

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Dunnville Rd
Northing:	4758144.224 N
Easting:	608563.469 E

Inspected By:	Paul Greck & Keiran Doak
Date:	August 9, 2023
Weather:	26°C, Sunny
Crossing ID:	RR7

Inlet Type:	Circular
# of Spans:	1
Span or Diameter (m):	1.2
Rise (m):	1.10
Length (m):	19.5

Material:	steel
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	180.45
DS Invert Elevation (m):	180.78

US Obvert Elevation (m):	181.55
DS Obvert Elevation (m):	182.11

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	N/A

Low Point in Road Elevation (m):	182.4
Water Depth (m):	0.34

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Dunnville Rd
Northing:	4757917.635 N
Easting:	608504.529 E

Inspected By:	Paul Greck & Keiran Doak
Date:	August 9, 2023
Weather:	26°C, Sunny
Crossing ID:	RR8

Inlet Type:	Circular
# of Spans:	1
Span or Diameter (m):	0.9
Rise (m):	1.13
Length (m):	15.6

Material:	Steel
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	179.06
DS Invert Elevation (m):	179.02

US Obvert Elevation (m):	180.19
DS Obvert Elevation (m):	180.12

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	N/A

Low Point in Road Elevation (m):	182.6
Water Depth (m):	0.08

Additional Notes/Notable Obstructions:	conc thickness 0.15m disengaged concrete extention pipe US 1.84m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Dunnville Rd
Northing:	4759664.48 N
Easting:	608737.01 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	May 18, 2023
Weather:	15°C, Sunny
Crossing ID:	28

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	6.1
Rise (m):	3.65
Length (m):	35.5

Material:	Concrete
Open Footing:	No
Skew Angle:	30
Sediment Depth (mm):	N/A
Road Barrier:	0.81m Guard Rail

US Invert Elevation (m):	173.94
DS Invert Elevation (m):	173.96

US Obvert Elevation (m):	177.59
DS Obvert Elevation (m):	177.58

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	
Water Depth (m):	0.54

Additional Notes/Notable Obstructions:	Thickness of concrete is 0.36m Surveyed Department of Highways Ontario BM #351-69 (Cosine 177.73 - Greck 177.77) ONLY 1 ROAD CROSS SECTION HERE - NEED LOW PT IN RD
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Darling Rd
Northing:	4758150.118 N
Easting:	607353.901 E

Inspected By:	Paul Greck & Keiran Doak
Date:	September 22, 2023
Weather:	21°C, Sunny
Crossing ID:	RR9

Inlet Type:	Bridge
# of Spans:	1
Span or Diameter (m):	5.9
Rise (m):	Arch 1.85 sides - Centre 3.4
Length (m):	11.4

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	0.6m Concrete Parapet Wall

US Invert Elevation (m):	177.31
DS Invert Elevation (m):	177.3

US Obvert Elevation (m):	180.71
DS Obvert Elevation (m):	180.7

Inlet/Outlet Type:	30" Concrete Wingwalls
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	180.9
Water Depth (m):	1.02

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
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Downstream Photo:	
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Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Darling Rd
Northing:	4757964.131 N
Easting:	607331.635 E

Inspected By:	Paul Greck & Keiran Doak
Date:	September 22, 2023
Weather:	21°C, Sunny
Crossing ID:	RR10

Inlet Type:	Bridge
# of Spans:	1
Span or Diameter (m):	11.1
Rise (m):	3.80
Length (m):	4.0

Material:	Concrete with Wood Deck
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	177.09
DS Invert Elevation (m):	177.2

US Obvert Elevation (m):	180.89
DS Obvert Elevation (m):	180.85

Inlet/Outlet Type:	90° Concrete Wingwalls
High Water Mark Depth (m):	
Number of Piers:	
Pier Width:	

Low Point in Road Elevation (m):	181.9
Water Depth (m):	1.16

Additional Notes/Notable Obstructions:	Thickness of Steel beam and wood deck 1.15m
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Upstream Photo:	
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Downstream Photo:	
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Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Ortt Rd
Northing:	4756943.69 N
Easting:	606039.3 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	May 18, 2023
Weather:	8°C, Sunny
Crossing ID:	29

Inlet Type:	Circular Pipe
# of Spans:	1
Span or Diameter (m):	2.3
Rise (m):	2.40
Length (m):	16.0

Material:	Corrugated PVC
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	0.1
Road Barrier:	No

US Invert Elevation (m):	178.94
DS Invert Elevation (m):	179.15

US Obvert Elevation (m):	181.34
DS Obvert Elevation (m):	181.51

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	181.9
Water Depth (m):	0.4

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Haldimand Dunnville Townline Rd
Northing:	4756372.768 N
Easting:	605581.135 E

Inspected By:	Paul Greck & Keiran Doak
Date:	September 22, 2023
Weather:	21°C, Sunny
Crossing ID:	RR11

Inlet Type:	Box culvert
# of Spans:	1
Span or Diameter (m):	4.3
Rise (m):	1.85
Length (m):	7.0

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	180.27
DS Invert Elevation (m):	180.45

US Obvert Elevation (m):	182.12
DS Obvert Elevation (m):	182.12

Inlet/Outlet Type:	90" Concrete Wingwalls
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	183.3
Water Depth (m):	0.14

Additional Notes/Notable Obstructions:	Thickness of Concrete 0.6m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Haldimand Dunnville Townline Rd
Northing:	4756173.09 N
Easting:	605429.63 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	May 18, 2023
Weather:	8°C, Sunny
Crossing ID:	30

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	3.1
Rise (m):	1.66
Length (m):	13.7

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	180.64
DS Invert Elevation (m):	180.61

US Obvert Elevation (m):	182.3
DS Obvert Elevation (m):	182.3

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	183.0
Water Depth (m):	0.22

Additional Notes/Notable Obstructions:	Perpendicular Gabion walls
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Junction Rd
Northing:	4755437.84 N
Easting:	604176.75 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	May 18, 2023
Weather:	15°C, Sunny
Crossing ID:	31

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	3.4
Rise (m):	1.54
Length (m):	17.9

Material:	Concrete
Open Footing:	Yes
Skew Angle:	29
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	183.44
DS Invert Elevation (m):	183.51

US Obvert Elevation (m):	184.98
DS Obvert Elevation (m):	184.97

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	185.7
Water Depth (m):	0.35

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Dairy Side Rd
Northing:	4755204.39 N
Easting:	601638.74 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	May 18, 2023
Weather:	15°C, Sunny
Crossing ID:	32

Inlet Type:	Circular Pipe
# of Spans:	1
Span or Diameter (m):	0.9
Rise (m):	0.9
Length (m):	21.7

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	189.82
DS Invert Elevation (m):	189.6

US Obvert Elevation (m):	190.73
DS Obvert Elevation (m):	190.5

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	191.6
Water Depth (m):	0.14

Additional Notes/Notable Obstructions:	Thickness of concrete pipe is 0.11m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Haldimand Dunnville Townline Rd
Northing:	4757140.88 N
Easting:	605378.21 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	May 18, 2023
Weather:	8°C, Sunny
Crossing ID:	33

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	3.7
Rise (m):	1.83
Length (m):	16.3

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	180.71
DS Invert Elevation (m):	180.89

US Obvert Elevation (m):	182.54
DS Obvert Elevation (m):	182.53

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	183.1
Water Depth (m):	0.31

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Haldimand Dunnville Townline Rd
Northing:	4756831.185 N
Easting:	604918.395 E

Inspected By:	Paul Greck & Keiran Doak
Date:	September 22, 2023
Weather:	21°C, Sunny
Crossing ID:	RR12

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	3.7
Rise (m):	1.41
Length (m):	6.5

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	182.09
DS Invert Elevation (m):	181.78

US Obvert Elevation (m):	183.5
DS Obvert Elevation (m):	183.36

Inlet/Outlet Type:	70° Concrete Wingwalls
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	184.6
Water Depth (m):	0.1

Additional Notes/Notable Obstructions:	Thickness of Concrete 0.82m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Junction Rd
Northing:	4756352.71 N
Easting:	603850.85 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	May 18, 2023
Weather:	15°C, Sunny
Crossing ID:	34

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	3.1
Rise (m):	0.9
Length (m):	11.0

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	184.28
DS Invert Elevation (m):	183.88

US Obvert Elevation (m):	185.18
DS Obvert Elevation (m):	185.15

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	185.9
Water Depth (m):	0.2

Additional Notes/Notable Obstructions:	Thickness of concrete is 0.28m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Darling Rd
Northing:	4757632.82 N
Easting:	605622.39 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	May 18, 2023
Weather:	8°C, Sunny
Crossing ID:	35

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	5.3
Rise (m):	1.41
Length (m):	9.8

Material:	Concrete
Open Footing:	Yes
Skew Angle:	
Sediment Depth (mm):	N/A
Road Barrier:	1m Concrete, 0.8m Guard Rail

US Invert Elevation (m):	180.13
DS Invert Elevation (m):	180.12

US Obvert Elevation (m):	181.54
DS Obvert Elevation (m):	191.55

Inlet/Outlet Type:	45° Concrete headwall
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	182.1
Water Depth (m):	0.73

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Haldimand Dunnville Townline Rd
Northing:	4757662.64 N
Easting:	605358.6 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	May 18, 2023
Weather:	8°C, Sunny
Crossing ID:	36

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	6.1
Rise (m):	1.53
Length (m):	11.9

Material:	Concrete
Open Footing:	Yes
Skew Angle:	
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	180.85
DS Invert Elevation (m):	180.91

US Obvert Elevation (m):	182.38
DS Obvert Elevation (m):	182.37

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	183.5
Water Depth (m):	0.18

Additional Notes/Notable Obstructions:	Concrete is deteriorating, poor condition, overgrown plants at both faces
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Concession 1 Rd S
Northing:	4757403.17 N
Easting:	604130.75 E

Inspected By:	Paul Greck & Keiran Doak
Date:	25-May-23
Weather:	8°C, Cloudy
Crossing ID:	37.1

Inlet Type:	Twin Culvert
# of Spans:	1
Span or Diameter (m):	E&W 1.52
Rise (m):	W 1.53, E 1.51
Length (m):	17.9

Material:	Corrugated Steel
Open Footing:	No
Skew Angle:	39.5
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	W 182.88, E 182.88
DS Invert Elevation (m):	W 182.72, E 182.67

US Obvert Elevation (m):	W 184.41, E 184.39
DS Obvert Elevation (m):	W 184.24, E 184.19

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	184.8
Water Depth (m):	0.13

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Concession 1 Rd S
Northing:	4757403.17 N
Easting:	604130.75 E

Inspected By:	Paul Greck & Keiran Doak
Date:	25-May-23
Weather:	8°C, Cloudy
Crossing ID:	37.2

Inlet Type:	Culvert
# of Spans:	1
Span or Diameter (m):	0.9
Rise (m):	0.90
Length (m):	14.9

Material:	Corrugated Steel
Open Footing:	No
Skew Angle:	39.5
Sediment Depth (mm):	200
Road Barrier:	No

US Invert Elevation (m):	183.03
DS Invert Elevation (m):	183.09

US Obvert Elevation (m):	183.93
DS Obvert Elevation (m):	183.95

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	184.7
Water Depth (m):	0.05

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Junction Rd
Northing:	4757669.24 N
Easting:	603399.79 E

Inspected By:	Paul Greck & Keiran Doak
Date:	25-May-23
Weather:	8°C, Cloudy
Crossing ID:	38

Inlet Type:	Bridge
# of Spans:	1
Span or Diameter (m):	3.0
Rise (m):	1.41
Length (m):	7.6

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	0
Road Barrier:	0.78m Guard Rail

US Invert Elevation (m):	183.31
DS Invert Elevation (m):	183.43

US Obvert Elevation (m):	184.72
DS Obvert Elevation (m):	184.71

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	185.5
Water Depth (m):	0.36

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Dairy Side Rd
Northing:	4757277.06 N
Easting:	600783.18 E

Inspected By:	Paul Greck & Keiran Doak
Date:	25-May-23
Weather:	8°C, Cloudy
Crossing ID:	39

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	2.1
Rise (m):	1.46
Length (m):	19.9

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	189.13
DS Invert Elevation (m):	189.23

US Obvert Elevation (m):	190.59
DS Obvert Elevation (m):	190.51

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	191.6
Water Depth (m):	0.19

Additional Notes/Notable Obstructions:	Concrete Thickness 0.24m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Dairy Side Rd
Northing:	4757426.22 N
Easting:	600722.01 E

Inspected By:	Paul Greck & Keiran Doak
Date:	25-May-23
Weather:	8°C, Cloudy
Crossing ID:	40

Inlet Type:	Culvert
# of Spans:	1
Span or Diameter (m):	0.6
Rise (m):	0.48
Length (m):	17.9

Material:	Corrugated Steel
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	189.93
DS Invert Elevation (m):	189.93

US Obvert Elevation (m):	190.53
DS Obvert Elevation (m):	190.41

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	192.3
Water Depth (m):	0.11

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Canborough Rd
Northing:	4760789.01 N
Easting:	608525.5 E

Inspected By:	Paul Greck & Keiran Doak
Date:	03-Aug-23
Weather:	24°C, Cloudy
Crossing ID:	41

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	1.2
Rise (m):	1.34
Length (m):	27.9

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	0.75m Post and Wire

US Invert Elevation (m):	174.08
DS Invert Elevation (m):	174.29

US Obvert Elevation (m):	175.42
DS Obvert Elevation (m):	175.67

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	178.7
Water Depth (m):	0.23

Additional Notes/Notable Obstructions:	D/S outlet with CSP pipe 1.37 dia. - Length 2.55m Thickness of concrete is 0.25m NO US THALWAG SURVEYED
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Canborough Rd
Northing:	4760839.66 N
Easting:	608139.17 E

Inspected By:	Paul Greck & Keiran Doak
Date:	03-Aug-23
Weather:	24°C, Cloudy
Crossing ID:	42

Inlet Type:	Culvert
# of Spans:	1
Span or Diameter (m):	1.1
Rise (m):	1.05
Length (m):	27.0

Material:	Corrugated Steel
Open Footing:	No
Skew Angle:	8°
Sediment Depth (mm):	N/A
Road Barrier:	0.75m Post and Wire

US Invert Elevation (m):	175.55
DS Invert Elevation (m):	175.23

US Obvert Elevation (m):	176.6
DS Obvert Elevation (m):	176.24

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	178.8
Water Depth (m):	0.15

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Dunnville Rd
Northing:	4760360.11 N
Easting:	607996.46 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	June 7, 2023
Weather:	18°C, hazy
Crossing ID:	43

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	6.1
Rise (m):	2.94
Length (m):	34.5

Material:	Concrete
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	0.6m high Post Wire Fence

US Invert Elevation (m):	173.34
DS Invert Elevation (m):	173.28

US Obvert Elevation (m):	176.28
DS Obvert Elevation (m):	176.3

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	179.4
Water Depth (m):	0.39

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
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Downstream Photo:	
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Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Darling Rd
Northing:	4759569.92 N
Easting:	607177.55 E

Inspected By:	Paul Greck & Keiran Doak
Date:	25-May-23
Weather:	8°C, Cloudy
Crossing ID:	44

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	4.85
Rise (m):	1.72
Length (m):	18.1

Material:	Concrete
Open Footing:	Yes
Skew Angle:	4
Sediment Depth (mm):	N/A
Road Barrier:	0.75m Guard rails

US Invert Elevation (m):	175.08
DS Invert Elevation (m):	175.11

US Obvert Elevation (m):	176.8
DS Obvert Elevation (m):	177.4

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	179.1
Water Depth (m):	0.5

Additional Notes/Notable Obstructions:	Concrete Thickness 0.43m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Ricker Rd
Northing:	4758906.99 N
Easting:	607019.57 E

Inspected By:	Paul Greck & Keiran Doak
Date:	25-May-23
Weather:	8°C, Cloudy
Crossing ID:	45

Inlet Type:	Culvert
# of Spans:	1
Span or Diameter (m):	1.9
Rise (m):	2.10
Length (m):	11.8

Material:	Corrugated Steel
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	175.80
DS Invert Elevation (m):	175.82

US Obvert Elevation (m):	177.9
DS Obvert Elevation (m):	177.91

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	178.4
Water Depth (m):	0.12

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Darling Rd
Northing:	4758451.47 N
Easting:	606363.62 E

Inspected By:	Paul Greck & Keiran Doak
Date:	25-May-23
Weather:	8°C, Cloudy
Crossing ID:	46

Inlet Type:	Culvert
# of Spans:	1
Span or Diameter (m):	1.8
Rise (m):	1.84
Length (m):	16.9

Material:	Corrugated Steel
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	0.75m Guard Rail, DS side

US Invert Elevation (m):	178.44
DS Invert Elevation (m):	178.42

US Obvert Elevation (m):	180.28
DS Obvert Elevation (m):	180.19

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	181.2
Water Depth (m):	0.38

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Haldimand Dunnville Townline Rd
Northing:	4758263.16 N
Easting:	605325.31 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	May 18, 2023
Weather:	8°C, Sunny
Crossing ID:	47

Inlet Type:	Twin Circular Pipes
# of Spans:	1
Span or Diameter (m):	1.16, 1.12
Rise (m):	0.89
Length (m):	6.8, 6.7

Material:	Corrugated Steel
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	180.95, 180.91
DS Invert Elevation (m):	181.05, 181.01

US Obvert Elevation (m):	181.84, 181.87
DS Obvert Elevation (m):	182.10, 182.06

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	182.4
Water Depth (m):	0.4

Additional Notes/Notable Obstructions:	Twin culverts, elevations are written in North, South order Wood and concrete debris at both ends of crossing
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Haldimand Dunnville Townline Rd
Northing:	4758139.64 N
Easting:	605135.816 E

Inspected By:	Paul Greck & Keiran Doak
Date:	September 22, 2023
Weather:	21°C, Sunny
Crossing ID:	RR13

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	2-2-2
Rise (m):	1.38
Length (m):	16.0

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	181.69
DS Invert Elevation (m):	181.6

US Obvert Elevation (m):	183.07
DS Obvert Elevation (m):	183.08

Inlet/Outlet Type:	90° Concrete Wingwalls
High Water Mark Depth (m):	Not Observed
Number of Piers:	2
Pier Width:	0.6m

Low Point in Road Elevation (m):	183.6
Water Depth (m):	0.78

Additional Notes/Notable Obstructions:	Thickness of Concrete 0.8m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Junction Rd
Northing:	4758088.84 N
Easting:	603264.42 E

Inspected By:	Paul Greck & Keiran Doak
Date:	25-May-23
Weather:	8°C, Cloudy
Crossing ID:	48

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	3.7
Rise (m):	1.69
Length (m):	17.1

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	184.94
DS Invert Elevation (m):	184.78

US Obvert Elevation (m):	186.63
DS Obvert Elevation (m):	186.62

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	187.6
Water Depth (m):	0.18

Additional Notes/Notable Obstructions:	Concrete Thickness 0.26m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Junction Rd
Northing:	4758116.064 N
Easting:	602613.865 E

Inspected By:	Paul Greck & Keiran Doak
Date:	September 22, 2023
Weather:	21°C, Sunny
Crossing ID:	RR14

Inlet Type:	Circular Pipe
# of Spans:	1
Span or Diameter (m):	1.5
Rise (m):	1.5
Length (m):	13.1

Material:	Concrete
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	186.64
DS Invert Elevation (m):	186.26

US Obvert Elevation (m):	187.78
DS Obvert Elevation (m):	187.91

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	188.2
Water Depth (m):	0.26

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Junction Rd
Northing:	4758143.569 N
Easting:	602605.351 E

Inspected By:	Paul Greck & Keiran Doak
Date:	September 22, 2023
Weather:	21°C, Sunny
Crossing ID:	RR15

Inlet Type:	Box culvert
# of Spans:	1
Span or Diameter (m):	1.8
Rise (m):	1.61
Length (m):	15.3

Material:	armourstone with steel beams
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	1m Post wire fence

US Invert Elevation (m):	186.43
DS Invert Elevation (m):	186.09

US Obvert Elevation (m):	187.7
DS Obvert Elevation (m):	187.7

Inlet/Outlet Type:	70° Concrete Wingwalls
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	188.3
Water Depth (m):	0.94

Additional Notes/Notable Obstructions:	Concrete additon to box culvert on DS end
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Upstream Photo:	
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Downstream Photo:	
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Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Talbot Rd
Northing:	4758482.42 N
Easting:	600918.23 E

Inspected By:	Paul Greck & Keiran Doak
Date:	25-May-23
Weather:	8°C, Cloudy
Crossing ID:	49

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	2.5
Rise (m):	1.53
Length (m):	19.6

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	189.16
DS Invert Elevation (m):	189.33

US Obvert Elevation (m):	190.69
DS Obvert Elevation (m):	190.63

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	191.1
Water Depth (m):	0.17

Additional Notes/Notable Obstructions:	Concrete Thickness 0.2m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Darling Rd
Northing:	4758954.01 N
Easting:	606736.71 E

Inspected By:	Paul Greck & Keiran Doak
Date:	25-May-23
Weather:	8°C, Cloudy
Crossing ID:	50

Inlet Type:	Culvert
# of Spans:	1
Span or Diameter (m):	1.2
Rise (m):	1.24
Length (m):	10.5

Material:	Corrugated Steel
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	177.24
DS Invert Elevation (m):	177.09

US Obvert Elevation (m):	178.48
DS Obvert Elevation (m):	178.34

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	179.1
Water Depth (m):	0.09

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	aldimand Dunnville Townline Rd
Northing:	4759742.99 N
Easting:	605236.43 E

Inspected By:	Paul Greck & Keiran Doak
Date:	May 31, 2023
Weather:	24°C, Cloudy
Crossing ID:	51

Inlet Type:	Circular Pipe
# of Spans:	1
Span or Diameter (m):	1.7
Rise (m):	1.99
Length (m):	12.1

Material:	Corrugated Steel
Open Footing:	No
Skew Angle:	26.5
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	177.65
DS Invert Elevation (m):	177.84

US Obvert Elevation (m):	179.64
DS Obvert Elevation (m):	179.74

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	179.8
Water Depth (m):	0.49

Additional Notes/Notable Obstructions:	Bottom of pipe corroded Concrete headwalls on US and DS sides
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Talbot Rd
Northing:	4759867.42 N
Easting:	605064.32 E

Inspected By:	Paul Greck & Keiran Doak
Date:	May 31, 2023
Weather:	24°C, Cloudy
Crossing ID:	52

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	3.0
Rise (m):	1.82
Length (m):	24.6

Material:	Concrete
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	0.53m high Post Wire Fence

US Invert Elevation (m):	178.52
DS Invert Elevation (m):	178.33

US Obvert Elevation (m):	180.34
DS Obvert Elevation (m):	180.19

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	181.3
Water Depth (m):	0.38

Additional Notes/Notable Obstructions:	Concrete thickness 0.21m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Talbot Rd
Northing:	4759848.87 N
Easting:	604992.03 E

Inspected By:	Paul Greck & Keiran Doak
Date:	May 31, 2023
Weather:	24°C, Cloudy
Crossing ID:	53

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	3.1
Rise (m):	1.88
Length (m):	19.7

Material:	Concrete
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	0.53m high Post Wire Fence

US Invert Elevation (m):	178.36
DS Invert Elevation (m):	178.56

US Obvert Elevation (m):	180.24
DS Obvert Elevation (m):	180.38

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	181.0
Water Depth (m):	0.19

Additional Notes/Notable Obstructions:	Concrete Thickness 0.22m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Talbot Rd
Northing:	4759794.31 N
Easting:	604845.26 E

Inspected By:	Paul Greck & Keiran Doak
Date:	May 31, 2023
Weather:	24°C, Cloudy
Crossing ID:	54

Inlet Type:	Twin Box Culvert
# of Spans:	2
Span or Diameter (m):	E&W 4.27
Rise (m):	E&W 2.16
Length (m):	W 19.43, E 19.46

Material:	Concrete
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	0.22
Road Barrier:	0.53m high Post Wire Fence

US Invert Elevation (m):	W 178.13, E 178.15
DS Invert Elevation (m):	E & W 178.10

US Obvert Elevation (m):	W 180.29, E 180.31
DS Obvert Elevation (m):	E & W 180.24

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	1
Pier Width:	0.66

Low Point in Road Elevation (m):	181.2
Water Depth (m):	0.3

Additional Notes/Notable Obstructions:	Concrete Thickness 0.3m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Junction Rd
Northing:	4759211.79 N
Easting:	602893.7 E

Inspected By:	Paul Greck & Keiran Doak
Date:	25-May-23
Weather:	8°C, Cloudy
Crossing ID:	55

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	4.3
Rise (m):	1.70
Length (m):	17.0

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	183.78
DS Invert Elevation (m):	183.82

US Obvert Elevation (m):	185.48
DS Obvert Elevation (m):	185.46

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	186.3
Water Depth (m):	0.13

Additional Notes/Notable Obstructions:	Concrete Thickness 0.28 m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Talbot Rd
Northing:	4759175.663 N
Easting:	601610.585 E

Inspected By:	Paul Greck & Keiran Doak
Date:	September 26, 2023
Weather:	22°C, Sunny
Crossing ID:	RR16

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	2.5
Rise (m):	1.81
Length (m):	7.5

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	187.39
DS Invert Elevation (m):	187.15

US Obvert Elevation (m):	189.2
DS Obvert Elevation (m):	189.17

Inlet/Outlet Type:	45° Concrete Wingwalls
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	190.4
Water Depth (m):	US and DS channel Dry

Additional Notes/Notable Obstructions:	Thickness of Concrete 1m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Highway 56
Northing:	4759039.91 N
Easting:	600146.97 E

Inspected By:	Paul Greck & Keiran Doak
Date:	May 31, 2023
Weather:	24°C, Cloudy
Crossing ID:	56

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	2.5
Rise (m):	1.01
Length (m):	20.6

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	0.41m high Post Wire Fence

US Invert Elevation (m):	190.46
DS Invert Elevation (m):	190.53

US Obvert Elevation (m):	191.47
DS Obvert Elevation (m):	191.45

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	193.4
Water Depth (m):	0.18

Additional Notes/Notable Obstructions:	Concrete Thickness 0.25m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Junction Rd
Northing:	4760146.56 N
Easting:	602580.15 E

Inspected By:	Paul Greck & Keiran Doak
Date:	May 31, 2023
Weather:	24°C, Cloudy
Crossing ID:	57

Inlet Type:	Elliptical Pipe
# of Spans:	1
Span or Diameter (m):	1.6
Rise (m):	1.30
Length (m):	11.9

Material:	Corrugated steel
Open Footing:	No
Skew Angle:	7
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	185.53
DS Invert Elevation (m):	185.53

US Obvert Elevation (m):	186.83
DS Obvert Elevation (m):	186.62

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	187.6
Water Depth (m):	0.19

Additional Notes/Notable Obstructions:	Wood debris blockage on US end of inlet
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Haldimand Dunnville Townline Rd
Northing:	4761167.69 N
Easting:	605166.43 E

Inspected By:	Paul Greck & Keiran Doak
Date:	03-Aug-23
Weather:	24°C, Cloudy
Crossing ID:	58

Inlet Type:	Bridge
# of Spans:	1
Span or Diameter (m):	7.3
Rise (m):	1.20
Length (m):	7.1

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	West GR 0.7-East Conc GR 0.9

US Invert Elevation (m):	179.94
DS Invert Elevation (m):	179.65

US Obvert Elevation (m):	181.14
DS Obvert Elevation (m):	181.1

Inlet/Outlet Type:	Perpendicular Wall with headwalls
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	181.8
Water Depth (m):	0.27

Additional Notes/Notable Obstructions:	U/S North 90° concrete headwall D/S North 45° concrete headwall
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Junction Rd
Northing:	4760914.13 N
Easting:	602338.15 E

Inspected By:	Paul Greck & Keiran Doak
Date:	May 31, 2023
Weather:	24°C, Cloudy
Crossing ID:	59

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	4.3
Rise (m):	1.36
Length (m):	15.2

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	185.23
DS Invert Elevation (m):	184.87

