.49 hrs, Volume= 79.388 af, Depth= 1.98"
Routed to Reach 1PR :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 50-yr Rainfall=4.82"

	Area (ac)	CN	Description
*	480.800	71	Weighted
	480.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.4	3,585	0.0990	1.64		**Lag/CN Method,**

Summary for Subcatchment 3ES:

Runoff = 871.14 cfs @ 12.52 hrs, Volume= 118.854 af, Depth= 2.30"
Routed to Reach 1ER :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 50-yr Rainfall=4.82"

	Area (ac)	CN	Description
*	619.000	75	Weighted
	619.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.1	4,006	0.0780	1.67		**Lag/CN Method,**

Summary for Subcatchment 3PS:

Runoff = 871.14 cfs @ 12.52 hrs, Volume= 118.854 af, Depth= 2.30"
Routed to Reach 1PR :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 50-yr Rainfall=4.82"

	Area (ac)	CN	Description
*	619.000	75	Weighted
	619.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.1	4,006	0.0780	1.67		**Lag/CN Method,**

Summary for Subcatchment 4ES:

Runoff = 896.94 cfs @ 13.47 hrs, Volume= 247.764 af, Depth= 1.61"
Routed to Reach 1ER :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 50-yr Rainfall=4.82"

Area (ac)	CN	Description
* 1,851.000	66	Weighted
1,851.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
109.2	5,913	0.0320	0.90		**Lag/CN Method,**

Summary for Subcatchment 4PS:

Runoff = 896.94 cfs @ 13.47 hrs, Volume= 247.764 af, Depth= 1.61"
Routed to Reach 1PR :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 50-yr Rainfall=4.82"

Area (ac)	CN	Description
* 1,851.000	66	Weighted
1,851.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
109.2	5,913	0.0320	0.90		**Lag/CN Method,**

Summary for Subcatchment 5ES:

Runoff = 283.13 cfs @ 12.47 hrs, Volume= 39.565 af, Depth= 1.46"
Routed to Reach 1ER :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 50-yr Rainfall=4.82"

Area (ac)	CN	Description
* 324.100	64	Weighted
324.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.3	3,029	0.1100	1.39		**Lag/CN Method,**

Summary for Subcatchment 5PS:

Runoff = 283.13 cfs @ 12.47 hrs, Volume= 39.565 af, Depth= 1.46"
Routed to Reach 1PR :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr 50-yr Rainfall=4.82"

	Area (ac)	CN	Description
*	324.100	64	Weighted
	324.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.3	3,029	0.1100	1.39		**Lag/CN Method,**

Summary for Reach 1ER:

Inflow Area = 4,094.700 ac, 0.00% Impervious, Inflow Depth = 1.87" for 50-yr event
Inflow = 2,413.43 cfs @ 12.61 hrs, Volume= 637.339 af
Outflow = 2,413.43 cfs @ 12.61 hrs, Volume= 637.339 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Reach 1PR:

Inflow Area = 4,094.700 ac, 0.00% Impervious, Inflow Depth = 1.87" for 50-yr event
Inflow = 2,413.43 cfs @ 12.61 hrs, Volume= 637.339 af
Outflow = 2,413.43 cfs @ 12.61 hrs, Volume= 637.339 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1ES: Runoff Area=819.800 ac 0.00% Impervious Runoff Depth=2.65"
Flow Length=5,491' Slope=0.0350 '/' Tc=79.3 min CN=74 Runoff=861.58 cfs 181.355 af

Subcatchment 1PS: Runoff Area=819.800 ac 0.00% Impervious Runoff Depth=2.65"
Flow Length=5,491' Slope=0.0350 '/' Tc=79.3 min CN=74 Runoff=861.58 cfs 181.355 af

Subcatchment 2ES: Runoff Area=480.800 ac 0.00% Impervious Runoff Depth=2.39"
Flow Length=3,585' Slope=0.0990 '/' Tc=36.4 min CN=71 Runoff=736.78 cfs 95.851 af

Subcatchment 2PS: Runoff Area=480.800 ac 0.00% Impervious Runoff Depth=2.39"
Flow Length=3,585' Slope=0.0990 '/' Tc=36.4 min CN=71 Runoff=736.78 cfs 95.851 af

Subcatchment 3ES: Runoff Area=619.000 ac 0.00% Impervious Runoff Depth=2.74"
Flow Length=4,006' Slope=0.0780 '/' Tc=40.1 min CN=75 Runoff=1,042.87 cfs 141.559 af

Subcatchment 3PS: Runoff Area=619.000 ac 0.00% Impervious Runoff Depth=2.74"
Flow Length=4,006' Slope=0.0780 '/' Tc=40.1 min CN=75 Runoff=1,042.87 cfs 141.559 af

Subcatchment 4ES: Runoff Area=1,851.000 ac 0.00% Impervious Runoff Depth=1.98"
Flow Length=5,913' Slope=0.0320 '/' Tc=109.2 min CN=66 Runoff=1,127.71 cfs 304.983 af

Subcatchment 4PS: Runoff Area=1,851.000 ac 0.00% Impervious Runoff Depth=1.98"
Flow Length=5,913' Slope=0.0320 '/' Tc=109.2 min CN=66 Runoff=1,127.71 cfs 304.983 af