US Obvert Elevation (m):	186.59
DS Obvert Elevation (m):	186.57

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	187.5
Water Depth (m):	0.23

Additional Notes/Notable Obstructions:	Concrete Thickness 0.31m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Townline Rd E
Northing:	4760576.91 N
Easting:	600614.15 E

Inspected By:	Paul Greck & Keiran Doak
Date:	May 31, 2023
Weather:	24°C, Cloudy
Crossing ID:	60

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	4.8
Rise (m):	1.03
Length (m):	19.5

Material:	Concrete
Open Footing:	No
Skew Angle:	45
Sediment Depth (mm):	N/A
Road Barrier:	0.7m high Guard Rail

US Invert Elevation (m):	187.41
DS Invert Elevation (m):	187.5

US Obvert Elevation (m):	188.44
DS Obvert Elevation (m):	188.47

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	189.2
Water Depth (m):	0.21

Additional Notes/Notable Obstructions:	Concrete Thickness 0.31 Check skew angle in CAD Get span in CAD
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Townline Rd E
Northing:	4760389.815 N
Easting:	599913.786 E

Inspected By:	Paul Greck & Keiran Doak
Date:	September 26, 2023
Weather:	22°C, Sunny
Crossing ID:	RR17

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	3.7
Rise (m):	2.07
Length (m):	7.4

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	188.77
DS Invert Elevation (m):	189.23

US Obvert Elevation (m):	190.84
DS Obvert Elevation (m):	190.75

Inlet/Outlet Type:	45° Concrete Wingwalls
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	191.7
Water Depth (m):	0.21

Additional Notes/Notable Obstructions:	Thickness of Concrete 0.85m beaver dam on DS end
---	---

Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Highway 56
Northing:	4760352.52 N
Easting:	599724.48 E

Inspected By:	Paul Greck & Keiran Doak
Date:	May 31, 2023
Weather:	24°C, Cloudy
Crossing ID:	61

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	2.5
Rise (m):	1.24
Length (m):	19.1

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	0.88m Post & Wire Fence

US Invert Elevation (m):	188.98
DS Invert Elevation (m):	189.04

US Obvert Elevation (m):	190.22
DS Obvert Elevation (m):	190.23

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	191.3
Water Depth (m):	0.48

Additional Notes/Notable Obstructions:	Concrete degraded on US and DS inlets, US has significantly eroded top Concrete Thickness 0.3m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Townline Rd E
Northing:	4759896.27 N
Easting:	598545.04 E

Inspected By:	Paul Greck & Keiran Doak
Date:	May 31, 2023
Weather:	24°C, Cloudy
Crossing ID:	62

Inlet Type:	Elliptical pipe
# of Spans:	1
Span or Diameter (m):	2.1
Rise (m):	1.60
Length (m):	17.9

Material:	Corrugated Steel
Open Footing:	No
Skew Angle:	26
Sediment Depth (mm):	N/A
Road Barrier:	DS partial Post and wire 0.66

US Invert Elevation (m):	191.39
DS Invert Elevation (m):	191.26

US Obvert Elevation (m):	192.99
DS Obvert Elevation (m):	192.83

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	193.4
Water Depth (m):	0.18

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Caistorville Rd
Northing:	4762267.09 N
Easting:	606977.84 E

Inspected By:	Paul Greck & Keiran Doak
Date:	03-Aug-23
Weather:	24°C, Cloudy
Crossing ID:	63

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	2.4
Rise (m):	1.45
Length (m):	27.7

Material:	Concrete and Corrugated Steel
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	175.45
DS Invert Elevation (m):	175.68

US Obvert Elevation (m):	176.9
DS Obvert Elevation (m):	177.45

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	180.0
Water Depth (m):	0.15

Additional Notes/Notable Obstructions:	Box culvert attached to CSP outlet- dia 2.75 apparent leaking at connection Box culvert attached to arched CSP inlet - dia 2.6 U/S CSP to Box Culvert 5.82 D/S CSP to Box Culvert 6.33 NO OBVERT SURVEYED
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Caistorville Rd
Northing:	4762636.13 N
Easting:	605844.36 E

Inspected By:	Paul Greck & Keiran Doak
Date:	03-Aug-23
Weather:	24°C, Cloudy
Crossing ID:	64

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	1.8
Rise (m):	1.97
Length (m):	24.1

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	176.29
DS Invert Elevation (m):	176.1

US Obvert Elevation (m):	178.26
DS Obvert Elevation (m):	178.25

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	180.8
Water Depth (m):	0.35

Additional Notes/Notable Obstructions:	concrete thickness 0.28
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Indiana Rd E
Northing:	4762594.48 N
Easting:	605152.59 E

Inspected By:	Paul Greck & Keiran Doak
Date:	26-Jul-23
Weather:	23°C, Cloudy
Crossing ID:	65

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	6.1
Rise (m):	2.49
Length (m):	19.8

Material:	Concrete
Open Footing:	Yes
Skew Angle:	22.5
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	176.46
DS Invert Elevation (m):	176.5

US Obvert Elevation (m):	178.95
DS Obvert Elevation (m):	178.98

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	182.2
Water Depth (m):	0.37

Additional Notes/Notable Obstructions:	Thickness of concrete is 0.5m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Concession 1 Rd
Northing:	4764190.75 N
Easting:	604840.29 E

Inspected By:	Paul Greck & Keiran Doak
Date:	26-Jul-23
Weather:	23°C, Cloudy
Crossing ID:	66

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	6.1
Rise (m):	1.95
Length (m):	21.5

Material:	Concrete
Open Footing:	Yes
Skew Angle:	No
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	179.24
DS Invert Elevation (m):	179.363

US Obvert Elevation (m):	181.186
DS Obvert Elevation (m):	181.188

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	182.9
Water Depth (m):	0.63

Additional Notes/Notable Obstructions:	Thickness of concrete is 0.3m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Turnbull Rd
Northing:	4764643.97 N
Easting:	600890.85 E

Inspected By:	Paul Greck & Keiran Doak
Date:	26-Jul-23
Weather:	23°C, Cloudy
Crossing ID:	67

Inlet Type:	Bridge with arch
# of Spans:	1
Span or Diameter (m):	4.5
Rise (m):	1.21
Length (m):	10.0

Material:	Concrete & corrugated steel
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	Guard Rail 0.8m

US Invert Elevation (m):	187.20
DS Invert Elevation (m):	187.15

US Obvert Elevation (m):	188.41
DS Obvert Elevation (m):	188.4

Inlet/Outlet Type:	Perpendicular Wall
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	189.1
Water Depth (m):	0.28

Additional Notes/Notable Obstructions:	Thickness of concrete is 0.72 from bridge deck to obvert Steel corrugations 0.25 deep
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Concession Rd 2
Northing:	4764844.44 N
Easting:	600413.96 E

Inspected By:	Paul Greck & Keiran Doak
Date:	26-Jul-23
Weather:	23°C, Cloudy
Crossing ID:	68

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	4.3
Rise (m):	1.52
Length (m):	15.2

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	187.96
DS Invert Elevation (m):	187.89

US Obvert Elevation (m):	189.48
DS Obvert Elevation (m):	189.5

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	190.4
Water Depth (m):	0.78

Additional Notes/Notable Obstructions:	Thickness of concrete is 0.27m
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Upstream Photo:	
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Downstream Photo:	
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Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Highway 56
Northing:	4764638.9 N
Easting:	598284.55 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	June 7, 2023
Weather:	18°C, hazy
Crossing ID:	69

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	3.0
Rise (m):	1.36
Length (m):	20.9

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	1m high Post Wire Fence

US Invert Elevation (m):	189.83
DS Invert Elevation (m):	190.08

US Obvert Elevation (m):	191.19
DS Obvert Elevation (m):	191.21

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	192.2
Water Depth (m):	0.64

Additional Notes/Notable Obstructions:	Thickness of concrete is 0.24m Upstream channel appears to be filled in, slope still generally drains towards culvert, some drainage comes from a swale on north side
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Singer Rd
Northing:	4764571.01 N
Easting:	596559.33 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	June 7, 2023
Weather:	18°C, hazy
Crossing ID:	70

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	2.1
Rise (m):	1.32
Length (m):	5.1

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	192.12
DS Invert Elevation (m):	192.10

US Obvert Elevation (m):	193.44
DS Obvert Elevation (m):	193.38

Inlet/Outlet Type:	Perpendicular with the road
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	193.5
Water Depth (m):	0m, some ponding

Additional Notes/Notable Obstructions:	Thickness of concrete is 0.42m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Highway 9
Northing:	4765155.85 N
Easting:	594944.01 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	June 7, 2023
Weather:	18°C, hazy
Crossing ID:	71

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	1.8
Rise (m):	1.19
Length (m):	19.2

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	1m high Post Wire Fence

US Invert Elevation (m):	195.14
DS Invert Elevation (m):	195.1

US Obvert Elevation (m):	196.33
DS Obvert Elevation (m):	196.29

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	197.0
Water Depth (m):	0.16m DS

Additional Notes/Notable Obstructions:	Thickness of concrete is 0.21m concrete box culvert extension at both ds and us ends, 2.5m length, center piece open footing no water at us end
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Turnbull Rd
Northing:	4761331.84 N
Easting:	601992.66 E

Inspected By:	Paul Greck & Keiran Doak
Date:	May 31, 2023
Weather:	24°C, Cloudy
Crossing ID:	72

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	5.1
Rise (m):	1.73
Length (m):	19.0

Material:	Concrete
Open Footing:	Yes
Skew Angle:	45
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	182.10
DS Invert Elevation (m):	182.03

US Obvert Elevation (m):	183.83
DS Obvert Elevation (m):	183.72

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	184.6
Water Depth (m):	0.22

Additional Notes/Notable Obstructions:	Concrete Thickness 0.27m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Highway 56
Northing:	4760889.4 N
Easting:	599545.04 E

Inspected By:	Paul Greck & Keiran Doak
Date:	May 31, 2023
Weather:	24°C, Cloudy
Crossing ID:	73

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	4.3
Rise (m):	1.55
Length (m):	23.0

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	0.8m Post and Wire Fence

US Invert Elevation (m):	187.04
DS Invert Elevation (m):	187.34

US Obvert Elevation (m):	188.59
DS Obvert Elevation (m):	188.61

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	191.1
Water Depth (m):	0.19

Additional Notes/Notable Obstructions:	Concrete thickness 0.3m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Highway 56
Northing:	4760875.737 N
Easting:	599222.23 E

Inspected By:	Paul Greck & Keiran Doak
Date:	September 26, 2023
Weather:	22°C, Sunny
Crossing ID:	RR18

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	3.6
Rise (m):	2.40
Length (m):	8.8

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	188.03
DS Invert Elevation (m):	187.74

US Obvert Elevation (m):	190.43
DS Obvert Elevation (m):	190.32

Inlet/Outlet Type:	45° Concrete Wingwalls
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	192.3
Water Depth (m):	0.4

Additional Notes/Notable Obstructions:	Thickness of Concrete 1m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Indiana Rd E
Northing:	4760963.87 N
Easting:	597611.86 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	June 7, 2023
Weather:	18°C, hazy
Crossing ID:	74

Inlet Type:	Elliptical Pipe
# of Spans:	1
Span or Diameter (m):	1.41
Rise (m):	0.62
Length (m):	13.8

Material:	Corrugated steel
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	0.05
Road Barrier:	No

US Invert Elevation (m):	192.92
DS Invert Elevation (m):	192.89

US Obvert Elevation (m):	193.54
DS Obvert Elevation (m):	193.93

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	194.5
Water Depth (m):	0

Additional Notes/Notable Obstructions:	US side is badly warped and broken, collapsed, bottom DS corroded on both ends Significant sediment accumulation on both ends
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Indiana Rd E
Northing:	4760897.66 N
Easting:	597275.99 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	June 7, 2023
Weather:	18°C, hazy
Crossing ID:	75

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	2.4
Rise (m):	1.31
Length (m):	7.3

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	0.92 Metal rail with wood posts

US Invert Elevation (m):	193.70
DS Invert Elevation (m):	193.95

US Obvert Elevation (m):	195.01
DS Obvert Elevation (m):	195.06

Inlet/Outlet Type:	Perpendicular with the road
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	195.8
Water Depth (m):	0.2

Additional Notes/Notable Obstructions:	Concrete Thickness 0.55m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Singer Rd
Northing:	4760815.8 N
Easting:	596985.83 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	June 7, 2023
Weather:	18°C, hazy
Crossing ID:	76

Inlet Type:	Circular Pipe
# of Spans:	1
Span or Diameter (m):	1.0
Rise (m):	1.00
Length (m):	15.0

Material:	Corrugated steel
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	194.46
DS Invert Elevation (m):	194.48

US Obvert Elevation (m):	195.46
DS Obvert Elevation (m):	195.45

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	196.0
Water Depth (m):	Dry

Additional Notes/Notable Obstructions:	Wire and post fence along Indiana Rd E
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Turnbull Rd
Northing:	4762199.05 N
Easting:	601704.85 E

Inspected By:	Paul Greck & Keiran Doak
Date:	26-Jul-23
Weather:	23°C, Cloudy
Crossing ID:	77

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	3.7
Rise (m):	2.45
Length (m):	20.9

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	180.87
DS Invert Elevation (m):	180.88

US Obvert Elevation (m):	183.32
DS Obvert Elevation (m):	183.28

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	184.9
Water Depth (m):	0.53

Additional Notes/Notable Obstructions:	Thickness of concrete is 0.27m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Concession 1 Rd
Northing:	4762297.92 N
Easting:	599208.52 E

Inspected By:	Paul Greck & Keiran Doak
Date:	26-Jul-23
Weather:	23°C, Cloudy
Crossing ID:	78

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	3.7
Rise (m):	2.43
Length (m):	30.6

Material:	Concrete
Open Footing:	Yes
Skew Angle:	45°
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	185.76
DS Invert Elevation (m):	185.73

US Obvert Elevation (m):	188.19
DS Obvert Elevation (m):	188.1

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	188.9
Water Depth (m):	0.76

Additional Notes/Notable Obstructions:	Thickness of concrete is 0.32m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Highway 56
Northing:	4762338.12 N
Easting:	599062.42 E

Inspected By:	Paul Greck & Keiran Doak
Date:	26-Jul-23
Weather:	23°C, Cloudy
Crossing ID:	79

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	5.0
Rise (m):	1.72
Length (m):	19.4

Material:	Concrete
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	0.35
Road Barrier:	Guard Rail 0.7m

US Invert Elevation (m):	185.97
DS Invert Elevation (m):	186.08

US Obvert Elevation (m):	187.69
DS Obvert Elevation (m):	187.62

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	188.6
Water Depth (m):	0.54

Additional Notes/Notable Obstructions:	Thickness of concrete is 0.32m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Concession 1 Rd
Northing:	4762118.703 N
Easting:	597475.659 E

Inspected By:	Paul Greck & Keiran Doak
Date:	September 26, 2023
Weather:	22°C, Sunny
Crossing ID:	RR19

Inlet Type:	Circular Pipe
# of Spans:	1
Span or Diameter (m):	1.2
Rise (m):	1.20
Length (m):	12.8

Material:	Concrete
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	189.31
DS Invert Elevation (m):	189.47

US Obvert Elevation (m):	190.73
DS Obvert Elevation (m):	190.83

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	192.3
Water Depth (m):	0.23

Additional Notes/Notable Obstructions:	Thickness of Concrete 0.15m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Singer Rd
Northing:	4761905.93 N
Easting:	596818.19 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	June 7, 2023
Weather:	18°C, hazy
Crossing ID:	80.1

Inlet Type:	Circular Pipe
# of Spans:	1
Span or Diameter (m):	1.2
Rise (m):	1.14
Length (m):	11.7

Material:	Corrugated PVC
Open Footing:	No
Skew Angle:	25
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	190.90
DS Invert Elevation (m):	191.02

US Obvert Elevation (m):	192.04
DS Obvert Elevation (m):	192.26

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	193.0
Water Depth (m):	Dry

Additional Notes/Notable Obstructions:	DS is dry, some ponding at us end
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Singer Rd
Northing:	4761905.93 N
Easting:	596818.19 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	June 7, 2023
Weather:	18°C, hazy
Crossing ID:	80.2

Inlet Type:	Circular Pipe
# of Spans:	1
Span or Diameter (m):	1.2
Rise (m):	1.13
Length (m):	10.0

Material:	Corrugated PVC
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	191.25
DS Invert Elevation (m):	191.08

US Obvert Elevation (m):	192.38
DS Obvert Elevation (m):	192.27

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	192.9
Water Depth (m):	Dry

Additional Notes/Notable Obstructions:	
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Concession 1 Rd
Northing:	4763361.14 N
Easting:	602413.89 E

Inspected By:	Paul Greck & Keiran Doak
Date:	26-Jul-23
Weather:	23°C, Cloudy
Crossing ID:	81

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	6.0
Rise (m):	2.68
Length (m):	23.3

Material:	Concrete
Open Footing:	Yes
Skew Angle:	No
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	180.16
DS Invert Elevation (m):	180.26

US Obvert Elevation (m):	182.84
DS Obvert Elevation (m):	182.78

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	183.5
Water Depth (m):	0.71

Additional Notes/Notable Obstructions:	Thickness of concrete is 0.38m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Turnbull Rd
Northing:	4763530.63 N
Easting:	601256.52 E

Inspected By:	Paul Greck & Keiran Doak
Date:	26-Jul-23
Weather:	23°C, Cloudy
Crossing ID:	82

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	4.9
Rise (m):	2.26
Length (m):	16.4

Material:	Concrete
Open Footing:	Yes
Skew Angle:	No
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	182.30
DS Invert Elevation (m):	182.12

US Obvert Elevation (m):	184.56
DS Obvert Elevation (m):	184.55

Inlet/Outlet Type:	Projecting from Slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	No
Pier Width:	N/A

Low Point in Road Elevation (m):	185.7
Water Depth (m):	0.99

Additional Notes/Notable Obstructions:	Thickness of concrete is 0.3m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Highway 56
Northing:	4763405.72 N
Easting:	598698.13 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	June 7, 2023
Weather:	18°C, hazy
Crossing ID:	83

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	6.0
Rise (m):	1.76
Length (m):	20.3

Material:	Concrete
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	0.13
Road Barrier:	0.65m Guard Rail

US Invert Elevation (m):	186.43
DS Invert Elevation (m):	186.31

US Obvert Elevation (m):	188.19
DS Obvert Elevation (m):	188.12

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	189.2
Water Depth (m):	0.96

Additional Notes/Notable Obstructions:	Concrete thickness 0.35m Gabion basket on both sides of culvert on US and DS side Significant ponding on both US and DS sides
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Upstream Photo:	
Downstream Photo:	

Location:	Singer Rd
Northing:	4763131.45 N
Easting:	596783.17 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	June 7, 2023
Weather:	18°C, hazy
Crossing ID:	84

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	2.3
Rise (m):	1.36
Length (m):	7.3

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	0.15m Concrete Curb

US Invert Elevation (m):	189.84
DS Invert Elevation (m):	189.98

US Obvert Elevation (m):	191.2
DS Obvert Elevation (m):	191.22

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	191.6
Water Depth (m):	0.14

Additional Notes/Notable Obstructions:	Road barrier is 0.15m curb Concrete thickness 0.58 m
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Upstream Photo:	
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Downstream Photo:	
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Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Singer Rd
Northing:	4762984.457 N
Easting:	596262.163 E

Inspected By:	Paul Greck & Keiran Doak
Date:	September 26, 2023
Weather:	22°C, Sunny
Crossing ID:	RR20

Inlet Type:	Circular Pipe
# of Spans:	1
Span or Diameter (m):	1.2
Rise (m):	1.20
Length (m):	12.9

Material:	Currugated Steel
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	191.11
DS Invert Elevation (m):	191.21

US Obvert Elevation (m):	192.31
DS Obvert Elevation (m):	192.38

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	Roadway washed out
Water Depth (m):	0.27

Additional Notes/Notable Obstructions:	Pipe bottom completely corroded out. Roadway completely washed out above Pipe.
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Singer Rd
Northing:	4763430.86 N
Easting:	596771.93 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	June 7, 2023
Weather:	18°C, hazy
Crossing ID:	85

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	3.0
Rise (m):	1.26
Length (m):	14.4

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	Guard Rail 1.1m

US Invert Elevation (m):	189.77
DS Invert Elevation (m):	189.73

US Obvert Elevation (m):	191.03
DS Obvert Elevation (m):	191.03

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	191.6
Water Depth (m):	Dry

Additional Notes/Notable Obstructions:	Concrete thickness 0.26m Road barrier is concretewith metal railing, concrete is 0.35m, metal is 0.7m Tile drains on both US and DS side
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Concession Rd 2
Northing:	4763442.43 N
Easting:	596269.54 E

Inspected By:	Paul Greck & Jennifer Chan
Date:	June 7, 2023
Weather:	18°C, hazy
Crossing ID:	86

Inlet Type:	Box Culvert
# of Spans:	1
Span or Diameter (m):	3.0
Rise (m):	1.40
Length (m):	7.5

Material:	Concrete
Open Footing:	Yes
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	190.64
DS Invert Elevation (m):	190.64

US Obvert Elevation (m):	192.04
DS Obvert Elevation (m):	192.04

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	192.6
Water Depth (m):	Dry, some ponding

Additional Notes/Notable Obstructions:	Concrete thickness 0.6m
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Upstream Photo:	
Downstream Photo:	

Stream Crossing Field Inventory Sheet
Oswego Creek

Location:	Concession Rd 2
Northing:	4763602.666 N
Easting:	595397.719 E

Inspected By:	Paul Greck & Keiran Doak
Date:	September 26, 2023
Weather:	22°C, Sunny
Crossing ID:	RR21

Inlet Type:	Circular Pipe
# of Spans:	1
Span or Diameter (m):	1.0
Rise (m):	1.15
Length (m):	16.9

Material:	Corrugated Steel
Open Footing:	No
Skew Angle:	0
Sediment Depth (mm):	N/A
Road Barrier:	No

US Invert Elevation (m):	193.27
DS Invert Elevation (m):	193.2

US Obvert Elevation (m):	194.42
DS Obvert Elevation (m):	194.27

Inlet/Outlet Type:	Projecting from slope
High Water Mark Depth (m):	Not Observed
Number of Piers:	0
Pier Width:	0

Low Point in Road Elevation (m):	Roadway washed out
Water Depth (m):	0.45

Additional Notes/Notable Obstructions:	Pipe bottom partially corroded out. Roadway completely washed out above Pipe.
	4.6m of US end of pipe broken off. 6.2m of DS end broken off

Upstream Photo:	
Downstream Photo:	

APPENDIX B

Hydraulic Modelling Results

Q=VA	Assumed Channel Invert (m)					166.9	Calculated value
	Q (m³/s)	Q(Iterated) (m³/s)	Flood Elevation * (m)	Hydraulic Depth (m)	Area ** (m²)	Velocity (m/s)	Entered value
At Q(100)=	98.3		175.02	5.12	894.7	0.110	
Q(50)	89.9	89.9	174.82	4.917	818.2	0.110	Assuming the same velocity, Backwatered Channel
Q(200)	107	107.0	175.23	5.33	873.8	0.110	Assuming the same velocity, Backwatered Channel

* Adjust elevation to match iterated flow rate to actual rate
 ** Interpolated area from rating curve

HEC-RAS Plan: Oswego Watershed NPCA

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m2)	Trip Width (m)	Froude # Crl
17_309	907	50-yr	3.96	198.39	199.99	199.18	200.01	0.004551	0.43	0.59	0.65	6.04	19.05	0.16
17_309	907	100-yr	3.96	198.39	200.01	199.21	200.03	0.004918	0.48	0.62	0.67	6.43	20.72	0.17
17_309	907	200-yr	4.75	198.39	200.05	199.30	200.07	0.005217	0.56	0.65	0.71	7.26	23.39	0.18
17_309	684	50-yr	3.96	197.78	199.13		199.14	0.003269	0.33	0.45	0.47	7.89	39.03	0.13
17_309	684	100-yr	3.96	197.78	199.15		199.16	0.003064	0.35	0.44	0.49	8.88	40.66	0.12
17_309	684	200-yr	4.75	197.78	199.18		199.19	0.003027	0.39	0.44	0.51	9.92	43.66	0.12
17_309	483	50-yr	3.96	197.24	198.37	197.93	198.38	0.004343	0.28	0.58	0.18	9.82	41.71	0.19
17_309	483	100-yr	3.96	197.24	198.39	197.97	198.40	0.004678	0.30	0.62	0.20	10.26	42.71	0.20
17_309	483	200-yr	4.75	197.24	198.42	198.19	198.44	0.004794	0.32	0.63	0.24	12.06	45.81	0.20
17_309	196	50-yr	3.96	196.47	197.13	196.97	197.15	0.004260	0.54	0.44	0.66	8.36	35.72	0.19
17_309	196	100-yr	3.96	196.47	197.16	196.98	197.18	0.003728	0.54	0.43	0.65	7.13	39.16	0.18
17_309	196	200-yr	4.75	196.47	197.19	197.01	197.21	0.003890	0.58	0.45	0.70	7.95	43.61	0.18
17_309	31	50-yr	3.96	196.02	197.09		197.10	0.000087	0.09	0.07	0.13	29.98	115.36	0.02
17_309	31	100-yr	3.96	196.02	197.11		197.11	0.000117	0.08	0.08	0.13	31.96	117.64	0.03
17_309	31	200-yr	4.75	196.02	197.14		197.14	0.000124	0.09	0.08	0.14	34.72	118.41	0.03
17_308	1631	50-yr	4.15	200.10	201.25		201.26	0.001764	0.30	0.39	0.26	12.70	74.72	0.13
17_308	1631	100-yr	4.64	200.10	201.27		201.27	0.001704	0.31	0.39	0.28	13.93	77.39	0.13
17_308	1631	200-yr	5.60	200.10	201.29		201.30	0.001620	0.34	0.39	0.26	16.09	80.36	0.12
17_308	1249	50-yr	4.15	199.07	200.40		200.41	0.002967	0.48	0.47	0.40	9.44	47.07	0.15
17_308	1249	100-yr	4.64	199.07	200.41		200.42	0.002958	0.48	0.48	0.43	10.06	47.65	0.15
17_308	1249	200-yr	5.60	199.07	200.43	200.22	200.44	0.003295	0.53	0.51	0.48	10.97	48.63	0.16
17_308	978	50-yr	4.15	198.34	199.52		199.53	0.003657	0.34	0.45	0.39	10.78	87.87	0.16
17_308	978	100-yr	4.64	198.34	199.53		199.54	0.003550	0.36	0.45	0.40	11.80	90.60	0.16
17_308	978	200-yr	5.60	198.34	199.56	199.48	199.56	0.003150	0.38	0.43	0.41	14.00	95.71	0.15
17_308	510	50-yr	4.15	197.07	198.44	197.84	198.45	0.001765	0.18	0.40	0.31	12.09	21.18	0.13
17_308	510	100-yr	4.64	197.07	198.49	198.00	198.49	0.001755	0.19	0.41	0.33	13.03	21.44	0.13
17_308	510	200-yr	5.60	197.07	198.57	198.05	198.58	0.001714	0.21	0.42	0.36	14.84	21.80	0.13
17_308	206	50-yr	4.15	196.25	197.07		197.13	0.002910	0.49	1.15	0.87	3.76	13.41	0.49
17_308	206	100-yr	4.64	196.25	197.08		197.15	0.003678	0.54	1.24	0.96	3.89	13.97	0.53
17_308	206	200-yr	5.60	196.25	197.09	197.03	197.19	0.004721	0.64	1.45	1.14	4.03	14.54	0.61
17_308	34	50-yr	4.15	195.79	197.09	196.45	197.09	0.000027	0.08	0.08	0.10	48.53	152.60	0.02
17_308	34	100-yr	4.64	195.79	197.11	196.48	197.11	0.000030	0.08	0.08	0.11	51.74	156.19	0.02
17_308	34	200-yr	5.60	195.79	197.14	196.49	197.14	0.000038	0.09	0.08	0.12	56.01	162.50	0.02
17_506	2321	50-yr	5.23	197.39	198.31		198.31	0.001053	0.33	0.25	0.35	16.36	59.25	0.10
17_506	2321	100-yr	5.82	197.39	198.33		198.33	0.001068	0.35	0.26	0.37	17.46	60.67	0.10
17_506	2321	200-yr	6.98	197.39	198.36		198.37	0.001053	0.37	0.28	0.39	19.82	63.95	0.10
17_506	1862	50-yr	5.23	196.32	197.12		197.15	0.012417	0.87	0.76	0.78	6.47	36.86	0.31
17_506	1862	100-yr	5.82	196.32	197.13		197.17	0.013007	0.93	0.79	0.83	6.83	37.53	0.32
17_506	1862	200-yr	6.98	196.32	197.15		197.19	0.013402	0.98	0.82	0.90	7.86	38.57	0.33
17_506	1477	50-yr	5.23	195.42	196.22		196.22	0.000978	0.18	0.20	0.12	32.87	135.03	0.09
17_506	1477	100-yr	5.82	195.42	196.24		196.24	0.000956	0.16	0.21	0.14	35.31	136.51	0.09
17_506	1477	200-yr	6.98	195.42	196.27		196.27	0.000935	0.17	0.21	0.15	40.06	139.37	0.08
17_506	1324	50-yr	5.23	195.06	195.91		195.92	0.000074	0.38	0.58	0.38	11.81	36.99	0.23
17_506	1324	100-yr	5.82	195.06	195.94		195.95	0.000514	0.40	0.58	0.39	12.99	37.68	0.23
17_506	1324	200-yr	6.98	195.06	195.99		196.00	0.005710	0.43	0.60	0.42	14.54	38.52	0.23
17_506	1118	50-yr	5.23	194.58	195.59		195.59	0.000736	0.10	0.23	0.23	24.05	68.72	0.08
17_506	1118	100-yr	5.82	194.58	195.61		195.61	0.000769	0.11	0.24	0.24	25.69	70.63	0.08
17_506	1118	200-yr	6.98	194.58	195.66		195.66	0.000794	0.12	0.25	0.26	28.16	77.39	0.08
17_506	741	50-yr	5.23	193.69	195.51		195.51	0.000090	0.08	0.12	0.11	49.90	87.37	0.03
17_506	741	100-yr	5.82	193.69	195.53		195.53	0.000105	0.09	0.13	0.12	51.12	88.96	0.03
17_506	741	200-yr	6.98	193.69	195.56		195.56	0.000132	0.10	0.15	0.13	54.04	95.61	0.04
17_506	532	50-yr	5.23	193.20	195.51		195.51	0.000005	0.03	0.03	0.07	126.31	195.09	0.01
17_506	532	100-yr	5.82	193.20	195.52		195.52	0.000006	0.03	0.04	0.07	130.95	196.93	0.01
17_506	532	200-yr	6.98	193.20	195.55		195.55	0.000008	0.04	0.04	0.09	137.44	218.92	0.01
17_506	515	50-yr	5.23	193.17	195.51	193.73	195.51	0.000016	0.16	0.07	0.09	56.87	205.76	0.01
17_506	515	100-yr	5.82	193.17	195.52	193.76	195.52	0.000019	0.18	0.07	0.10	57.65	210.77	0.02
17_506	515	200-yr	6.98	193.17	195.55	193.84	195.55	0.000008	0.05	0.04	0.06	136.69	217.15	0.01
17_506	501	Abandon Railway	Culvert											
17_506	489	50-yr	5.23	192.85	193.78	193.38	193.81	0.001160	0.16	0.95	0.10	10.31	48.67	0.32
17_506	489	100-yr	5.82	192.85	193.79	193.40	193.83	0.001288	0.18	0.92	0.12	11.12	48.83	0.33
17_506	489	200-yr	6.98	192.85	193.82	193.48	193.87	0.001525	0.21	1.02	0.14	12.58	48.12	0.37
17_506	437	50-yr	5.23	192.74	193.71	193.68	193.74	0.001836	0.34	1.08	0.30	10.82	67.40	0.39
17_506	437	100-yr	5.82	192.74	193.73	193.67	193.76	0.001722	0.36	1.06	0.32	12.17	68.42	0.38
17_506	437	200-yr	6.98	192.74	193.76		193.79	0.001592	0.38	1.05	0.35	14.52	70.17	0.36
17_506	338	50-yr	5.23	192.52	193.44		193.50	0.002917	0.48	1.37	0.52	6.31	25.63	0.50
17_506	338	100-yr	5.82	192.52	193.46		193.53	0.003089	0.49	1.43	0.55	6.79	26.38	0.51
17_506	338	200-yr	6.98	192.52	193.49		193.57	0.003386	0.56	1.54	0.61	7.87	27.74	0.54
17_506	116	50-yr	5.23	192.05	193.04		193.07	0.001341	0.34	0.93	0.35	10.08	41.52	0.34
17_506	116	100-yr	5.82	192.05	193.07		193.09	0.001269	0.36	0.93	0.36	11.29	43.07	0.33
17_506	116	200-yr	6.98	192.05	193.12		193.15	0.001130	0.38	0.92	0.38	13.70	45.60	0.31

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m³/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m²)	Top Width (m)	Froude # Cnl
17_508	438	50-yr	4.70	189.42	190.12	190.03	190.14	0.001067	0.27	0.68	0.22	14.87	75.97	0.29
17_508	438	100-yr	5.25	189.42	190.14	190.04	190.15	0.001097	0.28	0.69	0.23	16.08	81.05	0.30
17_508	438	200-yr	6.33	189.42	190.17	190.05	190.18	0.001088	0.31	0.72	0.25	18.57	84.30	0.30
17_508	231	50-yr	4.70	189.04	189.55	189.55	189.63	0.008803	0.68	1.58	0.88	4.71	28.12	0.80
17_508	231	100-yr	5.25	189.04	189.57	189.57	189.65	0.008802	0.72	1.62	0.71	5.14	28.91	0.80
17_508	231	200-yr	6.33	189.04	189.59	189.59	189.68	0.008883	0.78	1.89	0.78	5.92	30.11	0.81
17_508	54	50-yr	4.70	188.70	189.40		189.40	0.000309	0.21	0.39	0.20	20.01	67.33	0.18
17_508	54	100-yr	5.25	188.70	189.42		189.42	0.000304	0.22	0.40	0.21	21.49	68.35	0.18
17_508	54	200-yr	6.33	188.70	189.48		189.47	0.000295	0.24	0.41	0.22	24.65	70.36	0.18
17_507	2689	50-yr	5.08	193.69	195.28		195.29	0.001931	0.37	0.43	0.34	14.68	64.35	0.13
17_507	2689	100-yr	6.20	193.69	195.31		195.31	0.001804	0.38	0.42	0.34	16.53	72.34	0.13
17_507	2689	200-yr	7.44	193.69	195.35		195.36	0.001768	0.40	0.43	0.33	19.95	81.99	0.13
17_507	2107	50-yr	5.58	192.47	193.82		193.83	0.003452	0.40	0.52	0.30	11.80	48.91	0.18
17_507	2107	100-yr	6.20	192.47	193.83		193.84	0.003843	0.44	0.56	0.28	12.27	51.62	0.19
17_507	2107	200-yr	7.44	192.47	193.86		193.87	0.004009	0.50	0.58	0.32	13.86	55.68	0.19
17_507	1697	50-yr	5.08	191.62	193.04		193.04	0.001298	0.32	0.31	0.22	17.97	74.79	0.11
17_507	1697	100-yr	6.20	191.62	193.06		193.06	0.001164	0.33	0.31	0.21	19.73	77.66	0.10
17_507	1697	200-yr	7.44	191.62	193.09		193.10	0.001123	0.36	0.31	0.21	22.44	81.80	0.10
17_507	1355	50-yr	5.08	191.55	192.96		192.96	0.000087	0.12	0.10	0.12	46.49	132.46	0.03
17_507	1355	100-yr	6.20	191.55	192.99		192.99	0.000087	0.13	0.11	0.12	49.78	135.07	0.03
17_507	1355	200-yr	7.44	191.55	193.01		193.01	0.000101	0.15	0.12	0.14	53.30	137.22	0.03
17_507	1349	50-yr	5.58	191.35	192.96	192.14	192.96	0.000017	0.08	0.05	0.08	73.04	130.18	0.01
17_507	1349	100-yr	6.20	191.35	192.99	192.16	192.99	0.000018	0.08	0.05	0.09	75.99	135.54	0.01
17_507	1349	200-yr	7.44	191.35	193.01	192.21	193.01	0.000024	0.09	0.06	0.11	79.29	139.84	0.02
17_507	1307	Singer Rd	Culvert											
17_507	1296	50-yr	5.58	191.15	192.08	191.71	192.10	0.000878	0.30	0.74	0.28	10.84	43.59	0.28
17_507	1296	100-yr	6.20	191.15	192.10	191.73	192.13	0.000881	0.32	0.76	0.30	11.58	44.99	0.28
17_507	1296	200-yr	7.44	191.15	192.15	191.80	192.17	0.000938	0.37	0.82	0.34	13.09	47.75	0.29
17_507	1290	50-yr	5.08	191.14	192.07		192.09	0.001047	0.28	0.75	0.30	10.99	40.31	0.30
17_507	1290	100-yr	6.20	191.14	192.10		192.12	0.001028	0.29	0.76	0.32	12.12	41.99	0.30
17_507	1290	200-yr	7.44	191.14	192.14		192.16	0.001058	0.30	0.81	0.35	14.02	45.54	0.30
17_507	1085	50-yr	5.08	190.70	192.05		192.05	0.000089	0.12	0.27	0.14	33.18	64.14	0.08
17_507	1085	100-yr	6.20	190.70	192.07		192.07	0.000074	0.12	0.29	0.15	34.83	65.01	0.09
17_507	1085	200-yr	7.44	190.70	192.11		192.11	0.000088	0.14	0.32	0.17	37.35	66.48	0.09
17_507	731	50-yr	5.58	189.96	192.04		192.04	0.000005	0.09	0.10	0.05	103.81	148.96	0.02
17_507	731	100-yr	6.20	189.96	192.07		192.07	0.000005	0.05	0.11	0.05	107.46	159.11	0.03
17_507	731	200-yr	7.44	189.96	192.11		192.11	0.000007	0.07	0.13	0.05	113.54	165.97	0.03
17_507	625	50-yr	5.08	189.74	192.04		192.04	0.000000	0.02	0.03	0.02	333.31	295.66	0.01
17_507	625	100-yr	6.20	189.74	192.07		192.07	0.000000	0.02	0.03	0.02	340.91	308.05	0.01
17_507	625	200-yr	7.44	189.74	192.11		192.11	0.000000	0.02	0.03	0.02	352.58	320.84	0.01
17_507	537	50-yr	5.08	189.56	192.04	190.22	192.04	0.000000	0.02	0.04	0.03	255.20	260.70	0.01
17_507	537	100-yr	6.20	189.56	192.07	190.25	192.07	0.000001	0.02	0.04	0.03	261.05	264.31	0.01
17_507	537	200-yr	7.44	189.56	192.11	190.31	192.11	0.000001	0.03	0.05	0.04	268.74	265.93	0.01
17_507	529	Abandon Railway	Culvert											
17_507	517	50-yr	5.08	189.38	190.34	190.34	190.42	0.003524	0.31	1.41	0.63	6.99	124.15	0.52
17_507	517	100-yr	6.20	189.38	190.36	190.36	190.43	0.003682	0.35	1.46	0.67	7.68	125.52	0.54
17_507	517	200-yr	7.44	189.38	190.38	190.38	190.46	0.004044	0.41	1.56	0.75	8.86	127.78	0.57
17_507	484	50-yr	5.58	189.33	190.18	190.09	190.26	0.003803	0.55	1.40	0.23	6.11	38.15	0.58
17_507	484	100-yr	6.20	189.33	190.20	190.18	190.28	0.003876	0.56	1.41	0.37	7.05	40.08	0.58
17_507	484	200-yr	7.44	189.33	190.23	190.21	190.32	0.003888	0.60	1.50	0.43	8.36	45.20	0.57
17_507	201	50-yr	5.08	188.76	189.65		189.67	0.001249	0.42	0.88	0.43	11.04	35.72	0.32
17_507	201	100-yr	6.20	188.76	189.67		189.69	0.001267	0.43	0.91	0.45	11.78	36.21	0.32
17_507	201	200-yr	7.44	188.76	189.73		189.75	0.001168	0.47	0.91	0.46	13.91	37.97	0.31
17_507	107	50-yr	5.08	188.57	189.56		189.58	0.000760	0.33	0.77	0.32	13.30	42.76	0.29
17_507	107	100-yr	6.20	188.57	189.57		189.59	0.000843	0.36	0.82	0.34	13.87	43.47	0.28
17_507	107	200-yr	7.44	188.57	189.64		189.66	0.000770	0.38	0.82	0.34	16.82	48.79	0.27
17_404	2422	50-yr	3.23	193.83	195.39		195.41	0.008380	0.34	0.98	0.30	8.32	27.85	0.20
17_404	2422	100-yr	3.81	193.83	195.41		195.43	0.008570	0.37	0.98	0.20	8.93	33.91	0.20
17_404	2422	200-yr	4.34	193.83	195.45		195.46	0.008396	0.42	0.98	0.34	9.21	36.03	0.20
17_404	2260	50-yr	3.23	193.49	194.81	194.27	194.82	0.002339	0.26	0.40	0.46	8.02	29.85	0.13
17_404	2260	100-yr	3.81	193.49	194.84	194.32	194.85	0.002260	0.26	0.40	0.48	8.77	31.48	0.13
17_404	2260	200-yr	4.34	193.49	194.87	194.59	194.88	0.002209	0.27	0.41	0.52	10.00	33.19	0.13
17_404	2068	50-yr	3.23	193.09	193.91	193.69	193.93	0.012727	0.41	0.75	0.38	5.70	39.23	0.32
17_404	2068	100-yr	3.81	193.09	193.92	193.83	193.94	0.014427	0.45	0.81	0.43	5.92	39.59	0.34
17_404	2068	200-yr	4.34	193.09	193.93	193.86	193.96	0.016698	0.52	0.88	0.54	6.46	40.52	0.37
17_404	1796	50-yr	3.23	192.53	193.11		193.12	0.001395	0.33	0.80	0.09	8.50	45.73	0.21
17_404	1796	100-yr	3.81	192.53	193.13		193.14	0.001317	0.33	0.80	0.11	9.44	48.06	0.20
17_404	1796	200-yr	4.34	192.53	193.16		193.17	0.001224	0.34	0.82	0.14	11.33	52.88	0.20
17_404	1687	50-yr	3.23	192.30	192.91		192.94	0.002047	0.33	0.95	0.39	5.22	25.04	0.41
17_404	1687	100-yr	3.81	192.30	192.93		192.96	0.002111	0.35	0.98	0.40	5.72	26.57	0.42

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Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Crl
17_404	1087	200-yr	4.34	192.30	192.96		192.99	0.002267	0.40	1.05	0.44	6.53	28.11	0.44
17_404	1512	50-yr	3.23	191.92	192.50		192.54	0.002675	0.32	1.01	0.47	4.92	29.21	0.48
17_404	1512	100-yr	3.61	191.92	192.51		192.55	0.002645	0.35	1.03	0.46	5.49	30.17	0.46
17_404	1512	200-yr	4.34	191.92	192.56		192.59	0.002395	0.39	1.03	0.40	6.79	32.71	0.44
17_404	1259	50-yr	3.23	191.39	192.02		192.02	0.001520	0.21	0.27	0.19	14.86	49.26	0.11
17_404	1259	100-yr	3.61	191.39	192.04		192.05	0.001564	0.22	0.28	0.20	15.96	50.85	0.12
17_404	1259	200-yr	4.34	191.39	192.06		192.08	0.001701	0.23	0.31	0.22	17.68	52.96	0.12
17_404	1067	50-yr	3.23	190.80	191.61		191.62	0.003644	0.23	0.44	0.39	9.35	57.73	0.17
17_404	1067	100-yr	3.61	190.80	191.62		191.63	0.003842	0.24	0.46	0.41	9.94	59.56	0.18
17_404	1067	200-yr	4.34	190.80	191.65		191.66	0.003436	0.25	0.45	0.43	11.77	64.45	0.17
17_404	786	50-yr	3.23	190.14	190.99		190.99	0.001636	0.40	0.30	0.32	9.14	42.00	0.12
17_404	786	100-yr	3.61	190.14	191.01		191.01	0.001546	0.41	0.29	0.33	9.99	42.91	0.11
17_404	786	200-yr	4.34	190.14	191.03		191.04	0.001674	0.45	0.31	0.37	10.96	43.92	0.12
17_404	470	50-yr	3.23	189.58	190.42		190.43	0.002610	0.23	0.36	0.24	11.91	47.91	0.15
17_404	470	100-yr	3.61	189.58	190.43		190.43	0.002306	0.26	0.42	0.27	11.99	48.25	0.17
17_404	470	200-yr	4.34	189.58	190.51		190.51	0.002244	0.22	0.38	0.28	16.46	57.65	0.14
17_404	203	50-yr	3.23	189.21	190.09		190.09	0.000926	0.17	0.23	0.29	17.22	53.18	0.09
17_404	203	100-yr	3.61	189.21	190.19		190.19	0.000900	0.15	0.19	0.25	22.53	55.24	0.07
17_404	203	200-yr	4.34	189.21	190.41		190.42	0.000168	0.12	0.13	0.18	36.78	58.69	0.04
17_404	29	50-yr	3.23	188.85	190.03		190.03	0.000187	0.13	0.14	0.18	21.34	47.00	0.04
17_404	29	100-yr	3.61	188.85	190.15		190.15	0.000110	0.11	0.12	0.17	27.43	52.19	0.03
17_404	29	200-yr	4.34	188.85	190.40		190.40	0.000046	0.08	0.08	0.14	41.47	61.36	0.02
17_405	3056	50-yr	5.18	195.96	196.93		196.94	0.000324	0.10	0.13	0.23	28.46	108.11	0.05
17_405	3056	100-yr	6.86	195.96	196.95		196.95	0.000335	0.11	0.14	0.24	30.53	112.76	0.05
17_405	3056	200-yr	8.19	195.96	196.98		196.98	0.000304	0.13	0.15	0.26	33.44	125.69	0.05
17_405	2993	50-yr	5.18	195.62	196.90	196.55	196.91	0.000550	0.19	0.20	0.27	24.50	204.18	0.07
17_405	2993	100-yr	6.86	195.62	196.92	196.58	196.92	0.000547	0.19	0.20	0.28	26.13	205.59	0.07
17_405	2993	200-yr	8.19	195.62	196.97	196.59	196.97	0.000099	0.07	0.07	0.11	76.33	213.23	0.02
17_405	2896	50-yr	5.18	195.00	196.80		196.81	0.002029	0.51	0.43	0.39	13.49	90.78	0.14
17_405	2896	100-yr	6.86	195.00	196.83		196.84	0.001957	0.52	0.42	0.41	14.64	91.90	0.13
17_405	2896	200-yr	8.19	195.00	196.87		196.88	0.001807	0.54	0.42	0.43	16.83	93.69	0.13
17_405	2796	50-yr	5.18	195.38	196.71		196.71	0.000631	0.31	0.25	0.30	20.70	80.77	0.08
17_405	2796	100-yr	6.86	195.38	196.74		196.74	0.000608	0.31	0.25	0.31	22.89	84.94	0.07
17_405	2796	200-yr	8.19	195.38	196.79		196.79	0.000548	0.31	0.24	0.31	27.47	95.48	0.07
17_405	2560	50-yr	5.18	194.85	196.12	195.62	196.24	0.038108	0.70	1.55	0.84	4.01	5.81	0.55
17_405	2560	100-yr	6.86	194.85	196.12	195.67	196.27	0.048289	0.70	1.73	0.69	3.98	5.56	0.62
17_405	2560	200-yr	8.19	194.85	196.10	195.96	196.33	0.075611	0.78	2.13	0.68	3.86	5.41	0.77
17_405	2445	50-yr	5.18	194.59	196.19	195.31	196.19	0.000039	0.12	0.07	0.13	49.88	229.34	0.02
17_405	2445	100-yr	6.86	194.59	196.20	195.33	196.21	0.000045	0.13	0.08	0.14	51.10	225.44	0.02
17_405	2445	200-yr	8.19	194.59	196.23	195.55	196.23	0.000057	0.15	0.09	0.16	53.46	235.33	0.02
17_405	2425	50-yr	5.18	194.56	196.19	195.25	196.19	0.000043	0.09	0.08	0.15	47.09	231.34	0.02
17_405	2425	100-yr	6.86	194.56	196.20	195.28	196.20	0.000050	0.10	0.09	0.17	48.28	235.48	0.02
17_405	2425	200-yr	8.19	194.56	196.23	195.33	196.23	0.000064	0.11	0.10	0.18	50.57	243.54	0.03
17_405	2414	Singer Rd	Culvert											
17_405	2402	50-yr	5.18	194.42	195.75	195.18	195.76	0.000640	0.36	0.27	0.24	19.49	90.24	0.08
17_405	2402	100-yr	6.86	194.42	195.80	195.27	195.81	0.000326	0.27	0.20	0.14	34.50	106.44	0.06
17_405	2402	200-yr	8.19	194.42	195.93	195.29	195.93	0.000232	0.25	0.18	0.13	43.36	154.64	0.05
17_405	2381	50-yr	5.18	194.38	195.73	195.35	195.74	0.001177	0.99	0.33	0.25	22.92	136.08	0.10
17_405	2381	100-yr	6.86	194.38	195.79	195.30	195.79	0.001036	0.97	0.32	0.25	25.56	169.62	0.09
17_405	2381	200-yr	8.19	194.38	195.91	195.58	195.92	0.000799	0.96	0.30	0.24	31.84	204.87	0.08
17_405	2257	50-yr	5.18	194.01	195.53	194.78	195.54	0.002396	0.57	0.53	0.23	15.89	210.57	0.18
17_405	2257	100-yr	6.86	194.01	195.62	194.82	195.63	0.001661	0.53	0.46	0.24	19.87	213.14	0.13
17_405	2257	200-yr	8.19	194.01	195.80	194.93	195.80	0.001040	0.44	0.40	0.22	26.22	226.84	0.11
17_405	2114	50-yr	5.18	193.59	195.36	194.42	195.38	0.000541		0.31	0.69	12.55	147.21	0.08
17_405	2114	100-yr	6.86	193.59	195.48	194.44	195.50	0.000487		0.31	0.70	13.69	154.53	0.07
17_405	2114	200-yr	8.19	193.59	195.79	194.47	195.79	0.000030		0.08	0.12	72.11	185.50	0.02
17_405	2108	Indiana Rd E	Culvert											
17_405	2093	50-yr	5.18	193.62	194.61	194.62	194.69	0.027713	1.54	1.21	1.19	4.86	102.96	0.49
17_405	2093	100-yr	6.86	193.62	194.61	194.56	194.71	0.032294	1.69	1.32	1.32	4.94	105.45	0.53
17_405	2093	200-yr	8.19	193.62	194.62	194.59	194.76	0.043294	2.00	1.53	1.58	5.03	107.39	0.61
17_405	2087	50-yr	5.18	193.81	194.60		194.61	0.002637	0.36	0.39	0.36	18.92	118.67	0.15
17_405	2087	100-yr	6.86	193.81	194.62		194.62	0.002329	0.37	0.37	0.36	18.80	118.36	0.14
17_405	2087	200-yr	8.19	193.81	194.65		194.65	0.001896	0.37	0.34	0.36	22.46	121.51	0.13
17_405	1977	50-yr	5.18	193.56	194.47		194.47	0.000686	0.31	0.23	0.27	20.92	71.07	0.08
17_405	1977	100-yr	6.86	193.56	194.49		194.50	0.000673	0.32	0.23	0.28	22.49	72.15	0.08
17_405	1977	200-yr	8.19	193.56	194.53		194.54	0.000639	0.34	0.23	0.29	25.49	73.54	0.08
17_405	1908	50-yr	5.18	193.40	194.41		194.41	0.000619	0.43	0.26	0.35	15.85	37.92	0.09
17_405	1908	100-yr	6.86	193.40	194.43		194.44	0.000672	0.46	0.27	0.37	16.81	38.38	0.09
17_405	1908	200-yr	8.19	193.40	194.48		194.48	0.000675	0.50	0.29	0.41	18.11	40.11	0.10