Subcatchment 5ES: Runoff Area=324.100 ac 0.00% Impervious Runoff Depth=1.82"
Flow Length=3,029' Slope=0.1100 '/' Tc=36.3 min CN=64 Runoff=361.49 cfs 49.128 af

Subcatchment 5PS: Runoff Area=324.100 ac 0.00% Impervious Runoff Depth=1.82"
Flow Length=3,029' Slope=0.1100 '/' Tc=36.3 min CN=64 Runoff=361.49 cfs 49.128 af

Reach 1ER: Inflow=2,964.81 cfs 772.876 af
Outflow=2,964.81 cfs 772.876 af

Reach 1PR: Inflow=2,964.81 cfs 772.876 af
Outflow=2,964.81 cfs 772.876 af

Total Runoff Area = 8,189.400 ac Runoff Volume = 1,545.752 af Average Runoff Depth = 2.27"
100.00% Pervious = 8,189.400 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1ES:

Runoff = 861.58 cfs @ 13.04 hrs, Volume= 181.355 af, Depth= 2.65"
Routed to Reach 1ER :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr Rainfall=5.36"

	Area (ac)	CN	Description
*	819.800	74	Weighted
	819.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
79.3	5,491	0.0350	1.15		**Lag/CN Method,**

Summary for Subcatchment 1PS:

Runoff = 861.58 cfs @ 13.04 hrs, Volume= 181.355 af, Depth= 2.65"
Routed to Reach 1PR :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr Rainfall=5.36"

	Area (ac)	CN	Description
*	819.800	74	Weighted
	819.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
79.3	5,491	0.0350	1.15		**Lag/CN Method,**

Summary for Subcatchment 2ES:

Runoff = 736.78 cfs @ 12.46 hrs, Volume= 95.851 af, Depth= 2.39"
Routed to Reach 1ER :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr Rainfall=5.36"

	Area (ac)	CN	Description
*	480.800	71	Weighted
	480.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.4	3,585	0.0990	1.64		**Lag/CN Method,**

Summary for Subcatchment 2PS:

Runoff = 736.78 cfs @ 12.46 hrs, Volume= 95.851 af, Depth= 2.39"
Routed to Reach 1PR :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr Rainfall=5.36"

	Area (ac)	CN	Description
*	480.800	71	Weighted
	480.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.4	3,585	0.0990	1.64		**Lag/CN Method,**

Summary for Subcatchment 3ES:

Runoff = 1,042.87 cfs @ 12.52 hrs, Volume= 141.559 af, Depth= 2.74"
Routed to Reach 1ER :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr Rainfall=5.36"

	Area (ac)	CN	Description
*	619.000	75	Weighted
	619.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.1	4,006	0.0780	1.67		**Lag/CN Method,**

Summary for Subcatchment 3PS:

Runoff = 1,042.87 cfs @ 12.52 hrs, Volume= 141.559 af, Depth= 2.74"
Routed to Reach 1PR :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr Rainfall=5.36"

	Area (ac)	CN	Description
*	619.000	75	Weighted
	619.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.1	4,006	0.0780	1.67		**Lag/CN Method,**

Summary for Subcatchment 4ES:

Runoff = 1,127.71 cfs @ 13.47 hrs, Volume= 304.983 af, Depth= 1.98"
Routed to Reach 1ER :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr Rainfall=5.36"

	Area (ac)	CN	Description
*	1,851.000	66	Weighted
	1,851.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
109.2	5,913	0.0320	0.90		**Lag/CN Method,**

Summary for Subcatchment 4PS:

Runoff = 1,127.71 cfs @ 13.47 hrs, Volume= 304.983 af, Depth= 1.98"
Routed to Reach 1PR :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr Rainfall=5.36"

	Area (ac)	CN	Description
*	1,851.000	66	Weighted
	1,851.000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
109.2	5,913	0.0320	0.90		**Lag/CN Method,**

Summary for Subcatchment 5ES:

Runoff = 361.49 cfs @ 12.47 hrs, Volume= 49.128 af, Depth= 1.82"
Routed to Reach 1ER :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr Rainfall=5.36"

	Area (ac)	CN	Description
*	324.100	64	Weighted
	324.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.3	3,029	0.1100	1.39		**Lag/CN Method,**

Summary for Subcatchment 5PS:

Runoff = 361.49 cfs @ 12.47 hrs, Volume= 49.128 af, Depth= 1.82"
Routed to Reach 1PR :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
NY-HoffmanWind 24-hr S1 100-yr Rainfall=5.36"

	Area (ac)	CN	Description
*	324.100	64	Weighted
	324.100		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.3	3,029	0.1100	1.39		**Lag/CN Method,**

Summary for Reach 1ER:

Inflow Area = 4,094.700 ac, 0.00% Impervious, Inflow Depth = 2.27" for 100-yr event
Inflow = 2,964.81 cfs @ 12.61 hrs, Volume= 772.876 af
Outflow = 2,964.81 cfs @ 12.61 hrs, Volume= 772.876 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Reach 1PR:

Inflow Area = 4,094.700 ac, 0.00% Impervious, Inflow Depth = 2.27" for 100-yr event
Inflow = 2,964.81 cfs @ 12.61 hrs, Volume= 772.876 af
Outflow = 2,964.81 cfs @ 12.61 hrs, Volume= 772.876 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

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