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m³/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m²)	Twp Width (m)	Froude # Crl
17_405	1764	50-yr	6.18	193.06	194.27		194.28	0.001045	0.42	0.32	0.32	16.34	45.71	0.10
17_405	1764	100-yr	6.66	193.06	194.28		194.29	0.001218	0.45	0.35	0.35	16.63	45.97	0.11
17_405	1764	200-yr	8.19	193.06	194.30		194.31	0.001452	0.51	0.38	0.40	17.61	46.77	0.12
17_405	1724	50-yr	6.18	192.97	194.28		194.28	0.000006	0.06	0.02	0.03	111.60	149.88	0.01
17_405	1724	100-yr	6.66	192.97	194.28		194.28	0.000007	0.06	0.03	0.04	112.67	150.25	0.01
17_405	1724	200-yr	8.19	192.97	194.30		194.31	0.000009	0.07	0.03	0.04	116.05	151.97	0.01
17_405	1719	50-yr	6.18	192.96	194.28	193.86	194.28	0.000006	0.06	0.02	0.03	114.28	155.90	0.01
17_405	1719	100-yr	6.66	192.96	194.28	193.89	194.28	0.000007	0.06	0.02	0.03	115.37	156.39	0.01
17_405	1719	200-yr	8.19	192.96	194.30	193.96	194.31	0.000009	0.07	0.03	0.03	118.89	158.04	0.01
17_405	1705	Indiana Rd E	Culvert											
17_405	1894	50-yr	6.18	192.88	193.61	193.61	193.61	0.000050	0.11	0.04	0.05	60.02	153.38	0.02
17_405	1894	100-yr	6.66	192.88	193.61	193.61	193.61	0.000062	0.12	0.04	0.06	60.02	153.39	0.02
17_405	1894	200-yr	8.19	192.88	193.61	193.61	193.61	0.000085	0.14	0.05	0.06	60.02	153.39	0.03
17_405	1547	50-yr	6.18	192.55	193.40		193.41	0.000955	0.15	0.22	0.23	21.27	86.50	0.09
17_405	1547	100-yr	6.66	192.55	193.42		193.43	0.000933	0.16	0.23	0.24	22.88	87.58	0.09
17_405	1547	200-yr	8.19	192.55	193.48		193.48	0.000994	0.17	0.23	0.25	25.97	90.54	0.09
17_405	1511	50-yr	6.18	192.44	193.32		193.33	0.002852	0.33	0.43	0.53	12.99	47.03	0.16
17_405	1511	100-yr	6.66	192.44	193.34		193.35	0.002788	0.33	0.43	0.55	13.94	47.69	0.16
17_405	1511	200-yr	8.19	192.44	193.37		193.39	0.002883	0.34	0.44	0.59	15.72	48.84	0.16
17_405	1362	50-yr	6.18	192.08	192.98		192.99	0.002100	0.44	0.35	0.62	12.10	37.06	0.13
17_405	1362	100-yr	6.66	192.08	193.00		193.01	0.002128	0.47	0.36	0.64	12.86	37.53	0.14
17_405	1362	200-yr	8.19	192.08	193.03		193.05	0.002200	0.52	0.38	0.89	14.22	38.25	0.14
17_405	1305	50-yr	6.18	191.94	192.84		192.85	0.002582	0.49	0.39	0.62	12.09	42.11	0.15
17_405	1305	100-yr	6.66	191.94	192.85		192.87	0.002632	0.50	0.40	0.65	12.94	44.01	0.15
17_405	1305	200-yr	8.19	191.94	192.88		192.91	0.002705	0.54	0.42	0.88	14.46	46.37	0.15
17_405	1241	50-yr	6.18	191.79	192.62		192.64	0.004311	0.52	0.46	0.88	10.81	43.85	0.19
17_405	1241	100-yr	6.66	191.79	192.64		192.66	0.004198	0.54	0.47	0.70	11.83	44.68	0.19
17_405	1241	200-yr	8.19	191.79	192.67		192.70	0.004058	0.57	0.48	0.74	13.12	46.20	0.19
17_405	1111	50-yr	6.18	191.47	192.33		192.34	0.001598	0.23	0.29	0.48	14.90	54.21	0.12
17_405	1111	100-yr	6.66	191.47	192.35		192.36	0.001612	0.25	0.29	0.50	15.91	55.59	0.12
17_405	1111	200-yr	8.19	191.47	192.38		192.40	0.001641	0.28	0.31	0.54	17.80	58.45	0.12
17_405	1011	50-yr	6.18	191.23	192.00		192.02	0.014401	0.51	0.88	0.62	10.08	47.76	0.35
17_405	1011	100-yr	6.66	191.23	192.02		192.04	0.013709	0.52	0.88	0.60	11.23	51.34	0.34
17_405	1011	200-yr	8.19	191.23	192.06		192.08	0.013704	0.56	0.91	0.62	12.92	55.32	0.35
17_405	820	50-yr	6.18	190.74	191.43		191.44	0.001539	0.20	0.29	0.29	23.88	82.43	0.12
17_405	820	100-yr	6.66	190.74	191.48		191.46	0.001550	0.21	0.30	0.30	25.29	82.92	0.12
17_405	820	200-yr	8.19	190.74	191.51		191.52	0.001493	0.23	0.31	0.32	26.79	84.08	0.12
17_405	642	50-yr	6.18	190.30	191.13		191.14	0.003094	0.38	0.49	0.28	17.13	49.79	0.17
17_405	642	100-yr	6.66	190.30	191.16		191.16	0.003134	0.40	0.50	0.28	18.41	50.77	0.17
17_405	642	200-yr	8.19	190.30	191.21		191.22	0.003007	0.41	0.51	0.30	21.44	54.00	0.17
17_405	432	50-yr	6.18	189.83	190.72		190.72	0.001845	0.27	0.35	0.23	22.04	57.66	0.13
17_405	432	100-yr	6.66	189.83	190.75		190.75	0.001827	0.28	0.36	0.24	23.71	58.51	0.13
17_405	432	200-yr	8.19	189.83	190.79		190.80	0.001846	0.29	0.39	0.27	26.06	62.41	0.14
17_405	263	50-yr	6.18	189.42	190.40		190.41	0.003441	0.31	0.46	0.32	17.41	51.76	0.17
17_405	263	100-yr	6.66	189.42	190.42		190.43	0.003559	0.33	0.48	0.34	18.45	52.06	0.18
17_405	263	200-yr	8.19	189.42	190.52		190.52	0.003585	0.32	0.43	0.33	23.60	53.51	0.15
17_405	128	50-yr	6.18	189.09	190.07		190.08	0.002025	0.60	0.38	0.32	14.97	40.52	0.14
17_405	128	100-yr	6.66	189.09	190.18		190.18	0.001224	0.48	0.32	0.29	19.52	46.77	0.11
17_405	128	200-yr	8.19	189.09	190.41		190.42	0.005433	0.34	0.22	0.22	31.87	58.33	0.07
17_405	38	50-yr	6.18	188.88	190.03		190.03	0.000229	0.24	0.15	0.15	30.64	65.64	0.05
17_405	38	100-yr	6.66	188.88	190.15		190.16	0.000133	0.21	0.12	0.13	36.85	68.37	0.04
17_405	38	200-yr	8.19	188.88	190.40		190.40	0.000063	0.17	0.10	0.10	57.44	82.84	0.03
17_503	3741	50-yr	9.37	194.59	195.51		195.51	0.000792	0.36	0.22	0.28	27.33	91.23	0.08
17_503	3741	100-yr	10.44	194.59	195.53		195.54	0.000790	0.37	0.22	0.27	29.54	94.35	0.08
17_503	3741	200-yr	12.56	194.59	195.57		195.58	0.000806	0.40	0.23	0.29	33.46	99.62	0.08
17_503	3405	50-yr	9.37	193.89	195.04	194.81	195.06	0.003275	0.75	0.50	0.43	14.84	127.91	0.15
17_503	3405	100-yr	10.44	193.89	195.05	194.84	195.08	0.003467	0.78	0.52	0.43	16.12	136.62	0.16
17_503	3405	200-yr	12.56	193.89	195.08	194.88	195.11	0.003615	0.83	0.54	0.44	18.03	153.15	0.16
17_503	3075	50-yr	9.37	193.20	194.08		194.10	0.002821	0.57	0.41	0.67	15.30	51.52	0.15
17_503	3075	100-yr	10.44	193.20	194.11		194.13	0.002617	0.58	0.41	0.67	17.00	54.26	0.14
17_503	3075	200-yr	12.56	193.20	194.17		194.19	0.002386	0.59	0.41	0.69	19.95	58.15	0.14
17_503	2936	50-yr	9.37	192.75	193.82		193.83	0.001358	0.44	0.38	0.76	20.89	42.74	0.12
17_503	2936	100-yr	10.44	192.75	193.85		193.87	0.001400	0.47	0.40	0.76	22.14	44.51	0.12
17_503	2936	200-yr	12.56	192.75	193.92		193.94	0.001421	0.50	0.42	0.76	25.43	50.21	0.12
17_503	2743	50-yr	9.37	192.50	193.27	193.01	193.30	0.007964	0.97	0.63	0.94	13.03	31.37	0.26
17_503	2743	100-yr	10.44	192.50	193.29	193.04	193.32	0.008699	1.05	0.67	1.00	13.54	31.70	0.27
17_503	2743	200-yr	12.56	192.50	193.33	193.07	193.37	0.009737	1.11	0.74	1.11	14.79	33.85	0.29
17_503	2517	50-yr	9.37	192.03	192.96		192.97	0.000985	0.40	0.21	0.29	28.92	87.12	0.07
17_503	2517	100-yr	10.44	192.03	193.00		193.01	0.000534	0.38	0.21	0.29	32.34	91.07	0.07
17_503	2517	200-yr	12.56	192.03	193.07		193.07	0.000464	0.38	0.21	0.29	38.67	98.39	0.07

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m³/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m²)	Trip Width (m)	Froude # Crl
17_503	2175	50-yr	9.37	191.32	192.94		192.94	0.000029	0.10	0.06	0.06	119.79	201.31	0.01
17_503	2175	100-yr	10.44	191.32	192.98		192.98	0.000030	0.10	0.06	0.06	127.53	205.55	0.02
17_503	2175	200-yr	12.56	191.32	193.05		193.05	0.000031	0.11	0.06	0.06	141.90	217.66	0.02
17_503	1987	50-yr	9.37	190.92	192.94		192.94	0.000010	0.05	0.04	0.03	201.71	299.43	0.01
17_503	1987	100-yr	10.44	190.92	192.98		192.98	0.000010	0.05	0.04	0.03	212.78	293.06	0.01
17_503	1987	200-yr	12.56	190.92	193.05		193.05	0.000011	0.06	0.05	0.04	233.10	301.02	0.01
17_503	1886	50-yr	9.37	190.71	192.94	191.82	192.94	0.000011	0.06	0.15	0.04	184.83	241.41	0.03
17_503	1886	100-yr	10.44	190.71	192.98	191.96	192.98	0.000012	0.06	0.15	0.04	194.04	243.77	0.03
17_503	1886	200-yr	12.56	190.71	193.04	192.03	193.04	0.000013	0.07	0.17	0.04	210.94	248.04	0.04
17_503	1871	Abandon Railway	Culvert											
17_503	1856	50-yr	9.37	190.85	191.87	191.21	192.00	0.000484	0.20	0.76	0.33	15.38	76.71	0.22
17_503	1856	100-yr	10.44	190.85	191.96	191.24	192.01	0.000592	0.19	0.84	0.37	15.74	82.95	0.24
17_503	1856	200-yr	12.58	190.85	192.00	191.32	192.04	0.000625	0.17	1.00	0.45	16.57	93.54	0.26
17_503	1848	50-yr	9.37	190.64	191.89	191.89	191.97	0.003632	0.44	1.73	0.45	12.86	81.29	0.51
17_503	1848	100-yr	10.44	190.64	191.91	191.91	191.99	0.003714	0.45	1.76	0.48	14.36	88.26	0.51
17_503	1848	200-yr	12.56	190.64	191.93	191.93	192.02	0.004287	0.49	1.92	0.54	16.34	98.37	0.55
17_503	1703	50-yr	9.37	190.41	191.47		191.52	0.001512	0.22	1.08	0.44	14.07	83.40	0.37
17_503	1703	100-yr	10.44	190.41	191.49		191.54	0.001508	0.25	1.08	0.45	16.36	97.73	0.37
17_503	1703	200-yr	12.56	190.41	191.53		191.58	0.001562	0.29	1.13	0.34	20.35	109.28	0.38
17_503	1592	50-yr	9.37	190.24	191.48		191.48	0.000134	0.15	0.33	0.11	56.80	195.78	0.11
17_503	1592	100-yr	10.44	190.24	191.49		191.49	0.000135	0.15	0.34	0.12	61.29	195.34	0.11
17_503	1592	200-yr	12.58	190.24	191.52		191.52	0.000148	0.17	0.36	0.13	68.50	206.61	0.12
17_503	1332	50-yr	9.37	189.83	191.43		191.43	0.000111	0.13	0.39	0.18	57.96	169.54	0.10
17_503	1332	100-yr	10.44	189.83	191.45		191.45	0.000115	0.14	0.40	0.19	61.82	171.45	0.10
17_503	1332	200-yr	12.56	189.83	191.48		191.49	0.000131	0.18	0.43	0.21	67.33	174.44	0.11
17_503	1315	50-yr	9.37	189.81	191.43	190.86	191.43	0.000078	0.14	0.36	0.21	60.47	172.54	0.09
17_503	1315	100-yr	10.44	189.81	191.45	190.89	191.45	0.000084	0.14	0.38	0.22	63.86	175.09	0.10
17_503	1315	200-yr	12.56	189.81	191.48	190.95	191.48	0.000100	0.18	0.42	0.25	68.18	178.67	0.11
17_503	1302	Singer Road	Culvert											
17_503	1292	50-yr	9.37	189.93	191.06	190.79	191.06	0.000297	0.22	0.55	0.27	38.15	135.00	0.17
17_503	1292	100-yr	10.44	189.93	191.06	190.80	191.08	0.000312	0.23	0.57	0.29	40.44	138.01	0.17
17_503	1292	200-yr	12.56	189.93	191.12	190.92	191.12	0.000319	0.25	0.59	0.31	45.41	142.38	0.18
17_503	1286	50-yr	9.37	189.93	191.04		191.06	0.001040	0.32	0.93	0.20	25.38	124.43	0.29
17_503	1286	100-yr	10.44	189.93	191.06		191.08	0.000995	0.33	0.93	0.21	27.97	127.38	0.29
17_503	1286	200-yr	12.58	189.93	191.11		191.12	0.000988	0.34	0.89	0.22	33.71	133.76	0.27
17_503	956	50-yr	9.37	189.53	190.67		190.69	0.001183	0.44	0.91	0.37	17.06	48.09	0.31
17_503	956	100-yr	10.44	189.53	190.69		190.72	0.001212	0.46	0.94	0.39	18.31	49.92	0.32
17_503	956	200-yr	12.56	189.53	190.74		190.77	0.001255	0.51	0.99	0.42	20.67	51.43	0.33
17_503	517	50-yr	9.37	189.00	190.32	190.11	190.33	0.000693	0.39	0.82	0.38	22.92	82.33	0.23
17_503	517	100-yr	10.44	189.00	190.34	190.12	190.36	0.000691	0.39	0.83	0.39	24.81	86.60	0.24
17_503	517	200-yr	12.56	189.00	190.38	190.15	190.40	0.000915	0.40	0.86	0.41	28.02	90.47	0.24
17_503	210	50-yr	9.37	188.63	189.73	189.71	188.63	0.000035	0.69	1.80	0.43	9.66	40.58	0.57
17_503	210	100-yr	10.44	188.63	189.79		188.65	0.000087	0.73	1.83	0.48	10.53	41.50	0.58
17_503	210	200-yr	12.58	188.63	189.80		188.69	0.004779	0.80	1.83	0.49	12.49	43.33	0.58
17_503	51	50-yr	9.37	188.44	189.58		188.59	0.000601	0.26	0.79	0.41	26.39	89.94	0.24
17_503	51	100-yr	10.44	188.44	189.62		188.63	0.000544	0.28	0.76	0.40	29.69	91.19	0.23
17_503	51	200-yr	12.56	188.44	189.70		188.71	0.000418	0.29	0.70	0.37	37.19	93.88	0.21
17_403	3852	50-yr	12.76	188.78	190.00		190.01	0.000874	0.47	0.27	0.38	31.22	80.07	0.08
17_403	3852	100-yr	14.19	188.78	190.14		190.14	0.000429	0.41	0.23	0.33	39.78	72.82	0.07
17_403	3852	200-yr	17.02	188.78	190.38		190.40	0.000198	0.32	0.18	0.24	62.31	97.43	0.05
17_403	3758	50-yr	12.76	188.53	189.98		188.98	0.000196	0.31	0.16	0.24	45.75	88.61	0.05
17_403	3758	100-yr	14.19	188.53	190.12		190.12	0.000137	0.28	0.14	0.22	58.83	74.59	0.04
17_403	3758	200-yr	17.02	188.53	190.38		190.39	0.000081	0.24	0.12	0.18	77.76	90.34	0.03
17_403	3533	50-yr	12.76	187.99	189.97	188.83	188.97	0.000017	0.03	0.06	0.13	109.27	139.32	0.01
17_403	3533	100-yr	14.19	187.99	190.11	188.84	190.11	0.000015	0.03	0.06	0.13	123.86	174.65	0.01
17_403	3533	200-yr	17.02	187.99	190.38	188.87	190.38	0.000012	0.03	0.06	0.13	153.14	211.63	0.01
17_403	3463	50-yr	12.76	187.82	189.95	188.89	188.98	0.001691	0.49	0.54	0.53	23.82	115.45	0.14
17_403	3463	100-yr	14.19	187.82	190.09	188.93	190.11	0.001521	0.51	0.54	0.55	26.21	132.58	0.13
17_403	3463	200-yr	17.02	187.82	190.36	188.99	190.37	0.001290	0.54	0.55	0.56	30.71	224.78	0.13
17_403	3452	Abandon Railway	Culvert											
17_403	3441	50-yr	12.76	187.41	188.14	188.55	188.21	0.001117	0.18	1.17	0.31	13.95	108.47	0.33
17_403	3441	100-yr	14.19	187.41	188.24	188.61	188.30	0.001055	0.21	1.19	0.33	15.47	125.90	0.33
17_403	3441	200-yr	17.02	187.41	188.46	188.69	188.52	0.000854	0.25	1.19	0.36	19.13	160.37	0.30
17_403	3409	50-yr	12.76	187.41	188.15		188.18	0.000287	0.28	0.66	0.10	52.92	128.63	0.17
17_403	3409	100-yr	14.19	187.41	188.25		188.26	0.000215	0.26	0.60	0.10	65.93	135.63	0.15
17_403	3409	200-yr	17.02	187.41	188.48		188.49	0.000111	0.23	0.47	0.10	98.88	147.58	0.11
17_403	3255	50-yr	12.76	187.42	188.10		188.12	0.000020	0.37	0.67	0.25	31.54	56.42	0.18
17_403	3255	100-yr	14.19	187.42	188.21		188.22	0.000249	0.38	0.62	0.24	37.97	61.58	0.18
17_403	3255	200-yr	17.02	187.42	188.48		188.47	0.000145	0.31	0.53	0.22	54.71	75.03	0.12

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m ³ /s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m ²)	Top Width (m)	Froude # Crl
17_403	3147	50-yr	12.76	187.42	189.01		189.06	0.000302	0.32	1.07	0.44	15.16	30.96	0.31
17_403	3147	100-yr	14.19	187.42	189.14		189.18	0.000695	0.35	0.99	0.42	20.45	35.15	0.27
17_403	3147	200-yr	17.02	187.42	189.42		189.44	0.000394	0.38	0.83	0.34	31.78	47.61	0.21
17_403	3138	50-yr	12.76	187.42	189.00	188.38	189.05	0.000791	0.40	1.00	0.55	15.28	34.89	0.28
17_403	3138	100-yr	14.19	187.42	189.13	188.44	189.17	0.000638	0.44	0.96	0.57	17.75	40.40	0.26
17_403	3138	200-yr	17.02	187.42	189.40	188.54	189.43	0.000428	0.48	0.88	0.58	22.94	52.27	0.22
17_403	3119	Highway 56	Culvert											
17_403	3100	50-yr	12.76	187.37	188.56	188.21	188.64	0.001511	0.50	1.18	0.89	12.23	94.38	0.38
17_403	3100	100-yr	14.19	187.37	188.62	188.25	188.69	0.001611	0.56	1.23	0.79	12.83	94.94	0.39
17_403	3100	200-yr	17.02	187.37	188.69	188.32	188.77	0.001773	0.68	1.35	0.85	13.99	95.05	0.42
17_403	3095	50-yr	12.76	187.36	188.60		188.61	0.000463	0.21	0.62	0.35	29.94	62.22	0.21
17_403	3095	100-yr	14.19	187.36	188.64		188.66	0.000465	0.22	0.63	0.36	32.53	62.63	0.21
17_403	3095	200-yr	17.02	187.36	188.72		188.73	0.000437	0.23	0.65	0.39	37.45	63.40	0.21
17_403	2989	50-yr	12.76	187.01	188.45		188.47	0.000961	0.43	1.02	0.52	21.39	47.10	0.30
17_403	2989	100-yr	14.19	187.01	188.49		188.52	0.000930	0.43	1.03	0.54	23.67	50.11	0.30
17_403	2989	200-yr	17.02	187.01	188.58		188.61	0.000832	0.48	1.02	0.56	28.46	54.03	0.28
17_403	2500	50-yr	12.76	186.43	188.03		188.09	0.001378	0.29	1.31	0.18	19.02	32.14	0.37
17_403	2500	100-yr	14.19	186.43	188.09		188.15	0.001424	0.31	1.37	0.19	20.67	33.10	0.38
17_403	2500	200-yr	17.02	186.43	188.18		188.25	0.001498	0.34	1.47	0.22	24.03	36.60	0.40
17_403	2097	50-yr	12.76	185.80	187.39		187.48	0.001898	0.22	1.50	0.19	19.51	57.00	0.43
17_403	2097	100-yr	14.19	185.80	187.43		187.52	0.001967	0.24	1.54	0.20	21.86	58.34	0.44
17_403	2097	200-yr	17.02	185.80	187.50		187.60	0.002067	0.28	1.63	0.22	26.02	60.61	0.45
17_403	1796	50-yr	12.76	185.34	187.00		187.04	0.001238	0.45	1.13	0.19	19.21	53.01	0.34
17_403	1796	100-yr	14.19	185.34	187.02		187.07	0.001298	0.48	1.18	0.21	20.67	53.66	0.35
17_403	1796	200-yr	17.02	185.34	187.06		187.13	0.001368	0.55	1.25	0.25	23.73	54.60	0.36
17_403	1550	50-yr	12.76	184.95	186.67		186.72	0.001660	0.28	1.28	0.20	23.54	79.38	0.38
17_403	1550	100-yr	14.19	184.95	186.72		186.77	0.001483	0.29	1.24	0.25	27.44	80.13	0.36
17_403	1550	200-yr	17.02	184.95	186.81		186.84	0.001249	0.31	1.19	0.31	34.53	82.92	0.33
17_403	1438	50-yr	12.76	184.78	186.48	185.93	186.56	0.001487	0.14	1.24	0.11	14.10	89.04	0.38
17_403	1438	100-yr	14.19	184.78	186.52	185.98	186.60	0.001594	0.16	1.31	0.13	15.52	72.27	0.39
17_403	1438	200-yr	17.02	184.78	186.59	186.09	186.69	0.001748	0.21	1.43	0.14	18.41	80.65	0.42
17_403	1143	50-yr	12.76	184.32	185.13	185.66	186.18	0.001185	0.23	1.18	0.17	28.26	79.80	0.33
17_403	1143	100-yr	14.19	184.32	185.18	185.60	186.23	0.001115	0.24	1.17	0.18	32.49	80.15	0.32
17_403	1143	200-yr	17.02	184.32	185.26	185.59	186.30	0.001102	0.26	1.21	0.21	38.72	80.67	0.32
17_403	908	50-yr	12.76	183.95	185.55	185.21	185.71	0.003886	0.33	1.77	0.09	8.35	26.22	0.58
17_403	908	100-yr	14.19	183.95	185.58	185.28	185.75	0.004303	0.39	1.88	0.17	9.10	28.34	0.61
17_403	908	200-yr	17.02	183.95	185.64	185.36	185.83	0.004522	0.54	2.00	0.33	10.93	30.69	0.63
17_403	769	50-yr	12.76	183.73	185.33	185.19	185.38	0.001324	0.42	1.13	0.45	19.16	53.91	0.34
17_403	769	100-yr	14.19	183.73	185.37	185.21	185.41	0.001280	0.45	1.13	0.47	21.20	55.00	0.34
17_403	769	200-yr	17.02	183.73	185.41	185.24	185.45	0.001465	0.51	1.24	0.53	23.20	55.51	0.37
17_403	451	50-yr	12.76	183.24	184.51	184.50	184.65	0.005161	0.72	1.96	0.95	10.07	32.46	0.68
17_403	451	100-yr	14.19	183.24	184.53	184.52	184.68	0.005512	0.78	2.08	0.58	10.75	33.09	0.69
17_403	451	200-yr	17.02	183.24	184.63		184.75	0.004142	0.82	1.92	0.57	14.11	35.88	0.61
17_403	170	50-yr	12.76	182.80	184.15		184.17	0.000741	0.49	0.82	0.22	22.48	41.14	0.28
17_403	170	100-yr	14.19	182.80	184.24		184.26	0.000995	0.48	0.77	0.19	26.23	44.80	0.24
17_403	170	200-yr	17.02	182.80	184.49		184.50	0.000299	0.42	0.63	0.22	36.20	50.62	0.17
17_403	31	50-yr	12.76	182.58	184.04		184.06	0.000669	0.53	0.90	0.41	22.83	47.48	0.27
17_403	31	100-yr	14.19	182.58	184.16		184.18	0.000561	0.48	0.78	0.39	28.70	49.66	0.22
17_403	31	200-yr	17.02	182.58	184.45		184.46	0.000236	0.37	0.58	0.23	44.38	56.70	0.15
17_402	1163	50-yr	5.73	184.36	187.39		187.40	0.002133	0.29	0.50	0.27	13.31	48.55	0.12
17_402	1163	100-yr	6.38	184.36	187.42		187.43	0.002061	0.33	0.50	0.32	14.78	50.13	0.12
17_402	1163	200-yr	7.65	184.36	187.47		187.48	0.001931	0.38	0.49	0.38	17.38	52.80	0.11
17_402	885	50-yr	5.73	183.93	186.72		186.74	0.002616	0.41	0.53	0.53	10.94	21.82	0.13
17_402	885	100-yr	6.38	183.93	186.76		186.77	0.002607	0.43	0.54	0.57	11.94	22.66	0.13
17_402	885	200-yr	7.65	183.93	186.79		186.81	0.003137	0.50	0.59	0.66	12.33	23.32	0.14
17_402	743	50-yr	5.73	183.71	186.23		186.25	0.004501	0.27	0.69	0.35	9.18	32.88	0.18
17_402	743	100-yr	6.38	183.71	186.25		186.28	0.004611	0.34	0.72	0.42	9.90	33.29	0.19
17_402	743	200-yr	7.65	183.71	186.38		186.39	0.002688	0.48	0.57	0.50	14.28	35.54	0.14
17_402	393	50-yr	5.73	183.17	185.20		185.21	0.002089	0.49	0.43	0.44	12.03	38.96	0.12
17_402	393	100-yr	6.38	183.17	185.23		185.24	0.001980	0.50	0.43	0.46	13.72	40.67	0.12
17_402	393	200-yr	7.65	183.17	185.19	184.54	185.21	0.004410	0.68	0.63	0.62	11.85	38.07	0.17
17_402	199	50-yr	5.73	182.67	184.25		184.31	0.017373	1.14	0.99	0.52	5.43	22.00	0.32
17_402	199	100-yr	6.38	182.67	184.25		184.32	0.020090	1.29	1.13	0.59	5.30	21.67	0.37
17_402	199	200-yr	7.65	182.67	184.49		184.50	0.003198	0.72	0.65	0.38	12.25	40.47	0.14
17_402	28	50-yr	5.73	182.60	184.05		184.05	0.000506	0.31	0.20	0.23	20.71	58.09	0.06
17_402	28	100-yr	6.38	182.60	184.16		184.17	0.000242	0.25	0.15	0.20	28.00	63.63	0.04
17_402	28	200-yr	7.65	182.60	184.46		184.46	0.000065	0.17	0.09	0.14	48.57	75.46	0.02
17_303	152	50-yr	2.66	178.40	179.49	179.05	179.52	0.008979	0.61	0.73	0.47	3.84	13.92	0.26
17_303	152	100-yr	2.97	178.40	179.30		179.40	0.049068	0.51	1.41		2.11	4.08	0.59
17_303	152	200-yr	3.59	178.40	179.18	179.18	179.41	0.151733		2.23		1.61	3.25	1.01

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m³/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m²)	Top Width (m)	Froude # Crl
17_303	24	50-yr	2.66	177.74	178.38		178.40	0.003448	0.44	0.53	0.61	5.19	36.12	0.25
17_303	24	100-yr	2.97	177.74	178.46		178.47	0.002734	0.39	0.33	0.46	7.95	41.55	0.15
17_303	24	200-yr	3.59	177.74	178.70		178.70	0.00232	0.21	0.12	0.22	18.87	48.55	0.09
17_304	858	50-yr	3.15	182.02	183.85	182.92	183.87	0.004484	0.53	0.53	0.15	6.27	23.09	0.16
17_304	858	100-yr	3.52	182.02	183.88	182.97	183.89	0.004369	0.58	0.53	0.15	6.89	25.48	0.15
17_304	858	200-yr	4.26	182.02	183.92	183.08	183.94	0.004121	0.64	0.53	0.19	8.06	26.54	0.15
17_304	740	50-yr	3.13	181.44	183.22		183.24	0.006368	0.58	0.70	0.70	4.53	9.15	0.20
17_304	740	100-yr	3.52	181.44	183.25		183.28	0.006475	0.60	0.72	0.77	4.83	9.47	0.20
17_304	740	200-yr	4.26	181.44	183.31		183.34	0.006540	0.67	0.74	0.89	5.43	10.06	0.20
17_304	640	50-yr	3.15	180.92	182.37		182.41	0.010883	0.64	0.86	0.42	4.14	10.92	0.27
17_304	640	100-yr	3.52	180.92	182.41		182.44	0.010722	0.76	0.87	0.45	4.54	11.33	0.27
17_304	640	200-yr	4.26	180.92	182.47		182.51	0.010577	0.94	0.90	0.50	5.22	11.85	0.27
17_304	480	50-yr	3.15	180.00	181.06		181.08	0.005334	0.66	0.58	0.57	5.32	17.58	0.21
17_304	480	100-yr	3.52	180.00	181.06		181.10	0.005488	0.70	0.60	0.61	5.67	18.11	0.22
17_304	480	200-yr	4.26	180.00	181.11	180.78	181.14	0.005793	0.77	0.63	0.70	6.30	18.90	0.22
17_304	322	50-yr	3.15	179.29	180.13	180.03	180.15	0.008306	0.66	0.63	0.71	4.75	24.12	0.25
17_304	322	100-yr	3.52	179.29	180.15	180.04	180.17	0.008214	0.70	0.64	0.73	5.12	24.66	0.25
17_304	322	200-yr	4.26	179.29	180.18	180.08	180.21	0.007742	0.77	0.64	0.73	5.97	27.01	0.25
17_304	168	50-yr	3.15	178.49	178.42	179.09	179.43	0.002919	0.61	0.44	0.52	6.29	18.64	0.16
17_304	168	100-yr	3.52	178.49	178.44	179.13	179.46	0.003031	0.64	0.45	0.56	6.87	19.10	0.17
17_304	168	200-yr	4.26	178.49	178.49	179.17	179.51	0.002938	0.67	0.47	0.61	7.59	19.97	0.16
17_304	91	50-yr	3.15	178.09	178.63	178.63	178.76	0.003537	1.44	1.61	1.37	1.98	7.65	0.83
17_304	91	100-yr	3.52	178.09	178.67	178.67	178.79	0.002650	1.00	1.59	1.31	2.34	8.80	0.79
17_304	91	200-yr	4.26	178.09	178.68	178.69	178.84	0.000075	1.76	1.73	1.36	2.47	9.62	0.83
17_307	10531	50-yr	12.06	195.49	197.09	196.27	197.09	0.000023	0.10	0.06	0.09	124.10	193.63	0.02
17_307	10531	100-yr	13.44	195.49	197.11	196.30	197.11	0.000027	0.11	0.06	0.10	126.89	195.81	0.02
17_307	10531	200-yr	16.18	195.49	197.13	196.33	197.13	0.000035	0.13	0.07	0.12	131.87	198.65	0.02
17_307	10424	50-yr	12.06	195.18	197.09		197.09	0.000004	0.05	0.05	0.05	235.56	298.66	0.02
17_307	10424	100-yr	13.44	195.18	197.10		197.10	0.000005	0.05	0.10	0.05	238.66	301.83	0.02
17_307	10424	200-yr	16.18	195.18	197.13		197.13	0.000007	0.06	0.12	0.06	247.43	311.63	0.03
17_307	10417	50-yr	12.06	195.18	197.09	195.93	197.09	0.000003	0.05	0.08	0.04	253.81	293.16	0.02
17_307	10417	100-yr	13.44	195.18	197.10	195.97	197.10	0.000004	0.05	0.09	0.05	257.63	295.09	0.02
17_307	10417	200-yr	16.18	195.18	197.13	196.04	197.13	0.000005	0.06	0.10	0.06	265.13	297.78	0.02
17_307	10401	Highway 9												
Culvert														
17_307	10389	50-yr	12.06	194.71	196.01	195.72	196.01	0.000060	0.18	0.24	0.07	75.76	180.76	0.08
17_307	10389	100-yr	13.44	194.71	196.05	195.76	196.05	0.000062	0.17	0.28	0.07	81.99	170.12	0.08
17_307	10389	200-yr	16.18	194.71	196.11	195.85	196.11	0.000067	0.18	0.27	0.09	92.95	176.53	0.08
17_307	10331	50-yr	12.06	194.63	195.91		195.99	0.002071	0.28	1.39	0.36	16.16	54.48	0.45
17_307	10331	100-yr	13.44	194.63	195.94		196.02	0.002098	0.31	1.43	0.34	16.19	55.57	0.45
17_307	10331	200-yr	16.18	194.63	196.00		196.08	0.002093	0.35	1.49	0.40	21.96	81.27	0.48
17_307	10184	50-yr	12.06	194.43	195.64		195.70	0.001834	0.45	1.33	0.57	14.70	40.38	0.42
17_307	10184	100-yr	13.44	194.43	195.67		195.74	0.001916	0.48	1.38	0.61	15.86	41.98	0.43
17_307	10184	200-yr	16.18	194.43	195.72		195.78	0.002000	0.55	1.48	0.68	18.04	43.77	0.45
17_307	10029	50-yr	12.06	194.21	195.44		195.47	0.001215	0.42	1.08	0.36	23.14	75.83	0.34
17_307	10029	100-yr	13.44	194.21	195.46		195.49	0.001223	0.44	1.11	0.39	25.22	82.34	0.34
17_307	10029	200-yr	16.18	194.21	195.51		195.53	0.001259	0.47	1.15	0.43	28.81	95.58	0.35
17_307	9845	50-yr	12.06	193.95	195.12		195.17	0.002426	0.51	1.40	0.50	16.93	64.56	0.47
17_307	9845	100-yr	13.44	193.95	195.14		195.20	0.002388	0.54	1.41	0.52	18.68	67.04	0.46
17_307	9845	200-yr	16.18	193.95	195.20		195.25	0.002135	0.57	1.39	0.53	22.65	71.34	0.44
17_307	9700	50-yr	12.06	193.75	195.00		195.01	0.000598	0.27	0.75	0.35	31.61	96.58	0.24
17_307	9700	100-yr	13.44	193.75	195.02		195.03	0.000617	0.29	0.77	0.37	33.89	98.34	0.24
17_307	9700	200-yr	16.18	193.75	195.06		195.09	0.000626	0.32	0.81	0.37	38.85	107.74	0.25
17_307	9181	50-yr	12.06	193.03	194.13	194.13	194.22	0.009243	0.91	2.12	0.78	11.83	62.48	0.70
17_307	9181	100-yr	13.44	193.03	194.15	194.15	194.24	0.008537	0.93	2.08	0.80	13.28	65.83	0.68
17_307	9181	200-yr	16.18	193.03	194.18	194.18	194.27	0.008313	1.01	2.19	0.88	14.89	68.46	0.71
17_307	8647	50-yr	12.06	192.56	193.68		193.68	0.000507	0.18	0.53	0.16	62.46	277.90	0.19
17_307	8647	100-yr	13.44	192.56	193.69		193.69	0.000524	0.19	0.55	0.17	66.36	278.75	0.20
17_307	8647	200-yr	16.18	192.56	193.73		193.73	0.000490	0.20	0.55	0.19	70.64	281.98	0.19
17_307	8590	50-yr	12.06	192.20	193.50		193.52	0.000792	0.13	0.82	0.33	39.75	188.51	0.27
17_307	8590	100-yr	13.44	192.20	193.52		193.53	0.000654	0.14	0.86	0.35	42.79	196.32	0.28
17_307	8590	200-yr	16.18	192.20	193.56		193.58	0.000688	0.15	0.89	0.37	51.41	220.87	0.28
17_307	8571	50-yr	12.06	192.19	193.47	193.07	193.50	0.000959	0.11	0.90	0.27	29.44	156.18	0.30
17_307	8571	100-yr	13.44	192.19	193.47	193.12	193.51	0.001113	0.12	0.98	0.30	30.87	158.69	0.32
17_307	8571	200-yr	16.18	192.19	193.51	193.20	193.55	0.001276	0.14	1.07	0.35	36.10	172.02	0.35
17_307	8553	Singer Rd												
Culvert														
17_307	8555	50-yr	12.19	191.97	192.27	193.10	193.32	0.002062	0.47	1.18		16.41	110.56	0.43
17_307	8555	100-yr	13.52	191.97	193.29	193.15	193.34	0.002096	0.49	1.19		17.94	116.73	0.43
17_307	8555	200-yr	16.17	191.97	193.34	193.22	193.37	0.001483	0.48	0.99	0.26	26.00	127.48	0.36
17_307	8535	50-yr	12.19	191.87	193.26		193.28	0.000705	0.29	0.82	0.25	32.39	131.63	0.26
17_307	8535	100-yr	13.52	191.87	193.29		193.30	0.000691	0.29	0.82	0.26	35.63	134.23	0.26

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m³/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m²)	Trip Width (m)	Froude # Crl
17_307	8535	200-yr	15.17	191.97	193.33		193.34	0.000680	0.30	0.84	0.29	41.49	138.94	0.26
17_307	8261	50-yr	12.19	191.96	193.13		193.14	0.000406	0.27	0.63	0.25	40.95	126.95	0.20
17_307	8261	100-yr	13.52	191.96	193.16		193.17	0.000412	0.28	0.65	0.26	44.17	131.29	0.20
17_307	8261	200-yr	15.17	191.96	193.19		193.20	0.000469	0.31	0.70	0.29	48.07	134.87	0.21
17_307	8069	50-yr	12.19	191.96	193.03	192.84	193.05	0.000609	0.31	0.72	0.23	34.06	237.30	0.24
17_307	8069	100-yr	13.52	191.96	193.06	192.86	193.07	0.000614	0.33	0.74	0.24	36.88	240.30	0.24
17_307	8069	200-yr	15.17	191.96	193.10	192.89	193.10	0.000683	0.20	0.67	0.23	65.33	272.57	0.22
17_307	7932	50-yr	12.19	191.83	192.92		192.94	0.001245	0.18	1.00	0.18	50.03	188.69	0.33
17_307	7932	100-yr	13.52	191.83	192.95		192.97	0.001187	0.18	1.00	0.18	50.26	193.13	0.33
17_307	7932	200-yr	15.17	191.83	193.00		193.02	0.001109	0.18	1.00	0.20	65.84	205.70	0.32
17_307	7523	50-yr	12.19	191.48	192.59		192.61	0.000669	0.10	0.75	0.14	41.81	158.26	0.25
17_307	7523	100-yr	13.52	191.48	192.62		192.64	0.000679	0.10	0.77	0.15	46.58	168.46	0.26
17_307	7523	200-yr	15.17	191.48	192.66		192.69	0.000726	0.11	0.83	0.17	54.74	188.87	0.27
17_307	7345	50-yr	12.19	191.29	192.51		192.52	0.000424	0.15	0.19	0.19	71.75	245.66	0.06
17_307	7345	100-yr	13.52	191.29	192.54		192.54	0.000438	0.15	0.20	0.20	79.06	259.49	0.07
17_307	7345	200-yr	15.17	191.29	192.59		192.59	0.000427	0.15	0.20	0.21	91.19	264.00	0.07
17_307	7116	50-yr	12.19	191.08	192.37		192.38	0.001409	0.24	0.38	0.53	32.24	108.75	0.12
17_307	7116	100-yr	13.52	191.08	192.39		192.40	0.001372	0.25	0.38	0.54	35.24	112.25	0.12
17_307	7116	200-yr	15.17	191.08	192.44		192.46	0.001313	0.26	0.38	0.56	41.12	118.58	0.11
17_307	6764	50-yr	12.19	190.75	192.28		192.28	0.000115	0.10	0.12	0.10	114.73	260.90	0.04
17_307	6764	100-yr	13.52	190.75	192.30		192.30	0.000124	0.11	0.13	0.11	120.76	267.73	0.04
17_307	6764	200-yr	15.17	190.75	192.35		192.35	0.000134	0.12	0.14	0.12	133.74	298.36	0.04
17_307	6484	50-yr	12.19	190.50	192.28		192.28	0.000004	0.02	0.03	0.03	458.57	715.60	0.01
17_307	6484	100-yr	13.52	190.50	192.30		192.30	0.000004	0.03	0.03	0.04	424.87	721.20	0.01
17_307	6484	200-yr	15.17	190.50	192.35		192.35	0.000005	0.03	0.03	0.04	458.51	732.89	0.01
17_307	6317	50-yr	12.19	190.34	192.28		192.28	0.000004	0.04	0.08	0.04	277.39	472.83	0.02
17_307	6317	100-yr	13.52	190.34	192.30		192.30	0.000005	0.05	0.09	0.04	298.23	485.92	0.02
17_307	6317	200-yr	15.17	190.34	192.35		192.35	0.000005	0.05	0.10	0.05	311.69	517.24	0.02
17_307	6284	50-yr	12.19	190.31	192.27	191.07	192.28	0.000127		0.51	0.12	48.32	494.35	0.12
17_307	6284	100-yr	13.52	190.31	192.30	191.11	192.30	0.000002	0.04	0.06	0.02	370.00	504.23	0.01
17_307	6284	200-yr	15.17	190.31	192.35	191.19	192.35	0.000002	0.04	0.07	0.02	390.83	518.28	0.02
17_307	6267 Highway 95	Culvert												
17_307	6252	50-yr	13.59	190.50	191.45	191.41	191.46	0.000777		0.66	0.28	40.84	241.70	0.26
17_307	6252	100-yr	15.00	190.50	191.47	191.41	191.47	0.000520	0.20	0.54	0.24	55.94	251.15	0.21
17_307	6252	200-yr	17.60	190.50	191.51	191.41	191.51	0.000487	0.19	0.55	0.25	68.45	293.63	0.21
17_307	6236	50-yr	13.59	190.48	191.44	191.13	191.45	0.000303	0.20	0.45	0.27	51.14	258.94	0.16
17_307	6236	100-yr	15.00	190.48	191.48	191.14	191.47	0.000314	0.22	0.48	0.28	54.11	266.70	0.16
17_307	6236	200-yr	17.60	190.48	191.50	191.16	191.51	0.000334	0.23	0.49	0.30	59.63	294.38	0.17
17_307	5782	50-yr	13.59	190.00	191.25		191.26	0.000701	0.31	0.76	0.23	42.08	198.71	0.25
17_307	5782	100-yr	15.00	190.00	191.27		191.28	0.000705	0.32	0.77	0.25	45.36	201.33	0.25
17_307	5782	200-yr	17.60	190.00	191.31		191.32	0.000661	0.33	0.78	0.27	52.54	208.49	0.25
17_307	5496	50-yr	13.59	189.70	191.00		191.02	0.001031	0.21	0.94	0.27	34.61	133.22	0.31
17_307	5496	100-yr	15.00	189.70	191.02		191.05	0.001018	0.23	0.95	0.29	37.98	136.62	0.31
17_307	5496	200-yr	17.60	189.70	191.07		191.09	0.000968	0.24	0.96	0.32	44.81	143.06	0.31
17_307	5218	50-yr	13.59	189.40	190.68		190.72	0.001072	0.39	1.06	0.34	25.44	92.56	0.32
17_307	5218	100-yr	15.00	189.40	190.72		190.75	0.001079	0.40	1.08	0.36	27.80	97.09	0.33
17_307	5218	200-yr	17.60	189.40	190.78		190.80	0.001095	0.41	1.11	0.38	32.87	98.65	0.33
17_307	4829	50-yr	13.59	188.99	190.51		190.52	0.000344	0.21	0.64	0.26	45.37	137.98	0.18
17_307	4829	100-yr	15.00	188.99	190.55		190.55	0.000329	0.21	0.64	0.26	50.15	143.54	0.18
17_307	4829	200-yr	17.60	188.99	190.63		190.64	0.000263	0.21	0.69	0.26	63.53	155.54	0.18
17_307	4515	50-yr	13.59	188.60	190.18		190.29	0.002362	0.57	1.67	0.82	11.01	21.09	0.48
17_307	4515	100-yr	15.00	188.60	190.21		190.33	0.002467	0.61	1.74	0.87	11.84	22.19	0.49
17_307	4515	200-yr	17.60	188.60	190.31		190.44	0.002575	0.52	1.86	0.96	14.32	32.03	0.51
17_307	4327	50-yr	13.59	188.45	190.10		190.11	0.000400	0.28	0.71	0.28	36.59	90.38	0.20
17_307	4327	100-yr	15.00	188.45	190.15		190.16	0.000357	0.28	0.69	0.27	41.67	95.97	0.19
17_307	4327	200-yr	17.60	188.45	190.28		190.29	0.000200	0.27	0.62	0.25	55.57	110.58	0.18
17_307	4227	50-yr	13.59	188.35	190.00		190.05	0.001035	0.49	1.20	0.45	18.95	35.40	0.32
17_307	4227	100-yr	15.00	188.35	190.06		190.11	0.000939	0.50	1.17	0.47	21.40	38.95	0.31
17_307	4227	200-yr	17.60	188.35	190.22		190.25	0.000661	0.48	1.07	0.47	28.17	45.17	0.27
17_307	4010	50-yr	13.59	188.12	189.82		189.86	0.000752	0.36	1.04	0.51	21.31	45.34	0.28
17_307	4010	100-yr	15.00	188.12	189.90		189.94	0.000678	0.33	1.02	0.52	25.14	53.38	0.27
17_307	4010	200-yr	17.60	188.12	190.13		190.15	0.000348	0.32	0.81	0.44	38.52	61.92	0.20
17_307	3907	50-yr	13.59	188.01	189.79		189.80	0.000336	0.21	0.71	0.25	45.13	152.33	0.19
17_307	3907	100-yr	15.00	188.01	189.89		189.89	0.000200	0.20	0.57	0.22	60.85	158.45	0.14
17_307	3907	200-yr	17.60	188.01	190.13		190.13	0.000067	0.18	0.36	0.16	101.18	171.06	0.09
17_307	3768	50-yr	13.59	187.86	189.79		189.79	0.000340	0.06	0.27	0.07	87.11	136.27	0.07
17_307	3768	100-yr	15.00	187.86	189.88		189.88	0.000306	0.07	0.26	0.07	88.80	151.51	0.06
17_307	3768	200-yr	17.60	187.86	190.13		190.13	0.000022	0.08	0.23	0.07	123.73	184.15	0.05
17_307	3754	50-yr	13.59	187.64	189.76	186.58	188.78	0.000249	0.35	0.69		20.94	112.28	0.17
17_307	3754	100-yr	15.00	187.64	189.85	186.62	188.87	0.000251	0.38	0.71		22.24	115.18	0.17

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m2)	Trip Width (m)	Froude # Cfl
17_307	3754	200-yr	17.60	187.64	190.09	188.69	190.12	0.000224	0.43	0.73		20.71	163.56	0.16
17_307	3742	Concession Rd 2												
		Culvert												
17_307	3730	50-yr	13.59	188.15	189.38	189.15	189.49	0.002816	0.93	1.50	0.98	9.73	58.01	0.52
17_307	3730	100-yr	15.00	188.15	189.40	189.18	189.52	0.003135	1.01	1.71	1.07	10.02	59.13	0.55
17_307	3730	200-yr	17.60	188.15	189.45	189.25	189.61	0.003765	1.17	1.92	1.23	10.54	62.66	0.60
17_307	3721	50-yr	13.59	188.14	189.42		189.43	0.001230	0.55	0.34	0.49	27.62	62.81	0.11
17_307	3721	100-yr	15.00	188.14	189.45		189.46	0.001242	0.57	0.35	0.49	29.49	64.93	0.11
17_307	3721	200-yr	17.60	188.14	189.50		189.52	0.001267	0.60	0.36	0.50	33.23	70.41	0.11
17_307	3635	50-yr	13.59	188.05	189.30		189.31	0.001461	0.57	0.38	0.53	26.67	66.90	0.12
17_307	3635	100-yr	15.00	188.05	189.33		189.34	0.001408	0.58	0.38	0.55	26.75	68.20	0.12
17_307	3635	200-yr	17.60	188.05	189.38		189.40	0.001513	0.59	0.38	0.57	32.80	70.53	0.12
17_307	3470	50-yr	13.59	187.66	189.22		189.23	0.000258	0.18	0.17	0.21	46.61	82.65	0.05
17_307	3470	100-yr	15.00	187.66	189.25		189.26	0.000269	0.19	0.18	0.23	49.06	84.11	0.05
17_307	3470	200-yr	17.60	187.66	189.31		189.31	0.000284	0.20	0.19	0.26	53.97	86.66	0.05
17_307	3361	50-yr	13.59	187.74	189.17		189.18	0.000558	0.36	0.26	0.46	35.04	70.74	0.07
17_307	3361	100-yr	15.00	187.74	189.20		189.21	0.000581	0.38	0.27	0.47	36.99	72.11	0.08
17_307	3361	200-yr	17.60	187.74	189.25		189.26	0.000621	0.40	0.28	0.51	41.01	76.63	0.08
17_307	3196	50-yr	13.59	187.50	189.15		189.15	0.000058	0.14	0.09	0.13	98.50	181.72	0.03
17_307	3196	100-yr	15.00	187.50	189.17		189.17	0.000061	0.15	0.10	0.14	103.34	183.06	0.03
17_307	3196	200-yr	17.60	187.50	189.23		189.23	0.000064	0.16	0.10	0.15	113.14	185.47	0.03
17_307	3061	50-yr	13.59	187.39	189.15	188.11	189.15	0.000010	0.07	0.04	0.09	167.37	348.48	0.01
17_307	3061	100-yr	15.00	187.39	189.17	188.12	189.17	0.000011	0.08	0.04	0.09	172.22	351.52	0.01
17_307	3061	200-yr	17.60	187.39	189.22	188.15	189.23	0.000013	0.08	0.05	0.10	180.08	357.83	0.01
17_307	3046	50-yr	13.59	187.38	189.15	188.13	189.15	0.000008	0.08	0.12	0.08	158.19	188.70	0.03
17_307	3046	100-yr	15.00	187.38	189.17	188.18	189.17	0.000009	0.09	0.13	0.09	163.21	189.28	0.03
17_307	3046	200-yr	17.60	187.38	189.22	188.26	189.23	0.000011	0.10	0.14	0.10	171.30	200.94	0.04
17_307	3035	Turnbull Rd												
		Culvert												
17_307	3025	50-yr	12.71	187.03	188.55	187.63	188.55	0.000005	0.06	0.08	0.07	181.51	191.55	0.02
17_307	3025	100-yr	13.98	187.03	188.62	187.66	188.62	0.000005	0.06	0.08	0.07	191.15	195.42	0.02
17_307	3025	200-yr	16.49	187.03	188.75	187.92	188.75	0.000005	0.07	0.09	0.08	211.85	203.19	0.02
17_307	2881	50-yr	12.71	186.89	188.54		188.55	0.000272	0.24	0.59	0.17	37.50	95.68	0.17
17_307	2881	100-yr	13.98	186.89	188.60		188.61	0.000298	0.24	0.57	0.17	43.21	91.32	0.16
17_307	2881	200-yr	16.49	186.89	188.74		188.75	0.000180	0.22	0.53	0.18	57.47	121.45	0.14
17_307	2731	50-yr	12.71	186.74	188.50		188.51	0.000231	0.25	0.60	0.24	33.94	59.61	0.16
17_307	2731	100-yr	13.98	186.74	188.57		188.58	0.000229	0.24	0.60	0.25	38.14	66.31	0.16
17_307	2731	200-yr	16.49	186.74	188.71		188.72	0.000177	0.24	0.57	0.25	48.30	75.18	0.14
17_307	2636	50-yr	12.71	186.64	188.13	187.95	188.42	0.007354	0.26	2.39	0.31	5.36	20.21	0.77
17_307	2636	100-yr	13.98	186.64	188.13	188.02	188.48	0.009021	0.28	2.64	0.33	5.33	18.77	0.85
17_307	2636	200-yr	16.49	186.64	188.14	188.14	188.62	0.012053	0.34	3.07	0.42	5.41	26.29	0.98
17_307	2317	50-yr	12.71	186.33	187.78		187.81	0.000720	0.24	0.86	0.26	22.52	70.65	0.27
17_307	2317	100-yr	13.98	186.33	187.82		187.85	0.000679	0.26	0.87	0.28	25.48	72.93	0.26
17_307	2317	200-yr	16.49	186.33	187.90		187.93	0.000629	0.29	0.88	0.30	31.24	81.49	0.26
17_307	2154	50-yr	12.71	186.17	187.62		187.67	0.001069	0.26	1.01	0.22	14.98	33.66	0.32
17_307	2154	100-yr	13.98	186.17	187.66		187.71	0.001085	0.30	1.04	0.25	16.32	35.26	0.33
17_307	2154	200-yr	16.49	186.17	187.73		187.79	0.001102	0.36	1.10	0.31	18.99	39.02	0.33
17_307	1993	50-yr	12.71	186.01	187.56		187.57	0.000322	0.24	0.64	0.25	31.22	66.71	0.18
17_307	1993	100-yr	13.98	186.01	187.60		187.61	0.000321	0.25	0.65	0.26	34.01	69.33	0.18
17_307	1993	200-yr	16.49	186.01	187.68		187.69	0.000312	0.28	0.67	0.28	39.39	72.15	0.18
17_307	1843	50-yr	12.71	185.86	187.52		187.53	0.000242	0.23	0.54	0.12	44.74	82.79	0.16
17_307	1843	100-yr	13.98	185.86	187.56		187.57	0.000244	0.24	0.56	0.13	48.15	84.54	0.16
17_307	1843	200-yr	16.49	185.86	187.64		187.65	0.000253	0.25	0.58	0.14	54.74	90.96	0.16
17_307	1606	50-yr	12.71	185.63	187.43		187.46	0.000430	0.37	0.80	0.15	21.89	29.24	0.21
17_307	1606	100-yr	13.98	185.63	187.47		187.50	0.000461	0.40	0.84	0.16	22.94	29.58	0.22
17_307	1606	200-yr	16.49	185.63	187.53		187.57	0.000519	0.45	0.92	0.18	24.91	30.36	0.24
17_307	1441	50-yr	12.71	185.48	187.35		187.35	0.001191	0.27	0.40	0.31	40.27	75.07	0.11
17_307	1441	100-yr	13.98	185.48	187.39		187.38	0.001194	0.29	0.41	0.32	42.79	75.60	0.11
17_307	1441	200-yr	16.49	185.48	187.44		187.45	0.001202	0.32	0.42	0.34	47.49	77.36	0.11
17_307	1246	50-yr	12.71	185.27	187.09		187.10	0.001687	0.32	0.45	0.25	37.19	73.68	0.13
17_307	1246	100-yr	13.98	185.27	187.12		187.13	0.001721	0.34	0.49	0.27	39.54	74.51	0.13
17_307	1246	200-yr	16.49	185.27	187.18		187.18	0.001841	0.37	0.52	0.30	43.56	76.83	0.14
17_307	867	50-yr	12.71	184.89	186.59	185.95	186.60	0.001586	0.29	0.44	0.20	40.38	87.33	0.13
17_307	867	100-yr	13.98	184.89	186.62	186.17	186.63	0.001588	0.30	0.45	0.21	43.09	87.96	0.13
17_307	867	200-yr	16.49	184.89	186.68	186.22	186.69	0.001541	0.33	0.46	0.23	48.72	89.03	0.13
17_307	499	50-yr	12.71	184.53	186.29		186.29	0.000665	0.14	0.30	0.21	59.61	120.33	0.08
17_307	499	100-yr	13.98	184.53	186.33		186.34	0.000634	0.15	0.30	0.21	64.64	120.72	0.08
17_307	499	200-yr	16.49	184.53	186.42		186.42	0.000565	0.17	0.30	0.22	75.00	121.93	0.08
17_307	121	50-yr	12.71	184.16	186.18		186.18	0.000283	0.14	0.22	0.14	86.05	105.38	0.06
17_307	121	100-yr	13.98	184.16	186.23		186.23	0.000259	0.14	0.21	0.14	90.85	106.71	0.05
17_307	121	200-yr	16.49	184.16	186.33		186.33	0.000220	0.13	0.20	0.14	110.06	162.38	0.05

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m³/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m²)	Trip Width (m)	Froude # Cnl
17_306	414	50-yr	2.91	186.92	187.25	187.18	187.27	0.005526	0.52	0.32	0.60	5.57	40.48	0.19
17_306	414	100-yr	3.24	186.92	187.27	187.20	187.28	0.009411	0.54	0.33	0.61	6.12	41.33	0.19
17_306	414	200-yr	3.68	186.92	187.28	187.21	187.31	0.009077	0.58	0.33	0.63	7.12	46.03	0.19
17_306	332	50-yr	2.91	186.27	187.02	186.64	187.03	0.002031	0.42	0.30	0.38	8.03	37.69	0.13
17_306	332	100-yr	3.24	186.27	187.03	186.85	187.04	0.002032	0.43	0.31	0.38	8.64	38.92	0.13
17_306	332	200-yr	3.68	186.27	187.07	186.89	187.08	0.001883	0.44	0.31	0.40	9.94	40.64	0.13
17_306	203	50-yr	2.91	185.25	186.31	186.31	186.36	0.029698	0.69	1.13	0.78	2.96	23.19	0.40
17_306	203	100-yr	3.24	185.25	186.31	186.31	186.37	0.031774	0.67	1.17	0.84	3.13	23.41	0.41
17_306	203	200-yr	3.68	185.25	186.31	186.31	186.39	0.045313	1.16	1.39	1.00	3.13	23.42	0.49
17_306	140	50-yr	2.91	184.76	186.18		186.18	0.000048	0.10	0.06	0.06	31.32	84.42	0.02
17_306	140	100-yr	3.24	184.76	186.32		186.22	0.000040	0.10	0.06	0.06	35.71	91.17	0.02
17_306	140	200-yr	3.68	184.76	186.32		186.32	0.000031	0.09	0.06	0.06	45.53	102.02	0.02
17_505	732	50-yr	4.25	193.46	194.47		194.48	0.001786	0.32	0.38	0.51	10.02	38.64	0.13
17_505	732	100-yr	4.73	193.46	194.50		194.51	0.001775	0.35	0.39	0.51	10.92	40.65	0.13
17_505	732	200-yr	5.68	193.46	194.54		194.55	0.001739	0.39	0.40	0.51	12.71	44.38	0.13
17_505	428	50-yr	4.25	192.78	193.61		193.63	0.004944	0.59	0.55	0.56	7.47	35.31	0.21
17_505	428	100-yr	4.73	192.78	193.62		193.64	0.005140	0.63	0.56	0.60	7.86	35.56	0.21
17_505	428	200-yr	5.68	192.78	193.65		193.67	0.005688	0.69	0.60	0.67	8.64	36.48	0.22
17_505	24	50-yr	4.25	191.67	192.91		192.93	0.000909	0.26	0.76	0.28	9.89	43.09	0.28
17_505	24	100-yr	4.73	191.67	192.94		192.95	0.000872	0.27	0.77	0.28	11.17	46.25	0.27
17_505	24	200-yr	5.68	191.67	192.99		193.00	0.000798	0.29	0.76	0.28	13.63	50.24	0.26
17_501	8558	50-yr	13.19	188.41	189.18		189.22	0.002667	0.58	1.24	0.52	18.65	67.86	0.48
17_501	8558	100-yr	14.69	188.41	189.22		189.25	0.002337	0.58	1.18	0.50	21.52	70.12	0.44
17_501	8558	200-yr	17.65	188.41	189.22		189.27	0.003150	0.68	1.41	0.59	21.72	70.31	0.53
17_501	8422	50-yr	13.19	188.16	188.89		188.91	0.001773	0.49	0.93	0.48	23.40	81.50	0.38
17_501	8422	100-yr	14.69	188.16	188.87		188.90	0.002759	0.58	1.12	0.59	21.67	80.35	0.47
17_501	8422	200-yr	17.65	188.16	188.95		189.07	0.000780	0.43	0.72	0.43	37.53	98.48	0.26
17_501	8135	50-yr	13.19	187.62	188.46		188.48	0.001387	0.43	0.93	0.37	24.52	88.45	0.35
17_501	8135	100-yr	14.69	187.62	188.61		188.62	0.000910	0.33	0.64	0.29	30.04	102.81	0.22
17_501	8135	200-yr	17.65	187.62	189.01		189.01	0.000694	0.19	0.33	0.19	85.39	131.12	0.09
17_501	7840	50-yr	13.19	187.07	188.34		188.35	0.000211	0.27	0.49	0.25	43.41	78.05	0.15
17_501	7840	100-yr	14.69	187.07	188.55		188.56	0.000100	0.23	0.38	0.21	60.49	84.39	0.10
17_501	7840	200-yr	17.65	187.07	188.99		189.00	0.000034	0.17	0.27	0.16	100.83	95.31	0.06
17_501	7507	50-yr	13.19	186.43	188.32		188.32	0.000041	0.15	0.27	0.16	76.15	88.78	0.07
17_501	7507	100-yr	14.69	186.43	188.54		188.54	0.000028	0.12	0.25	0.15	97.29	106.64	0.06
17_501	7507	200-yr	17.65	186.43	188.99		188.99	0.000012	0.10	0.19	0.12	151.07	128.14	0.04
17_501	7332	50-yr	13.19	186.12	188.32		188.32	0.000017	0.11	0.19	0.12	102.03	95.89	0.04
17_501	7332	100-yr	14.69	186.12	188.54		188.54	0.000012	0.10	0.18	0.12	124.33	101.85	0.04
17_501	7332	200-yr	17.65	186.12	188.99		188.99	0.000007	0.09	0.15	0.10	172.72	113.92	0.03
17_501	7325	50-yr	13.19	186.11	188.31	187.00	188.32	0.000107	0.36	0.48	0.28	30.91	88.83	0.11
17_501	7325	100-yr	14.69	186.11	188.53	187.09	188.54	0.000087	0.36	0.48	0.35	35.03	95.50	0.10
17_501	7325	200-yr	17.65	186.11	188.98	187.17	188.99	0.000061	0.36	0.45	0.35	43.64	110.48	0.09
17_501	7306	Highway 56												
		Culvert												
17_501	7291	50-yr	17.87	186.20	188.12	187.36	188.16	0.000578	0.75	1.03	0.76	20.39	116.39	0.25
17_501	7291	100-yr	19.85	186.20	188.30	187.40	188.34	0.000492	0.75	1.01	0.76	23.01	120.84	0.23
17_501	7291	200-yr	23.74	186.20	188.64	187.47	188.64	0.000022	0.13	0.24	0.16	154.11	130.36	0.05
17_501	7285	50-yr	17.87	186.18	188.14		188.14	0.000048	0.13	0.29	0.18	99.57	126.09	0.07
17_501	7285	100-yr	19.85	186.18	188.31		188.32	0.000031	0.12	0.26	0.18	121.70	129.65	0.06
17_501	7285	200-yr	23.74	186.18	188.64		188.64	0.000018	0.12	0.22	0.13	164.75	136.56	0.05
17_501	7173	50-yr	17.87	185.72	188.14		188.14	0.000004	0.06	0.09	0.06	271.12	212.05	0.02
17_501	7173	100-yr	19.85	185.72	188.31		188.31	0.000003	0.06	0.09	0.06	308.28	217.88	0.02
17_501	7173	200-yr	23.74	185.72	188.64		188.64	0.000002	0.06	0.09	0.06	380.07	225.45	0.02
17_501	7161	50-yr	17.87	185.70	188.13	186.60	188.14	0.000092	0.39	0.50	0.38	39.17	208.65	0.11
17_501	7161	100-yr	19.85	185.70	188.30	186.64	188.31	0.000086	0.41	0.51	0.37	42.62	211.92	0.11
17_501	7161	200-yr	23.74	185.70	188.62	186.71	188.63	0.000077	0.43	0.53	0.39	49.10	223.00	0.10
17_501	7141	Concession 1 Rd												
		Culvert												
17_501	7120	50-yr	17.87	185.95	187.29	186.90	187.36	0.001501	0.81	1.30	0.43	16.01	77.83	0.38
17_501	7120	100-yr	19.85	185.95	187.32	186.94	187.41	0.001635	0.88	1.39	0.45	16.70	76.43	0.40
17_501	7120	200-yr	23.74	185.95	187.38	187.00	187.49	0.001913	1.00	1.55	0.52	17.86	79.38	0.44
17_501	7110	50-yr	17.87	185.93	187.31		187.32	0.000586	0.42	0.78	0.35	36.76	89.60	0.24
17_501	7110	100-yr	19.85	185.93	187.35		187.37	0.000579	0.44	0.79	0.38	39.09	70.21	0.24
17_501	7110	200-yr	23.74	185.93	187.42		187.44	0.000563	0.48	0.83	0.38	44.49	71.27	0.24
17_501	6928	50-yr	17.87	185.68	187.09	186.95	187.15	0.001963	0.70	1.46	0.58	21.48	52.72	0.43
17_501	6928	100-yr	19.85	185.68	187.13	186.98	187.19	0.001882	0.71	1.47	0.60	23.73	54.34	0.43
17_501	6928	200-yr	23.74	185.68	187.20	187.01	187.26	0.001792	0.74	1.49	0.65	27.86	57.44	0.42
17_501	6543	50-yr	17.87	185.10	186.20		186.28	0.002696	0.93	1.47	0.70	15.83	33.22	0.50
17_501	6543	100-yr	19.85	185.10	186.23		186.32	0.002637	0.96	1.55	0.74	16.93	35.14	0.52
17_501	6543	200-yr	23.74	185.10	186.29		186.39	0.003063	1.02	1.68	0.80	19.11	38.23	0.54
17_501	6142	50-yr	17.87	184.51	185.65		185.66	0.000625	0.20	0.79	0.10	63.35	141.06	0.25
17_501	6142	100-yr	19.85	184.51	185.69		185.99	0.000600	0.21	0.79	0.11	69.68	141.64	0.24

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m³/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m²)	Trip Width (m)	Froude # Crl
17_501	5142	200-yr	23.74	184.51	185.97		185.98	0.000555	0.22	0.80	0.11	81.38	142.75	0.24
17_501	5786	50-yr	17.87	183.98	185.18	185.13	185.39	0.005915	0.39	2.18	0.40	13.68	33.12	0.74
17_501	5786	100-yr	19.85	183.98	185.21	185.17	185.44	0.006397	0.43	2.31	0.43	14.60	34.01	0.77
17_501	5786	200-yr	23.74	183.98	185.26	185.24	185.54	0.007252	0.50	2.55	0.49	16.37	35.65	0.83
17_501	5415	50-yr	17.87	183.44	184.88		184.91	0.005527	0.37	0.77	0.44	38.37	74.52	0.23
17_501	5415	100-yr	19.85	183.44	184.93		184.95	0.005919	0.39	0.78	0.45	41.45	75.17	0.23
17_501	5415	200-yr	23.74	183.44	185.00		185.02	0.006521	0.42	0.81	0.48	46.78	76.31	0.23
17_501	5052	50-yr	17.87	182.90	184.50		184.58	0.002299	0.78	1.83	0.84	18.87	42.18	0.45
17_501	5052	100-yr	19.85	182.90	184.55	184.36	184.63	0.002227	0.74	1.84	0.87	21.18	46.06	0.45
17_501	5052	200-yr	23.74	182.90	184.63	184.41	184.71	0.002108	0.77	1.88	0.73	24.92	48.53	0.44
17_501	4835	50-yr	17.87	182.58	184.04	183.99	184.11	0.002530	0.43	1.58	0.54	23.83	108.52	0.48
17_501	4835	100-yr	19.85	182.58	184.05	184.02	184.13	0.003007	0.44	1.73	0.60	24.73	108.95	0.52
17_501	4835	200-yr	23.74	182.58	184.06	184.06	184.17	0.003787	0.52	1.98	0.89	26.17	109.79	0.59
17_501	4494	50-yr	17.87	182.08	183.61		183.64	0.000955	0.48	1.06	0.34	32.73	93.38	0.30
17_501	4494	100-yr	19.85	182.08	183.66		183.70	0.000727	0.46	0.96	0.33	40.03	104.10	0.27
17_501	4494	200-yr	23.74	182.08	183.69		183.90	0.000319	0.38	0.70	0.28	63.08	118.52	0.18
17_501	4347	50-yr	17.87	181.88	183.38		183.45	0.001725	0.67	1.44	0.58	17.45	29.58	0.42
17_501	4347	100-yr	19.85	181.88	183.51		183.57	0.001261	0.65	1.31	0.54	21.49	32.12	0.36
17_501	4347	200-yr	23.74	181.88	183.79		183.83	0.000693	0.57	1.11	0.50	31.60	38.13	0.28
17_501	3834	50-yr	17.87	181.11	183.26		183.28	0.000150	0.26	0.55	0.22	56.23	75.58	0.13
17_501	3834	100-yr	19.85	181.11	183.43		183.43	0.000104	0.25	0.49	0.20	89.66	81.72	0.11
17_501	3834	200-yr	23.74	181.11	183.75		183.78	0.000080	0.22	0.41	0.16	97.72	92.81	0.09
17_501	3665	50-yr	17.87	180.87	183.25		183.25	0.000026	0.16	0.26	0.17	100.03	77.03	0.06
17_501	3665	100-yr	19.85	180.87	183.42		183.43	0.000022	0.16	0.25	0.17	113.52	78.08	0.05
17_501	3665	200-yr	23.74	180.87	183.75		183.75	0.000017	0.15	0.24	0.17	136.84	83.36	0.05
17_501	3650	50-yr	17.87	180.85	183.33	181.55	183.25	0.000131		0.58	0.40	30.90	75.82	0.13
17_501	3650	100-yr	19.85	180.85	183.40	181.59	183.42	0.000125		0.60	0.43	33.23	78.12	0.12
17_501	3650	200-yr	23.74	180.85	183.72	181.71	183.74	0.000117		0.63	0.47	37.79	83.67	0.12
17_501	3637	Turnbull Rd	Culvert											
17_501	3620	50-yr	17.42	180.78	182.24	181.80	182.31	0.001221	0.49	1.21	0.18	15.82	82.98	0.35
17_501	3620	100-yr	19.23	180.78	182.26	181.85	182.35	0.001363	0.55	1.30	0.21	16.12	84.43	0.37
17_501	3620	200-yr	22.83	180.78	182.31	181.75	182.42	0.001658	0.68	1.47	0.27	18.99	87.03	0.41
17_501	3613	50-yr	17.42	180.73	182.25		182.28	0.001062	0.38	1.00	0.18	26.81	88.84	0.32
17_501	3613	100-yr	19.23	180.73	182.28		182.32	0.001062	0.41	1.02	0.20	29.11	70.73	0.32
17_501	3613	200-yr	22.83	180.73	182.34		182.38	0.001061	0.48	1.06	0.22	33.42	72.22	0.33
17_501	3474	50-yr	17.42	180.57	182.06		182.10	0.001504	0.60	1.29	0.56	23.07	53.44	0.38
17_501	3474	100-yr	19.23	180.57	182.09		182.14	0.001585	0.63	1.32	0.59	24.73	54.19	0.39
17_501	3474	200-yr	22.83	180.57	182.15		182.20	0.001597	0.67	1.37	0.64	27.93	55.18	0.39
17_501	3229	50-yr	17.42	180.25	181.80		181.82	0.000786	0.33	0.94	0.42	33.89	78.86	0.27
17_501	3229	100-yr	19.23	180.25	181.84		181.86	0.000740	0.35	0.94	0.44	36.64	78.53	0.27
17_501	3229	200-yr	22.83	180.25	181.91		181.93	0.000696	0.38	0.95	0.47	42.30	81.45	0.26
17_501	3065	50-yr	17.42	180.04	181.63		181.67	0.001127	0.15	1.13	0.54	25.16	80.21	0.33
17_501	3065	100-yr	19.23	180.04	181.67		181.71	0.001094	0.16	1.14	0.56	27.39	50.72	0.33
17_501	3065	200-yr	22.83	180.04	181.75		181.79	0.001054	0.17	1.18	0.61	31.23	51.58	0.32
17_501	2876	50-yr	17.42	179.79	181.45		181.48	0.000902	0.57	1.10	0.20	26.45	45.66	0.31
17_501	2876	100-yr	19.23	179.79	181.49		181.53	0.000863	0.60	1.13	0.22	28.35	46.42	0.32
17_501	2876	200-yr	22.83	179.79	181.56		181.61	0.001020	0.65	1.20	0.24	31.84	47.55	0.32
17_501	2686	50-yr	17.42	179.52	181.30		181.32	0.000898	0.44	0.92	0.20	35.25	68.37	0.25
17_501	2686	100-yr	19.23	179.52	181.34		181.36	0.000891	0.46	0.93	0.21	38.17	70.33	0.25
17_501	2686	200-yr	22.83	179.52	181.42		181.44	0.000876	0.49	0.96	0.21	43.69	73.82	0.25
17_501	2558	50-yr	17.42	179.38	181.06		181.19	0.002239	0.23	1.57	0.28	21.71	55.84	0.47
17_501	2558	100-yr	19.23	179.38	181.11		181.23	0.002369	0.26	1.65	0.31	23.81	56.47	0.48
17_501	2558	200-yr	22.83	179.38	181.18		181.30	0.002567	0.30	1.77	0.35	27.01	57.40	0.51
17_501	2418	50-yr	17.42	179.20	180.87		180.91	0.001809	0.32	1.31	0.33	33.75	85.11	0.38
17_501	2418	100-yr	19.23	179.20	180.91		180.95	0.001523	0.34	1.30	0.35	37.30	85.48	0.37
17_501	2418	200-yr	22.83	179.20	180.99		181.03	0.001381	0.37	1.29	0.37	44.11	86.29	0.36
17_501	2227	50-yr	17.42	178.95	180.76		180.77	0.000519	0.41	0.80	0.17	37.71	68.96	0.22
17_501	2227	100-yr	19.23	178.95	180.81		180.82	0.000496	0.42	0.80	0.17	41.02	70.82	0.21
17_501	2227	200-yr	22.83	178.95	180.89		180.91	0.000463	0.45	0.80	0.18	47.29	72.73	0.21
17_501	2048	50-yr	17.42	178.72	180.68		180.69	0.000480	0.18	0.80	0.40	42.78	72.30	0.21
17_501	2048	100-yr	19.23	178.72	180.73		180.74	0.000464	0.19	0.80	0.41	46.45	73.16	0.21
17_501	2048	200-yr	22.83	178.72	180.82		180.84	0.000440	0.20	0.81	0.44	53.25	74.30	0.21
17_501	1745	50-yr	17.42	178.32	180.28	180.06	180.44	0.002874	0.38	1.94	0.97	13.12	22.84	0.52
17_501	1745	100-yr	19.23	178.32	180.32	180.11	180.49	0.003171	0.42	2.03	1.04	14.83	23.54	0.53
17_501	1745	200-yr	22.83	178.32	180.39	180.21	180.59	0.003464	0.50	2.20	1.15	15.81	24.15	0.56
17_501	1593	50-yr	17.42	178.12	179.91		180.01	0.002528	0.65	1.89	0.80	17.48	43.49	0.47
17_501	1593	100-yr	19.23	178.12	179.94		180.04	0.002575	0.69	1.73	0.65	18.86	44.28	0.47
17_501	1593	200-yr	22.83	178.12	180.00		180.10	0.002709	0.75	1.83	0.73	21.42	46.92	0.49
17_501	1511	50-yr	17.42	178.02	179.84		179.87	0.000875	0.32	1.01	0.44	31.05	75.31	0.28
17_501	1511	100-yr	19.23	178.02	179.87		179.90	0.000877	0.34	1.03	0.47	33.45	76.24	0.28

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m³/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m²)	Trip Width (m)	Froude # Crl
17_501	1511	200-yr	22.83	178.02	179.93		179.96	0.000876	0.37	1.06	0.51	36.05	78.32	0.29
17_501	1245	50-yr	17.42	177.67	179.58		179.62	0.001623	0.29	1.39	0.28	45.03	106.47	0.35
17_501	1245	100-yr	19.23	177.67	179.62		179.65	0.001774	0.31	1.39	0.28	48.01	108.88	0.35
17_501	1245	200-yr	22.83	177.67	179.68		179.71	0.001919	0.34	1.44	0.30	55.04	109.28	0.35
17_501	1090	50-yr	17.42	177.47	179.38		179.36	0.002061	0.38	1.51	0.27	30.00	80.96	0.41
17_501	1090	100-yr	19.23	177.47	179.29		179.37	0.002583	0.44	1.69	0.30	29.63	80.83	0.48
17_501	1090	200-yr	22.83	177.47	179.35		179.43	0.002905	0.47	1.71	0.35	34.80	82.85	0.48
17_501	830	50-yr	17.42	177.13	178.85		178.92	0.001857	0.30	1.41	0.48	27.76	95.67	0.41
17_501	830	100-yr	19.23	177.13	178.99		179.03	0.002947	0.28	1.08	0.42	40.19	91.29	0.30
17_501	830	200-yr	22.83	177.13	179.17		179.19	0.005541	0.27	0.89	0.36	56.94	98.49	0.23
17_501	644	50-yr	17.42	176.89	178.86		178.86	0.000094	0.10	0.37	0.18	87.36	189.84	0.10
17_501	644	100-yr	19.23	176.89	178.99		179.09	0.000057	0.10	0.30	0.18	110.95	173.17	0.08
17_501	644	200-yr	22.83	176.89	179.17		179.17	0.000038	0.11	0.27	0.15	141.77	178.22	0.07
17_501	458	50-yr	17.42	176.65	178.63		178.84	0.000231	0.32	0.60	0.31	47.43	67.81	0.15
17_501	458	100-yr	19.23	176.65	178.98		178.98	0.000160	0.30	0.53	0.29	57.45	88.91	0.13
17_501	458	200-yr	22.83	176.65	179.16		179.18	0.000124	0.30	0.50	0.28	70.26	72.17	0.11
17_501	294	50-yr	17.42	176.43	178.81		178.82	0.000127	0.23	0.53	0.12	58.40	75.90	0.12
17_501	294	100-yr	19.23	176.43	178.96		178.97	0.000095	0.23	0.48	0.11	70.18	79.25	0.11
17_501	294	200-yr	22.83	176.43	179.15		179.15	0.000078	0.23	0.46	0.11	86.01	82.22	0.10
17_501	147	50-yr	17.42	176.24	178.79		178.80	0.000132	0.13	0.53	0.15	88.81	136.78	0.12
17_501	147	100-yr	19.23	176.24	178.95		178.96	0.000090	0.12	0.46	0.14	110.48	138.78	0.10
17_501	147	200-yr	22.83	176.24	179.14		179.14	0.000071	0.13	0.43	0.14	136.48	140.83	0.09
17_504	2099	50-yr	13.14	191.61	192.75		192.78	0.001394	0.55	1.09	0.43	21.61	61.58	0.36
17_504	2099	100-yr	14.61	191.61	192.78		192.81	0.001418	0.58	1.12	0.48	23.27	62.90	0.38
17_504	2099	200-yr	17.53	191.61	192.82		192.85	0.001565	0.63	1.21	0.52	25.69	64.45	0.39
17_504	1884	50-yr	13.14	191.15	192.70		192.70	0.000144	0.20	0.47	0.14	58.38	128.35	0.13
17_504	1884	100-yr	14.61	191.15	192.72		192.73	0.000198	0.22	0.50	0.15	61.18	131.08	0.13
17_504	1884	200-yr	17.53	191.15	192.74		192.75	0.000203	0.25	0.57	0.17	64.01	133.93	0.15
17_504	1731	50-yr	13.14	190.81	192.70		192.70	0.000014	0.09	0.18	0.07	149.49	211.43	0.04
17_504	1731	100-yr	14.61	190.81	192.72		192.72	0.000015	0.10	0.17	0.08	153.98	212.17	0.04
17_504	1731	200-yr	17.53	190.81	192.74		192.74	0.000020	0.12	0.20	0.09	158.28	212.87	0.05
17_504	1726	50-yr	13.14	190.80	192.70	191.64	192.70	0.000018	0.10	0.19	0.07	131.41	202.17	0.05
17_504	1726	100-yr	14.61	190.80	192.72	191.68	192.72	0.000020	0.11	0.20	0.08	135.69	202.97	0.05
17_504	1726	200-yr	17.53	190.80	192.74	191.75	192.74	0.000027	0.13	0.23	0.09	138.78	203.73	0.06
17_504	1714	Concession Rd 2	Culvert											
17_504	1702	50-yr	13.14	190.64	191.97	191.80	192.01	0.001640	0.48	1.21	0.42	20.02	66.11	0.38
17_504	1702	100-yr	14.61	190.64	192.00	191.83	192.04	0.001553	0.50	1.21	0.43	22.38	68.52	0.37
17_504	1702	200-yr	17.53	190.64	192.06	191.80	192.10	0.001492	0.55	1.23	0.46	26.48	73.49	0.37
17_504	1696	50-yr	13.14	190.63	191.90		191.99	0.002357	0.51	1.50	0.42	15.01	52.99	0.48
17_504	1696	100-yr	14.61	190.63	191.94		192.02	0.002328	0.55	1.53	0.44	16.91	58.09	0.48
17_504	1696	200-yr	17.53	190.63	192.01		192.08	0.002094	0.60	1.51	0.46	21.24	65.87	0.46
17_504	1487	50-yr	13.14	190.41	191.80		191.81	0.000339	0.33	0.64	0.26	36.31	89.88	0.18
17_504	1487	100-yr	14.61	190.41	191.83		191.83	0.000364	0.35	0.67	0.27	38.04	70.52	0.19
17_504	1487	200-yr	17.53	190.41	191.89		191.90	0.000376	0.39	0.71	0.28	42.54	72.31	0.20
17_504	1360	50-yr	13.14	190.27	191.79		191.80	0.000058	0.15	0.28	0.08	79.51	133.78	0.08
17_504	1360	100-yr	14.61	190.27	191.82		191.82	0.000063	0.16	0.30	0.09	82.75	134.27	0.08
17_504	1360	200-yr	17.53	190.27	191.88		191.88	0.000068	0.18	0.32	0.10	91.24	135.42	0.09
17_504	1219	50-yr	13.14	190.11	191.78		191.78	0.000113	0.21	0.44	0.20	58.45	94.10	0.11
17_504	1219	100-yr	14.61	190.11	191.80		191.81	0.000126	0.22	0.46	0.22	58.81	95.31	0.12
17_504	1219	200-yr	17.53	190.11	191.87		191.87	0.000140	0.24	0.50	0.24	64.61	99.60	0.13
17_504	1112	50-yr	13.14	189.99	191.77		191.78	0.000077	0.18	0.37	0.18	64.70	98.09	0.09
17_504	1112	100-yr	14.61	189.99	191.79		191.80	0.000088	0.19	0.40	0.20	66.84	99.44	0.10
17_504	1112	200-yr	17.53	189.99	191.85		191.86	0.000099	0.21	0.44	0.22	72.92	102.41	0.11
17_504	1066	50-yr	13.14	189.94	191.77	190.79	191.77	0.000025	0.10	0.21	0.10	114.48	177.97	0.05
17_504	1066	100-yr	14.61	189.94	191.79	190.84	191.80	0.000028	0.11	0.23	0.11	118.35	180.09	0.06
17_504	1066	200-yr	17.53	189.94	191.85	190.92	191.86	0.000032	0.12	0.25	0.12	129.35	184.19	0.06
17_504	1058	Singer Rd	Culvert											
17_504	1046	50-yr	13.14	189.94	191.22	190.96	191.25	0.001068	0.40	1.05	0.39	23.62	69.82	0.32
17_504	1046	100-yr	14.61	189.94	191.25	190.99	191.28	0.001082	0.42	1.07	0.42	25.64	71.75	0.33
17_504	1046	200-yr	17.53	189.94	191.30	191.06	191.33	0.001094	0.44	1.11	0.46	29.53	75.17	0.33
17_504	1039	50-yr	13.14	189.94	191.20		191.24	0.001839	0.43	1.30	0.51	20.41	63.80	0.40
17_504	1039	100-yr	14.61	189.94	191.23		191.27	0.001834	0.44	1.33	0.53	22.39	66.41	0.40
17_504	1039	200-yr	17.53	189.94	191.28		191.32	0.001901	0.46	1.35	0.57	25.99	70.65	0.40
17_504	864	50-yr	13.14	189.72	190.93		190.96	0.001523	0.47	1.17	0.53	20.92	58.62	0.38
17_504	864	100-yr	14.61	189.72	190.96		190.99	0.001525	0.49	1.19	0.56	22.54	59.42	0.38
17_504	864	200-yr	17.53	189.72	191.01		191.05	0.001519	0.48	1.23	0.61	25.85	62.70	0.38
17_504	503	50-yr	13.14	189.26	190.38		190.41	0.001440	0.55	0.32	0.46	26.78	79.20	0.11
17_504	503	100-yr	14.61	189.26	190.42		190.43	0.001444	0.56	0.33	0.48	26.72	81.18	0.11
17_504	503	200-yr	17.53	189.26	190.48		190.48	0.001458	0.60	0.34	0.50	32.61	86.14	0.11

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m2)	Twp Width (m)	Froude # Crl
17_504	138	50-yr	13.14	188.81	189.78		189.80	0.001796	0.58	0.38	0.69	22.16	55.38	0.13
17_504	138	100-yr	14.61	188.81	189.81		189.83	0.001748	0.60	0.38	0.71	23.99	58.71	0.13
17_504	138	200-yr	17.53	188.81	189.87		189.89	0.001715	0.64	0.40	0.74	27.21	58.76	0.13
17_502	11648	50-yr	20.25	188.40	189.37		189.39	0.001135	0.45	0.97	0.58	33.72	77.07	0.33
17_502	11648	100-yr	22.54	188.40	189.42		189.44	0.001029	0.45	0.96	0.58	37.88	80.09	0.31
17_502	11648	200-yr	27.06	188.40	189.54		189.56	0.000833	0.47	0.93	0.53	48.17	93.64	0.29
17_502	11533	50-yr	20.25	188.28	189.28		189.29	0.000565	0.25	0.70	0.43	41.14	80.60	0.23
17_502	11533	100-yr	22.54	188.28	189.34		189.35	0.000508	0.26	0.69	0.43	46.32	83.67	0.22
17_502	11533	200-yr	27.06	188.28	189.47		189.49	0.000393	0.27	0.67	0.43	56.28	92.53	0.20
17_502	11297	50-yr	20.25	188.00	189.19		189.21	0.000239	0.44	0.54	0.42	43.61	42.24	0.16
17_502	11297	100-yr	22.54	188.00	189.26		189.27	0.000247	0.47	0.57	0.44	46.33	42.82	0.16
17_502	11297	200-yr	27.06	188.00	189.40		189.41	0.000245	0.49	0.61	0.46	52.49	44.22	0.18
17_502	11151	50-yr	20.25	187.87	189.12	188.42	189.15	0.000721	0.51	0.94	0.32	34.71	81.21	0.26
17_502	11151	100-yr	22.54	187.87	189.18	188.46	189.21	0.000745	0.51	0.99	0.33	37.34	84.32	0.28
17_502	11151	200-yr	27.06	187.87	189.32	188.51	189.36	0.000663	0.53	1.01	0.34	44.12	89.43	0.29
17_502	10997	50-yr	20.25	187.71	189.01		189.04	0.000600	0.56	0.96	0.22	48.09	84.64	0.29
17_502	10997	100-yr	22.54	187.71	189.06		189.10	0.000746	0.57	0.96	0.23	53.61	85.70	0.28
17_502	10997	200-yr	27.06	187.71	189.24		189.26	0.000568	0.58	0.91	0.23	68.13	85.54	0.25
17_502	10838	50-yr	20.25	187.54	188.81		188.86	0.000219	0.44	1.45	0.39	32.93	58.53	0.45
17_502	10838	100-yr	22.54	187.54	188.90		188.95	0.000240	0.44	1.38	0.38	36.48	60.19	0.41
17_502	10838	200-yr	27.06	187.54	189.13		189.18	0.000192	0.42	1.21	0.35	52.32	63.22	0.33
17_502	10383	50-yr	20.25	187.07	188.73		188.73	0.000105	0.21	0.36	0.16	91.87	165.38	0.11
17_502	10383	100-yr	22.54	187.07	188.85		188.85	0.000075	0.20	0.35	0.16	112.21	173.71	0.09
17_502	10383	200-yr	27.06	187.07	189.10		189.11	0.000041	0.17	0.29	0.14	158.35	191.46	0.07
17_502	10368	50-yr	20.25	187.05	188.70	187.94	188.73	0.000441	0.61	0.76	0.61	27.76	106.64	0.22
17_502	10368	100-yr	22.54	187.05	188.82	187.98	188.84	0.000409	0.62	0.77	0.62	30.51	103.59	0.21
17_502	10368	200-yr	27.06	187.05	189.07	188.03	189.10	0.000323	0.64	0.77	0.64	36.35	102.53	0.19
17_502	10349 - Highway 58	Culvert												
17_502	10332	50-yr	20.27	187.09	188.42	188.07	188.49	0.001812	0.85	1.22	0.44	18.35	96.75	0.41
17_502	10332	100-yr	22.39	187.09	188.47	188.11	188.55	0.001839	0.90	1.27	0.46	19.42	99.02	0.42
17_502	10332	200-yr	26.61	187.09	188.56	188.16	188.64	0.001696	0.99	1.37	0.50	21.39	102.80	0.43
17_502	10321	50-yr	20.27	187.07	188.44		188.46	0.000440	0.27	0.68	0.19	52.93	101.02	0.21
17_502	10321	100-yr	22.39	187.07	188.49		188.51	0.000425	0.28	0.69	0.19	57.82	105.03	0.21
17_502	10321	200-yr	26.61	187.07	188.59		188.60	0.000393	0.31	0.70	0.20	67.78	108.88	0.20
17_502	10028	50-yr	20.27	186.78	188.30		188.33	0.000595	0.22	0.88	0.19	56.68	86.89	0.25
17_502	10028	100-yr	22.39	186.78	188.36		188.38	0.000588	0.23	0.90	0.20	61.39	88.06	0.25
17_502	10028	200-yr	26.61	186.78	188.46		188.48	0.000577	0.25	0.94	0.21	70.33	91.05	0.25
17_502	9879	50-yr	20.27	186.60	188.18		186.22	0.000917	0.26	1.04	0.21	44.78	74.15	0.31
17_502	9879	100-yr	22.39	186.60	188.24		186.27	0.000907	0.27	1.06	0.23	48.87	75.16	0.31
17_502	9879	200-yr	26.61	186.60	188.34		186.38	0.000866	0.28	1.11	0.25	56.80	79.73	0.31
17_502	9711	50-yr	20.27	186.43	187.94		186.02	0.001833	0.32	1.43	0.35	26.15	44.88	0.43
17_502	9711	100-yr	22.39	186.43	188.00		186.07	0.001827	0.34	1.47	0.37	30.65	46.22	0.43
17_502	9711	200-yr	26.61	186.43	188.09		186.18	0.001698	0.37	1.57	0.38	36.30	53.27	0.44
17_502	9502	50-yr	20.27	186.20	187.91		187.92	0.000207	0.25	0.54	0.20	75.92	101.27	0.15
17_502	9502	100-yr	22.39	186.20	187.97		187.97	0.000204	0.26	0.55	0.21	81.88	104.07	0.15
17_502	9502	200-yr	26.61	186.20	188.07		188.08	0.000201	0.28	0.57	0.22	92.78	107.56	0.15
17_502	9256	50-yr	20.27	185.94	187.75	187.39	187.81	0.001539	0.20	1.43	0.34	32.25	48.67	0.36
17_502	9256	100-yr	22.39	185.94	187.81	187.39	187.87	0.001546	0.21	1.47	0.35	35.06	50.31	0.40
17_502	9256	200-yr	26.61	185.94	187.91	187.48	187.96	0.001551	0.23	1.54	0.38	40.25	51.82	0.40
17_502	8957	50-yr	20.27	185.62	187.34		187.40	0.001429	0.35	1.40	0.36	33.92	45.47	0.38
17_502	8957	100-yr	22.39	185.62	187.39		187.45	0.001507	0.37	1.46	0.38	35.95	46.30	0.40
17_502	8957	200-yr	26.61	185.62	187.47		187.54	0.001650	0.41	1.59	0.42	38.72	47.67	0.42
17_502	8620	50-yr	20.27	185.26	187.02		187.05	0.000919	0.19	1.02	0.57	37.25	73.44	0.29
17_502	8620	100-yr	22.39	185.26	187.06		187.09	0.000913	0.19	1.03	0.59	40.26	74.66	0.29
17_502	8620	200-yr	26.61	185.26	187.14		187.17	0.000908	0.21	1.07	0.64	45.84	76.22	0.29
17_502	8396	50-yr	20.27	185.03	186.80		186.82	0.001778	0.31	1.31	0.35	51.29	108.21	0.26
17_502	8396	100-yr	22.39	185.03	186.86		186.88	0.001546	0.31	1.26	0.34	57.80	110.59	0.33
17_502	8396	200-yr	26.61	185.03	186.95		186.97	0.001341	0.32	1.22	0.35	68.31	113.02	0.31
17_502	8235	50-yr	20.27	184.66	186.63		186.66	0.000713	0.27	1.03	0.24	44.78	70.13	0.28
17_502	8235	100-yr	22.39	184.66	186.70		186.73	0.000671	0.28	1.03	0.26	48.86	72.62	0.27
17_502	8235	200-yr	26.61	184.66	186.79		186.83	0.000686	0.26	1.08	0.28	57.01	76.25	0.28
17_502	7987	50-yr	20.27	184.59	186.51		186.53	0.000523	0.24	0.90	0.19	52.94	80.77	0.24
17_502	7987	100-yr	22.39	184.59	186.59		186.61	0.000509	0.25	0.92	0.20	57.53	81.94	0.24
17_502	7987	200-yr	26.61	184.59	186.67		186.70	0.000558	0.28	1.00	0.22	63.04	82.72	0.25
17_502	7815	50-yr	20.27	184.41	186.33		186.39	0.001736	0.60	1.51	0.35	31.79	61.87	0.40
17_502	7815	100-yr	22.39	184.41	186.39		186.47	0.001905	0.68	1.63	0.31	36.22	76.33	0.42
17_502	7815	200-yr	26.61	184.41	186.49		186.56	0.001729	0.90	1.52	0.34	43.91	79.80	0.41
17_502	7606	50-yr	20.27	184.19	186.03		186.10	0.001423	0.77	1.46	0.69	20.05	25.17	0.38
17_502	7606	100-yr	22.39	184.19	186.06		186.15	0.001475	0.81	1.52	0.72	21.35	26.92	0.39
17_502	7606	200-yr	26.61	184.19	186.16		186.24	0.001636	0.88	1.65	0.80	23.62	28.84	0.42

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m³/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m²)	Trip Width (m)	Froude # Ch
17_502	7530	50-yr	20.27	184.11	185.77		185.93	0.003569	0.80	2.09	0.45	16.31	34.74	0.58
17_502	7530	100-yr	22.39	184.11	185.82		185.98	0.003415	0.85	2.15	0.42	17.91	35.43	0.59
17_502	7530	200-yr	26.61	184.11	185.91		186.07	0.003205	0.91	2.18	0.44	21.82	43.47	0.57
17_502	7380	50-yr	20.27	183.95	185.69		185.72	0.000591	0.37	0.88	0.28	35.95	66.46	0.25
17_502	7380	100-yr	22.39	183.95	185.75		185.78	0.000548	0.38	0.87	0.27	39.92	68.97	0.24
17_502	7380	200-yr	26.61	183.95	185.86		185.89	0.000475	0.41	0.85	0.26	47.68	70.31	0.23
17_502	7262	50-yr	20.27	183.82	185.60		185.65	0.000794	0.51	1.07	0.46	26.82	36.05	0.29
17_502	7262	100-yr	22.39	183.82	185.66		185.71	0.000770	0.53	1.09	0.47	29.11	36.87	0.29
17_502	7262	200-yr	26.61	183.82	185.78		185.82	0.000741	0.57	1.12	0.49	33.89	40.84	0.29
17_502	7130	50-yr	20.27	183.68	185.50		185.55	0.000947	0.64	1.23	0.61	24.73	32.71	0.32
17_502	7130	100-yr	22.39	183.68	185.56		185.61	0.000939	0.67	1.26	0.63	26.76	33.73	0.32
17_502	7130	200-yr	26.61	183.68	185.68		185.73	0.000926	0.69	1.31	0.65	30.85	36.43	0.32
17_502	6999	50-yr	20.27	183.54	185.45	184.80	185.48	0.000381	0.28	0.81	0.45	35.98	51.75	0.21
17_502	6999	100-yr	22.39	183.54	185.52	184.84	185.54	0.000388	0.29	0.83	0.47	39.37	55.69	0.21
17_502	6999	200-yr	26.61	183.54	185.63	184.90	185.66	0.000380	0.30	0.87	0.50	44.21	61.84	0.21
17_502	6812	50-yr	20.27	183.34	185.42		185.43	0.000181	0.22	0.58	0.31	51.99	60.80	0.14
17_502	6812	100-yr	22.39	183.34	185.48		185.49	0.000182	0.23	0.59	0.33	55.36	61.91	0.15
17_502	6812	200-yr	26.61	183.34	185.60		185.61	0.000183	0.26	0.62	0.35	62.99	65.34	0.15
17_502	6722	50-yr	20.27	183.24	185.38		185.41	0.000474	0.18	0.94	0.26	61.59	84.46	0.23
17_502	6722	100-yr	22.39	183.24	185.45		185.47	0.000472	0.19	0.96	0.28	66.84	85.35	0.23
17_502	6722	200-yr	26.61	183.24	185.57		185.59	0.000473	0.20	1.00	0.28	77.35	90.64	0.23
17_502	6653	50-yr	20.27	183.17	185.30		185.36	0.000683	0.25	1.28	0.30	33.82	42.96	0.31
17_502	6653	100-yr	22.39	183.17	185.36		185.42	0.000641	0.27	1.35	0.30	36.02	46.11	0.32
17_502	6653	200-yr	26.61	183.17	185.46		185.54	0.000533	0.31	1.47	0.30	41.27	51.02	0.34
17_502	6471	50-yr	20.27	182.98	185.02		185.14	0.001991	0.39	1.75	0.33	25.72	42.47	0.45
17_502	6471	100-yr	22.39	182.98	185.06		185.18	0.002175	0.41	1.86	0.35	27.15	43.03	0.47
17_502	6471	200-yr	26.61	182.98	185.15		185.28	0.002295	0.43	1.98	0.41	31.11	44.28	0.48
17_502	6204	50-yr	20.27	182.70	184.79		184.81	0.000977	0.36	1.06	0.36	46.34	95.16	0.27
17_502	6204	100-yr	22.39	182.70	184.87		184.89	0.000741	0.35	0.97	0.35	54.41	97.14	0.23
17_502	6204	200-yr	26.61	182.70	185.05		185.06	0.000499	0.34	0.81	0.29	71.23	99.29	0.19
17_502	6091	50-yr	20.27	182.58	184.71		184.74	0.000817	0.41	1.02	0.28	41.17	66.33	0.26
17_502	6091	100-yr	22.39	182.58	184.80		184.83	0.000543	0.42	0.99	0.26	47.81	68.41	0.24
17_502	6091	200-yr	26.61	182.58	184.99		185.02	0.000419	0.41	0.94	0.27	61.25	74.10	0.22
17_502	5893	50-yr	20.27	182.37	184.57		184.62	0.000718	0.48	1.13	0.61	25.06	30.18	0.28
17_502	5893	100-yr	22.39	182.37	184.68		184.72	0.000645	0.45	1.12	0.63	28.51	33.35	0.27
17_502	5893	200-yr	26.61	182.37	184.89		184.93	0.000502	0.45	1.07	0.63	36.18	37.22	0.24
17_502	5771	50-yr	20.27	182.24	184.57	183.63	184.58	0.000114	0.19	0.46	0.24	74.80	100.38	0.11
17_502	5771	100-yr	22.39	182.24	184.66	183.73	184.69	0.000092	0.18	0.43	0.24	86.12	103.30	0.10
17_502	5771	200-yr	26.61	182.24	184.90	183.85	184.90	0.000064	0.17	0.39	0.23	109.41	109.20	0.09
17_502	5796	50-yr	20.27	182.22	184.52	183.82	184.58	0.000475	0.58	0.95	0.80	24.79	31.34	0.23
17_502	5796	100-yr	22.39	182.22	184.60	183.74	184.67	0.000430	0.59	0.97	0.63	26.89	35.00	0.23
17_502	5796	200-yr	26.61	182.22	184.85	183.84	184.89	0.000405	0.64	0.99	0.67	31.03	102.36	0.22
17_502	5739	Tumbull Rd	Culvert											
17_502	5723	50-yr	19.89	182.46	184.21	183.42	184.25	0.000622	0.61	1.00	0.59	21.97	64.97	0.26
17_502	5723	100-yr	21.75	182.46	184.26	183.50	184.31	0.000608	0.66	1.05	0.64	23.99	66.92	0.27
17_502	5723	200-yr	25.75	182.46	184.37	183.61	184.43	0.000715	0.74	1.15	0.72	24.93	70.52	0.29
17_502	5714	50-yr	19.89	182.45	184.21		184.23	0.000420	0.35	0.77	0.37	40.36	66.64	0.21
17_502	5714	100-yr	21.75	182.45	184.27		184.29	0.000402	0.36	0.77	0.38	44.33	69.26	0.21
17_502	5714	200-yr	25.75	182.45	184.38		184.40	0.000398	0.37	0.78	0.40	52.23	73.66	0.20
17_502	5526	50-yr	19.89	182.28	184.09		184.13	0.000752	0.54	1.02	0.52	28.31	40.48	0.28
17_502	5526	100-yr	21.75	182.28	184.15		184.19	0.000737	0.55	1.04	0.54	30.82	42.09	0.28
17_502	5526	200-yr	25.75	182.28	184.27		184.31	0.000706	0.58	1.08	0.53	36.89	48.01	0.28
17_502	5364	50-yr	19.89	182.13	183.95		183.99	0.000683	0.23	1.28	0.31	39.83	57.05	0.33
17_502	5364	100-yr	21.75	182.13	184.01		184.06	0.000666	0.24	1.30	0.33	43.38	58.43	0.33
17_502	5364	200-yr	25.75	182.13	184.13		184.18	0.000625	0.26	1.34	0.35	50.66	61.00	0.33
17_502	5006	50-yr	19.89	181.80	183.68		183.71	0.000663	0.24	1.16	0.18	31.80	52.43	0.31
17_502	5006	100-yr	21.75	181.80	183.71		183.77	0.000678	0.25	1.20	0.19	35.09	55.66	0.31
17_502	5006	200-yr	25.75	181.80	183.83		183.89	0.000644	0.23	1.30	0.22	42.95	76.09	0.33
17_502	4674	50-yr	19.89	181.68	183.49		183.56	0.001376	0.30	1.40	0.27	27.71	43.75	0.38
17_502	4674	100-yr	21.75	181.68	183.55		183.63	0.001373	0.32	1.44	0.29	30.40	44.76	0.38
17_502	4674	200-yr	25.75	181.68	183.66		183.74	0.001363	0.33	1.51	0.33	35.46	48.69	0.39
17_502	4799	50-yr	19.89	181.57	183.23		183.38	0.002241	0.29	1.88	0.38	15.44	17.72	0.48
17_502	4799	100-yr	21.75	181.57	183.27		183.42	0.002468	0.32	1.79	0.42	16.07	17.90	0.51
17_502	4799	200-yr	25.75	181.57	183.33		183.51	0.002915	0.36	2.01	0.46	17.16	18.18	0.56
17_502	4648	50-yr	19.89	181.47	183.00		183.09	0.002853	0.78	1.62	0.29	24.81	63.96	0.50
17_502	4648	100-yr	21.75	181.47	183.04		183.13	0.002990	0.82	1.64	0.31	27.36	64.78	0.50
17_502	4648	200-yr	25.75	181.47	183.13		183.21	0.002382	0.86	1.85	0.35	32.88	66.69	0.49
17_502	4579	50-yr	19.89	181.40	182.99		183.00	0.000415	0.25	0.68	0.19	81.33	127.64	0.20
17_502	4579	100-yr	21.75	181.40	183.03		183.04	0.000429	0.26	0.70	0.20	86.15	129.47	0.21
17_502	4579	200-yr	25.75	181.40	183.11		183.11	0.000449	0.29	0.75	0.22	96.23	136.37	0.21

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m2)	Top Width (m)	Froude # Ch
17_502	4446	50-yr	19.68	181.28	182.71	182.68	182.86	0.005682	1.05	2.36	0.46	16.58	41.58	0.71
17_502	4446	100-yr	21.75	181.28	182.75		182.90	0.005638	1.08	2.39	0.46	16.29	44.20	0.70
17_502	4446	200-yr	25.75	181.28	182.83		182.97	0.004874	1.10	2.37	0.46	22.19	48.47	0.67
17_502	4281	50-yr	19.69	181.13	182.60		182.83	0.005578	0.16	0.81	0.21	37.70	82.77	0.24
17_502	4281	100-yr	21.75	181.13	182.65		182.88	0.005547	0.16	0.81	0.23	42.45	93.44	0.24
17_502	4281	200-yr	25.75	181.13	182.76		182.78	0.004668	0.16	0.79	0.27	52.07	94.86	0.22
17_502	4111	50-yr	19.69	180.98	182.49		182.53	0.001017	0.18	1.09	0.34	43.20	74.61	0.32
17_502	4111	100-yr	21.75	180.98	182.54		182.58	0.000995	0.18	1.11	0.35	47.38	75.78	0.32
17_502	4111	200-yr	25.75	180.98	182.66		182.69	0.000903	0.20	1.13	0.36	56.75	80.12	0.31
17_502	3993	50-yr	19.69	180.87	182.45		182.46	0.000334	0.37	0.63	0.39	49.40	77.01	0.18
17_502	3993	100-yr	21.75	180.87	182.50		182.51	0.000310	0.38	0.63	0.39	53.94	77.63	0.17
17_502	3993	200-yr	25.75	180.87	182.63		182.64	0.000206	0.38	0.61	0.38	63.84	78.05	0.18
17_502	3834	50-yr	19.69	180.72	182.28		182.38	0.003208	1.01	1.85	0.77	17.39	32.77	0.52
17_502	3834	100-yr	21.75	180.72	182.36		182.44	0.002513	0.98	1.71	0.75	20.29	34.01	0.48
17_502	3834	200-yr	25.75	180.72	182.52		182.58	0.001813	0.94	1.56	0.74	25.75	36.61	0.40
17_502	3772	50-yr	19.69	180.66	182.26		182.28	0.000484	0.42	0.79	0.34	39.41	70.78	0.22
17_502	3772	100-yr	21.75	180.66	182.35		182.36	0.000454	0.40	0.80	0.36	45.88	77.24	0.22
17_502	3772	200-yr	25.75	180.66	182.51		182.53	0.000305	0.38	0.71	0.34	58.92	79.77	0.18
17_502	3670	50-yr	19.68	180.57	182.23		182.24	0.000297	0.21	0.63	0.39	40.63	48.84	0.18
17_502	3670	100-yr	21.75	180.57	182.31		182.33	0.000267	0.21	0.62	0.40	45.02	49.78	0.17
17_502	3670	200-yr	25.75	180.57	182.49		182.50	0.000221	0.19	0.61	0.41	53.83	53.06	0.16
17_502	3665	50-yr	19.69	180.57	182.20	181.33	182.23	0.000445	0.30	0.83	0.51	25.70	47.07	0.22
17_502	3665	100-yr	21.75	180.57	182.29	181.37	182.32	0.000438	0.32	0.85	0.54	27.54	48.66	0.22
17_502	3665	200-yr	25.75	180.57	182.45	181.47	182.49	0.000418	0.38	0.89	0.59	31.11	50.68	0.22
17_502	3649	Concession Rd 1	Culvert											
17_502	3632	50-yr	19.82	180.31	181.93	181.21	181.99	0.001012	0.49	1.19	0.38	19.43	52.92	0.32
17_502	3632	100-yr	21.82	180.31	181.96	181.26	182.04	0.001089	0.54	1.26	0.43	20.33	53.27	0.33
17_502	3632	200-yr	25.68	180.31	182.03	181.35	182.12	0.001232	0.63	1.38	0.53	21.93	53.96	0.36
17_502	3629	50-yr	19.82	180.30	181.94		181.97	0.000744	0.42	0.90	0.45	30.93	52.66	0.27
17_502	3629	100-yr	21.82	180.30	181.96		182.01	0.000745	0.44	0.93	0.48	33.13	53.15	0.27
17_502	3629	200-yr	25.68	180.30	182.06		182.09	0.000748	0.48	0.97	0.53	37.17	54.08	0.28
17_502	3432	50-yr	19.82	180.08	181.71	181.46	181.76	0.001470	0.36	1.22	0.57	24.02	52.06	0.38
17_502	3432	100-yr	21.82	180.08	181.76	181.50	181.81	0.001369	0.40	1.21	0.60	26.59	52.49	0.37
17_502	3432	200-yr	25.68	180.08	181.85	181.58	181.90	0.001180	0.48	1.19	0.63	31.86	53.28	0.34
17_502	3270	50-yr	19.82	179.89	181.82		181.84	0.000461	0.18	0.79	0.34	53.38	104.99	0.22
17_502	3270	100-yr	21.82	179.89	181.86		181.70	0.000429	0.18	0.77	0.35	59.47	106.66	0.21
17_502	3270	200-yr	25.68	179.89	181.79		181.80	0.000393	0.20	0.74	0.35	71.41	109.03	0.19
17_502	3148	50-yr	19.82	179.75	181.53		181.57	0.000775	0.51	1.11	0.25	40.38	55.80	0.29
17_502	3148	100-yr	21.82	179.75	181.59		181.63	0.000771	0.51	1.13	0.26	43.68	56.29	0.29
17_502	3148	200-yr	25.68	179.75	181.71		181.75	0.000746	0.52	1.17	0.29	50.21	57.27	0.29
17_502	2876	50-yr	19.82	179.43	181.28		181.33	0.001138	0.37	1.25	0.66	21.66	58.70	0.34
17_502	2876	100-yr	21.82	179.43	181.34		181.40	0.001101	0.38	1.26	0.71	23.81	61.52	0.34
17_502	2876	200-yr	25.68	179.43	181.48		181.52	0.001071	0.12	1.31	0.78	27.58	68.55	0.34
17_502	2631	50-yr	19.82	179.15	181.01		181.08	0.001008	0.31	1.21	0.28	24.51	28.91	0.33
17_502	2631	100-yr	21.82	179.15	181.07		181.14	0.001043	0.33	1.26	0.28	26.28	31.01	0.34
17_502	2631	200-yr	25.68	179.15	181.18		181.26	0.001110	0.36	1.37	0.28	29.81	37.10	0.35
17_502	2420	50-yr	19.82	178.91	180.68	180.21	180.79	0.001965	0.25	1.53	0.22	17.93	78.69	0.44
17_502	2420	100-yr	21.82	178.91	180.71	180.26	180.84	0.002104	0.28	1.61	0.24	19.05	81.59	0.46
17_502	2420	200-yr	25.68	178.91	180.78	180.59	180.92	0.002397	0.33	1.78	0.27	20.91	88.61	0.50
17_502	2254	50-yr	19.82	178.72	180.42		180.49	0.001589	0.20	1.31	0.44	26.78	72.15	0.39
17_502	2254	100-yr	21.82	178.72	180.46		180.53	0.001580	0.22	1.34	0.45	29.83	76.83	0.40
17_502	2254	200-yr	25.68	178.72	180.54		180.61	0.001447	0.25	1.34	0.49	36.19	81.11	0.38
17_502	2029	50-yr	19.82	178.46	180.26		180.28	0.000637	0.44	0.91	0.40	37.38	68.31	0.25
17_502	2029	100-yr	21.82	178.46	180.30		180.32	0.000614	0.46	0.91	0.41	40.64	69.90	0.24
17_502	2029	200-yr	25.68	178.46	180.40		180.42	0.000572	0.47	0.92	0.43	47.50	75.45	0.24
17_502	1816	50-yr	19.82	178.21	180.00		180.07	0.001599	0.28	1.45	0.34	31.34	48.23	0.40
17_502	1816	100-yr	21.82	178.21	180.06		180.13	0.001543	0.29	1.48	0.36	34.08	48.69	0.40
17_502	1816	200-yr	25.68	178.21	180.15		180.23	0.001541	0.32	1.55	0.39	38.81	49.66	0.40
17_502	1736	50-yr	19.82	178.12	179.92		179.97	0.000699	0.20	1.14	0.59	24.26	31.36	0.31
17_502	1736	100-yr	21.82	178.12	179.97		180.03	0.000685	0.21	1.18	0.63	25.93	31.96	0.31
17_502	1736	200-yr	25.68	178.12	180.06		180.13	0.000943	0.24	1.27	0.69	28.86	33.12	0.33
17_502	1533	50-yr	19.82	177.88	179.74		179.79	0.000901	0.36	1.12	0.17	29.77	58.94	0.31
17_502	1533	100-yr	21.82	177.88	179.79		179.85	0.000929	0.37	1.17	0.19	32.64	60.59	0.32
17_502	1533	200-yr	25.68	177.88	179.87		179.93	0.000978	0.41	1.24	0.22	37.62	61.22	0.33
17_502	1296	50-yr	19.82	177.60	179.27		179.42	0.003864	0.39	1.99	0.37	21.84	50.06	0.59
17_502	1296	100-yr	21.82	177.60	179.30		179.46	0.003947	0.43	2.05	0.40	23.68	50.53	0.60
17_502	1296	200-yr	25.68	177.60	179.40		179.54	0.003665	0.49	2.08	0.44	28.57	53.37	0.59
17_502	1012	50-yr	19.82	177.27	179.04		179.07	0.000590	0.40	0.89	0.26	43.03	84.38	0.25
17_502	1012	100-yr	21.82	177.27	179.14		179.16	0.000488	0.39	0.83	0.27	51.04	85.59	0.22
17_502	1012	200-yr	25.68	177.27	179.28		179.30	0.000399	0.37	0.78	0.28	63.71	87.47	0.20

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m³/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m²)	Trip Width (m)	Froude # Cfl
17_502	768	50-yr	19.62	176.99	178.66		178.90	0.001009	0.24	1.18	0.18	43.17	80.11	0.32
17_502	768	100-yr	21.62	176.99	179.00		179.03	0.000709	0.22	1.06	0.17	57.70	120.96	0.27
17_502	768	200-yr	25.68	176.99	179.18		179.20	0.000545	0.19	1.00	0.17	81.30	134.18	0.24
17_502	277	50-yr	19.62	176.42	178.81		178.81	0.000073	0.18	0.40	0.22	78.40	87.78	0.09
17_502	277	100-yr	21.62	176.42	178.96		178.97	0.000066	0.18	0.37	0.21	92.10	89.41	0.08
17_502	277	200-yr	25.68	176.42	179.15		179.15	0.000047	0.19	0.36	0.21	106.84	91.28	0.08
17_500	173	50-yr	32.50	176.08	178.66	177.43	178.74	0.000663	0.31	1.33	0.40	28.63	87.37	0.28
17_500	173	100-yr	35.78	176.08	178.82	177.50	178.91	0.000642	0.33	1.35	0.44	31.30	99.21	0.28
17_500	173	200-yr	42.11	176.08	179.00	177.63	179.10	0.000692	0.38	1.47	0.50	34.14	100.96	0.29
17_500	166	Indiana Rd E	Bridge											
17_500	160	50-yr	32.50	176.28	178.55	177.78	178.60	0.000621	0.43	1.17	0.78	36.96	142.22	0.27
17_500	160	100-yr	35.78	176.28	178.71	177.81	178.76	0.000535	0.44	1.15	0.80	41.33	143.77	0.25
17_500	160	200-yr	42.11	176.28	178.86	177.89	178.92	0.000560	0.48	1.23	0.88	45.25	145.16	0.26
17_500	145	50-yr	32.50	176.28	178.57	177.75	178.57	0.000070	0.10	0.40	0.24	143.54	141.13	0.09
17_500	145	100-yr	35.78	176.28	178.73	177.77	178.74	0.000053	0.10	0.36	0.23	168.80	143.08	0.08
17_500	145	200-yr	42.11	176.28	178.88	177.78	178.89	0.000050	0.10	0.37	0.24	188.49	144.94	0.08
17_401	4112	50-yr	17.42	182.51	184.01		184.02	0.000463	0.31	0.89	0.38	42.19	87.86	0.21
17_401	4112	100-yr	19.36	182.51	184.14		184.15	0.000276	0.29	0.57	0.34	54.15	81.36	0.17
17_401	4112	200-yr	23.15	182.51	184.45		184.46	0.000110	0.24	0.42	0.27	83.11	96.07	0.11
17_401	3904	50-yr	17.42	182.19	183.99		184.00	0.000055	0.18	0.30	0.18	85.78	105.57	0.08
17_401	3904	100-yr	19.36	182.19	184.13		184.13	0.000043	0.17	0.28	0.14	99.77	102.73	0.07
17_401	3904	200-yr	23.15	182.19	184.44		184.44	0.000026	0.16	0.25	0.11	132.50	108.08	0.06
17_401	3897	50-yr	17.42	182.18	183.96	183.16	183.96	0.000052	0.56	0.80	0.50	26.39	114.38	0.20
17_401	3897	100-yr	19.36	182.18	184.10	183.19	184.13	0.000036	0.57	0.78	0.51	29.53	117.89	0.19
17_401	3897	200-yr	23.15	182.18	184.41	183.27	184.44	0.000021	0.56	0.74	0.52	36.64	123.72	0.17
17_401	3875	Turnbull Rd	Culvert											
17_401	3651	50-yr	17.42	182.40	183.32	183.27	183.54	0.000613	0.90	2.13	0.65	9.18	47.12	0.77
17_401	3651	100-yr	19.36	182.40	183.33	183.31	183.59	0.007687	1.00	2.32	0.72	9.39	47.59	0.83
17_401	3651	200-yr	23.15	182.40	183.38	183.38	183.69	0.008399	1.19	2.54	0.84	10.36	48.91	0.88
17_401	3842	50-yr	17.42	182.38	183.37		183.42	0.002778	0.78	1.28	0.38	19.29	45.70	0.49
17_401	3842	100-yr	19.36	182.38	183.39		183.45	0.002894	0.83	1.34	0.37	20.49	46.42	0.60
17_401	3842	200-yr	23.15	182.38	183.44		183.50	0.003041	0.90	1.43	0.42	22.75	47.65	0.52
17_401	3773	50-yr	17.42	182.27	183.24		183.28	0.001884	0.58	1.18	0.70	25.11	67.27	0.41
17_401	3773	100-yr	19.36	182.27	183.26		183.29	0.002078	0.58	1.22	0.74	26.51	67.72	0.42
17_401	3773	200-yr	23.15	182.27	183.30		183.34	0.002185	0.64	1.29	0.80	29.42	69.17	0.43
17_401	3566	50-yr	17.42	181.94	182.88		182.93	0.001531	0.57	1.09	0.46	28.26	84.41	0.39
17_401	3566	100-yr	19.36	181.94	182.92		182.95	0.001591	0.58	1.10	0.48	31.01	87.01	0.38
17_401	3566	200-yr	23.15	181.94	182.98		183.00	0.001470	0.61	1.11	0.50	35.85	88.29	0.37
17_401	3433	50-yr	17.42	181.73	182.68		182.71	0.001728	0.54	1.14	0.33	34.40	77.58	0.40
17_401	3433	100-yr	19.36	181.73	182.72		182.75	0.001683	0.56	1.16	0.34	37.31	79.29	0.40
17_401	3433	200-yr	23.15	181.73	182.79		182.82	0.001594	0.60	1.19	0.36	42.90	81.76	0.39
17_401	3363	50-yr	17.42	181.62	182.60		182.63	0.000835	0.57	0.78	0.17	30.79	54.78	0.27
17_401	3363	100-yr	19.36	181.62	182.63		182.66	0.000859	0.60	0.81	0.18	32.73	55.38	0.28
17_401	3363	200-yr	23.15	181.62	182.70		182.73	0.000889	0.65	0.87	0.20	36.49	58.45	0.29
17_401	3199	50-yr	17.42	181.35	182.36		182.42	0.002596	0.32	1.50	0.21	35.36	91.34	0.50
17_401	3199	100-yr	19.36	181.35	182.41		182.46	0.002368	0.33	1.48	0.31	39.68	92.04	0.48
17_401	3199	200-yr	23.15	181.35	182.50		182.54	0.002042	0.35	1.45	0.32	47.70	92.94	0.45
17_401	2936	50-yr	17.42	180.98	182.18		182.19	0.000460	0.15	0.71	0.19	59.79	80.07	0.22
17_401	2936	100-yr	19.36	180.98	182.23		182.24	0.000458	0.15	0.73	0.20	64.44	80.29	0.22
17_401	2936	200-yr	23.15	180.98	182.32		182.34	0.000457	0.16	0.77	0.22	72.87	80.73	0.22
17_401	2578	50-yr	17.42	180.36	181.68		181.84	0.004458	0.38	2.01	0.40	16.08	34.40	0.65
17_401	2578	100-yr	19.36	180.36	181.72		181.88	0.004525	0.40	2.09	0.44	17.53	34.58	0.66
17_401	2578	200-yr	23.15	180.36	181.80		181.99	0.004581	0.44	2.21	0.50	20.30	34.88	0.67
17_401	2265	50-yr	17.42	179.86	181.29		181.32	0.000833	0.63	1.00	0.22	45.99	84.01	0.29
17_401	2265	100-yr	19.36	179.86	181.34		181.37	0.000826	0.63	1.02	0.23	50.15	84.68	0.29
17_401	2265	200-yr	23.15	179.86	181.43		181.46	0.000821	0.60	1.07	0.26	57.82	86.40	0.30
17_401	1996	50-yr	17.42	179.43	180.92		181.01	0.002008	0.41	1.58	0.25	20.78	40.72	0.45
17_401	1996	100-yr	19.36	179.43	180.95		181.05	0.002173	0.44	1.65	0.27	22.05	41.20	0.47
17_401	1996	200-yr	23.15	179.43	181.01		181.13	0.002461	0.50	1.81	0.32	24.54	42.42	0.51
17_401	1781	50-yr	17.42	179.09	180.59		180.64	0.001629	0.44	1.25	0.32	29.23	83.57	0.39
17_401	1781	100-yr	19.36	179.09	180.63		180.67	0.001550	0.46	1.24	0.33	32.48	84.58	0.38
17_401	1781	200-yr	23.15	179.09	180.69		180.73	0.001508	0.51	1.27	0.36	37.66	86.10	0.38
17_401	1527	50-yr	17.42	178.68	180.18		180.25	0.001503	0.36	1.27	0.55	21.30	45.22	0.39
17_401	1527	100-yr	19.36	178.68	180.22		180.28	0.001687	0.40	1.32	0.59	22.79	48.80	0.40
17_401	1527	200-yr	23.15	178.68	180.28		180.34	0.001781	0.47	1.41	0.66	25.50	50.94	0.42
17_401	1387	50-yr	17.42	178.46	179.99		180.03	0.001408	0.46	1.29	0.47	27.44	81.03	0.37
17_401	1387	100-yr	19.36	178.46	180.02		180.06	0.001411	0.49	1.31	0.49	29.70	81.70	0.37
17_401	1387	200-yr	23.15	178.46	180.07		180.11	0.001409	0.54	1.34	0.53	33.90	82.80	0.37
17_401	1314	50-yr	17.42	178.34	179.87		179.91	0.001853	0.60	1.36	0.54	25.60	74.90	0.38
17_401	1314	100-yr	19.36	178.34	179.90		179.93	0.001905	0.62	1.37	0.57	27.82	75.77	0.38

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m³/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m²)	Trip Width (m)	Froude # Crl
17_401	1314	200-yr	23.15	178.34	179.95		179.99	0.001826	0.68	1.37	0.61	32.00	77.36	0.37
17_401	1074	50-yr	17.42	177.95	179.53		179.56	0.001327	0.32	1.18	0.58	25.51	80.14	0.34
17_401	1074	100-yr	19.36	177.95	179.56		179.60	0.001305	0.34	1.20	0.61	27.75	81.26	0.34
17_401	1074	200-yr	23.15	177.95	179.63		179.67	0.001237	0.39	1.22	0.65	32.18	82.77	0.34
17_401	958	50-yr	17.42	177.76	179.38		179.42	0.001404	0.52	1.21	0.32	23.05	52.27	0.37
17_401	958	100-yr	19.36	177.76	179.42		179.47	0.001368	0.55	1.22	0.33	25.26	53.12	0.36
17_401	958	200-yr	23.15	177.76	179.50		179.54	0.001284	0.59	1.24	0.36	29.56	54.86	0.36
17_401	868	50-yr	17.42	177.62	179.34		179.38	0.000497	0.38	0.76	0.17	38.06	72.75	0.22
17_401	868	100-yr	19.36	177.62	179.38		179.40	0.000489	0.40	0.77	0.14	41.24	75.67	0.22
17_401	868	200-yr	23.15	177.62	179.47		179.48	0.000461	0.43	0.78	0.14	47.86	82.65	0.21
17_401	758	50-yr	17.42	177.44	179.10	179.00	179.24	0.003630	0.32	2.01	0.42	19.52	36.92	0.57
17_401	756	100-yr	19.36	177.44	179.12		179.28	0.003867	0.32	2.16	0.46	20.31	37.18	0.61
17_401	756	200-yr	23.15	177.44	179.19		179.37	0.004374	0.32	2.33	0.53	22.77	37.96	0.64
17_401	688	50-yr	17.42	177.34	179.63	179.60	179.96	0.005122	0.48	2.15	0.56	21.16	62.34	0.65
17_401	688	100-yr	19.36	177.34	179.63		179.01	0.003531	0.46	1.87	0.51	27.48	87.14	0.54
17_401	688	200-yr	23.15	177.34	179.05		179.11	0.002608	0.48	1.71	0.49	36.15	73.89	0.47
17_401	689	50-yr	17.42	177.31	179.84		178.89	0.001322	0.31	1.13	0.10	24.20	86.71	0.36
17_401	689	100-yr	19.36	177.31	179.91		178.96	0.001192	0.33	1.13	0.12	27.68	70.10	0.34
17_401	689	200-yr	23.15	177.31	179.03		179.08	0.001108	0.35	1.16	0.14	33.20	77.15	0.34
17_401	603	50-yr	17.42	177.20	179.77		178.81	0.001100	0.18	1.09	0.51	24.99	80.58	0.32
17_401	603	100-yr	19.36	177.20	179.87		179.90	0.000835	0.16	1.00	0.51	29.71	51.34	0.29
17_401	603	200-yr	23.15	177.20	179.99		179.02	0.000673	0.17	0.96	0.53	36.18	52.27	0.28
17_401	457	50-yr	17.42	176.97	179.63		178.69	0.001134	0.60	1.09	0.27	26.97	47.65	0.31
17_401	457	100-yr	19.36	176.97	179.77		178.79	0.000732	0.56	0.94	0.25	33.68	48.53	0.25
17_401	457	200-yr	23.15	176.97	179.81		178.94	0.000603	0.56	0.91	0.25	41.01	52.75	0.23
17_401	298	50-yr	17.42	176.71	179.56		178.57	0.000352	0.39	0.57	0.37	40.05	56.27	0.18
17_401	298	100-yr	19.36	176.71	179.73		178.73	0.000228	0.36	0.58	0.34	49.86	90.62	0.15
17_401	298	200-yr	23.15	176.71	179.88		178.88	0.000197	0.37	0.58	0.35	59.13	62.77	0.14
17_401	111	50-yr	17.42	176.41	179.58		178.56	0.000018	0.09	0.17	0.11	167.85	204.99	0.04
17_401	111	100-yr	19.36	176.41	179.73		178.73	0.000011	0.08	0.15	0.10	202.04	210.50	0.04
17_401	111	200-yr	23.15	176.41	179.88		178.88	0.000010	0.09	0.15	0.10	234.20	218.07	0.03
17_305	8986	50-yr	19.96	184.03	185.09		186.09	0.001054	0.33	0.43	0.34	57.30	72.24	0.11
17_305	8986	100-yr	22.09	184.03	185.14		186.14	0.001116	0.34	0.45	0.35	60.99	77.89	0.11
17_305	8986	200-yr	26.26	184.03	186.24		186.25	0.001390	0.28	0.52	0.41	68.93	103.13	0.12
17_305	8814	50-yr	19.96	183.86	185.94		185.95	0.001238	0.18	0.47	0.35	60.38	115.81	0.12
17_305	8814	100-yr	22.09	183.86	185.99		186.00	0.001162	0.19	0.48	0.36	66.20	117.29	0.11
17_305	8814	200-yr	26.26	183.86	186.08		186.09	0.001096	0.22	0.46	0.37	76.96	120.05	0.11
17_305	8702	50-yr	19.96	183.75	185.67		185.68	0.000725	0.18	0.38	0.32	74.39	125.29	0.09
17_305	8702	100-yr	22.09	183.75	185.93		185.93	0.000707	0.20	0.38	0.32	80.88	122.10	0.09
17_305	8702	200-yr	26.26	183.75	186.02		186.03	0.000677	0.22	0.36	0.33	92.74	124.17	0.09
17_305	8433	50-yr	19.96	183.48	185.65		185.66	0.001629	0.34	0.57	0.41	44.63	93.30	0.14
17_305	8433	100-yr	22.09	183.48	185.71		185.72	0.001658	0.36	0.59	0.43	47.71	54.52	0.14
17_305	8433	200-yr	26.26	183.48	185.81		185.82	0.001717	0.40	0.62	0.46	53.35	56.67	0.14
17_305	8119	50-yr	19.96	183.16	184.85	184.71	185.00	0.002964	0.58	1.98	0.56	14.74	32.76	0.54
17_305	8119	100-yr	22.09	183.16	184.90	184.76	185.05	0.003022	0.63	1.92	0.60	16.17	34.51	0.55
17_305	8119	200-yr	26.26	183.16	184.97	184.85	185.14	0.003092	0.70	2.02	0.66	18.96	38.53	0.58
17_305	7912	50-yr	19.96	182.96	184.49		184.56	0.001571	0.57	1.42	0.62	21.89	42.18	0.40
17_305	7912	100-yr	22.09	182.96	184.53		184.60	0.001569	0.60	1.45	0.66	23.76	43.20	0.41
17_305	7912	200-yr	26.26	182.96	184.61		184.68	0.001606	0.66	1.52	0.73	26.97	44.79	0.41
17_305	7845	50-yr	19.96	182.89	184.40		184.48	0.000561	0.41	0.86	0.36	41.24	82.09	0.24
17_305	7845	100-yr	22.09	182.89	184.51		184.53	0.000557	0.41	0.88	0.38	45.05	86.20	0.24
17_305	7845	200-yr	26.26	182.89	184.59		184.60	0.000534	0.43	0.89	0.41	51.79	88.78	0.24
17_305	7703	50-yr	19.96	182.75	184.37		184.40	0.000759	0.38	1.00	0.39	37.22	93.26	0.28
17_305	7703	100-yr	22.09	182.75	184.42		184.44	0.000715	0.38	0.99	0.40	41.96	95.73	0.27
17_305	7703	200-yr	26.26	182.75	184.51		184.53	0.000613	0.41	0.96	0.40	50.62	99.73	0.26
17_305	7583	50-yr	19.96	182.63	184.19		184.27	0.001528	0.27	1.41	0.34	22.22	27.41	0.40
17_305	7583	100-yr	22.09	182.63	184.23		184.32	0.001675	0.28	1.50	0.37	23.22	27.70	0.42
17_305	7583	200-yr	26.26	182.63	184.29		184.41	0.001657	0.31	1.58	0.42	25.05	28.40	0.46
17_305	7146	50-yr	19.96	182.19	183.93		183.95	0.000430	0.28	0.81	0.13	46.34	107.52	0.22
17_305	7146	100-yr	22.09	182.19	183.98		184.00	0.000399	0.29	0.80	0.14	51.97	108.51	0.21
17_305	7146	200-yr	26.26	182.19	184.06		184.10	0.000351	0.32	0.78	0.15	62.48	108.88	0.20
17_305	7066	50-yr	19.96	182.11	183.86		183.90	0.001020	0.20	1.24	0.21	56.51	137.52	0.33
17_305	7066	100-yr	22.09	182.11	183.92		183.96	0.000903	0.21	1.22	0.21	64.86	141.93	0.31
17_305	7066	200-yr	26.26	182.11	184.03		184.06	0.000762	0.22	1.16	0.22	80.32	142.90	0.29
17_305	6912	50-yr	19.96	181.96	183.80		183.81	0.000343	0.22	0.71	0.15	56.76	86.37	0.19
17_305	6912	100-yr	22.09	181.96	183.86		183.87	0.000332	0.23	0.72	0.16	62.22	88.06	0.19
17_305	6912	200-yr	26.26	181.96	183.97		183.99	0.000317	0.25	0.74	0.17	72.20	90.52	0.19
17_305	6597	50-yr	19.96	181.64	183.65		183.69	0.000526	0.19	0.92	0.14	37.17	46.07	0.24
17_305	6597	100-yr	22.09	181.64	183.71		183.75	0.000549	0.20	0.96	0.15	40.02	48.55	0.25
17_305	6597	200-yr	26.26	181.64	183.82		183.86	0.000591	0.22	1.04	0.17	45.42	52.97	0.26

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m2)	Twp Width (m)	Froude # Crl
17_305	6356	50-yr	19.96	181.40	183.58		183.59	0.000379	0.22	0.28	0.11	87.00	92.81	0.07
17_305	6356	100-yr	22.09	181.40	183.64		183.65	0.000384	0.23	0.29	0.12	92.43	93.59	0.07
17_305	6356	200-yr	26.26	181.40	183.75		183.75	0.000394	0.25	0.30	0.13	102.33	94.84	0.07
17_305	6128	50-yr	19.96	181.17	183.41		183.42	0.002158	0.53	0.66	0.41	35.26	44.69	0.16
17_305	6128	100-yr	22.09	181.17	183.40		183.48	0.002171	0.56	0.67	0.42	37.84	47.79	0.16
17_305	6128	200-yr	26.26	181.17	183.56		183.58	0.002154	0.59	0.69	0.42	42.80	54.10	0.16
17_305	5479	50-yr	19.96	180.52	182.56	181.94	182.57	0.001173	0.27	0.43	0.35	55.63	123.97	0.11
17_305	5479	100-yr	22.09	180.52	182.61	181.96	182.62	0.001194	0.29	0.44	0.37	59.08	125.17	0.11
17_305	5479	200-yr	26.26	180.52	182.69	182.01	182.70	0.001290	0.32	0.48	0.40	64.46	126.96	0.12
17_305	5143	50-yr	19.96	180.19	182.20		182.22	0.001596	0.34	0.46	0.67	39.18	62.52	0.13
17_305	5143	100-yr	22.09	180.19	182.23		182.25	0.001726	0.36	0.51	0.72	40.66	62.80	0.14
17_305	5143	200-yr	26.26	180.19	182.28		182.31	0.001847	0.40	0.54	0.78	44.18	63.40	0.14
17_305	4927	50-yr	19.96	179.97	181.81		181.82	0.003563	0.48	0.87	0.58	35.61	82.69	0.19
17_305	4927	100-yr	22.09	179.97	181.88		181.89	0.002594	0.46	0.59	0.58	42.02	93.87	0.16
17_305	4927	200-yr	26.26	179.97	182.04		182.05	0.001321	0.41	0.46	0.57	57.35	95.79	0.12
17_305	4708	50-yr	19.96	179.75	181.68		181.69	0.000262	0.32	0.64	0.22	52.96	86.81	0.17
17_305	4708	100-yr	22.09	179.75	181.77		181.78	0.000208	0.32	0.59	0.22	61.85	91.66	0.15
17_305	4708	200-yr	26.26	179.75	181.98		181.98	0.000137	0.30	0.52	0.22	80.76	96.40	0.12
17_305	4620	50-yr	19.96	179.66	181.63		181.65	0.000473	0.36	0.92	0.48	35.83	54.31	0.23
17_305	4620	100-yr	22.09	179.66	181.74		181.76	0.000390	0.37	0.87	0.47	41.72	56.50	0.21
17_305	4620	200-yr	26.26	179.66	181.95		181.96	0.000272	0.38	0.79	0.44	54.09	59.96	0.18
17_305	4515	50-yr	19.96	179.56	181.62		181.63	0.000105	0.23	0.44	0.29	67.72	71.47	0.11
17_305	4515	100-yr	22.09	179.56	181.73		181.73	0.000094	0.23	0.44	0.29	75.46	73.54	0.10
17_305	4515	200-yr	26.26	179.56	181.94		181.95	0.000076	0.23	0.42	0.28	91.58	77.62	0.09
17_305	4505	50-yr	19.96	179.55	181.60	180.81	181.62	0.000319	0.52	0.79	0.58	31.89	69.64	0.19
17_305	4505	100-yr	22.09	179.55	181.70	180.84	181.73	0.000302	0.54	0.80	0.58	34.34	71.59	0.19
17_305	4505	200-yr	26.26	179.55	181.92	180.90	181.94	0.000268	0.57	0.81	0.60	39.66	75.36	0.18
17_305	4486	Concession Rd 1	Culvert											
17_305	4489	50-yr	19.96	179.79	181.36	180.64	181.42	0.000692	0.64	1.21	0.28	21.24	63.36	0.33
17_305	4489	100-yr	22.09	179.79	181.41	180.68	181.48	0.001053	0.69	1.27	0.29	22.28	71.80	0.34
17_305	4489	200-yr	26.26	179.79	181.50	180.94	181.57	0.001181	1.00	1.40	0.32	24.07	77.88	0.36
17_305	4465	50-yr	19.96	179.78	181.38	180.70	181.40	0.000257	0.32	0.61	0.14	53.95	80.64	0.17
17_305	4465	100-yr	22.09	179.78	181.44	180.72	181.45	0.000254	0.33	0.62	0.14	56.16	81.81	0.17
17_305	4465	200-yr	26.26	179.78	181.53	180.78	181.54	0.000253	0.38	0.64	0.15	65.61	83.63	0.17
17_305	4273	50-yr	19.96	179.59	181.24		181.29	0.001270	0.70	1.35	0.67	23.89	36.29	0.36
17_305	4273	100-yr	22.09	179.59	181.29		181.34	0.001281	0.73	1.38	0.70	25.96	37.62	0.36
17_305	4273	200-yr	26.26	179.59	181.38		181.43	0.001331	0.78	1.46	0.75	28.84	39.95	0.37
17_305	3944	50-yr	19.96	179.25	180.71	180.42	180.60	0.002244	0.32	1.56	0.31	26.40	66.79	0.47
17_305	3944	100-yr	22.09	179.25	180.76	180.46	180.66	0.002148	0.34	1.58	0.31	29.61	70.68	0.47
17_305	3944	200-yr	26.26	179.25	180.86	180.51	180.95	0.002012	0.31	1.61	0.34	39.94	83.54	0.48
17_305	3794	50-yr	19.96	179.10	180.63		180.65	0.000495	0.10	0.75	0.30	43.43	92.30	0.22
17_305	3794	100-yr	22.09	179.10	180.69		180.71	0.000497	0.11	0.77	0.32	46.48	92.76	0.23
17_305	3794	200-yr	26.26	179.10	180.79		180.81	0.000514	0.13	0.83	0.35	51.86	93.43	0.23
17_305	3594	50-yr	19.96	178.90	180.49		180.53	0.000953	0.32	1.05	0.23	33.71	57.69	0.31
17_305	3594	100-yr	22.09	178.90	180.55		180.59	0.000907	0.34	1.06	0.24	37.34	58.91	0.31
17_305	3594	200-yr	26.26	178.90	180.65		180.69	0.000684	0.37	1.10	0.27	43.24	60.48	0.31
17_305	3276	50-yr	19.96	178.58	180.36		180.39	0.000280	0.08	0.59	0.34	60.59	75.10	0.17
17_305	3276	100-yr	22.09	178.58	180.45		180.46	0.000249	0.08	0.58	0.34	56.26	76.03	0.16
17_305	3276	200-yr	26.26	178.58	180.56		180.57	0.000233	0.08	0.59	0.36	64.39	77.24	0.16
17_305	2960	50-yr	19.96	178.26	179.69	179.57	180.09	0.011065		2.81		7.11	8.43	0.96
17_305	2960	100-yr	22.09	178.26	179.73	179.73	180.18	0.012114		2.98		7.41	8.60	1.02
17_305	2960	200-yr	26.26	178.26	179.97	179.97	180.33	0.007527	0.26	2.69	0.22	11.88	32.23	0.84
17_305	2859	50-yr	19.96	178.16	179.80		179.81	0.000623	0.21	0.83	0.22	58.64	116.68	0.25
17_305	2859	100-yr	22.09	178.16	179.84		179.86	0.000594	0.22	0.83	0.23	65.36	117.01	0.24
17_305	2859	200-yr	26.26	178.16	179.93		179.95	0.000550	0.25	0.84	0.25	75.93	117.55	0.24
17_305	2645	50-yr	19.96	177.94	179.66		179.67	0.000635	0.38	0.92	0.35	48.44	69.67	0.24
17_305	2645	100-yr	22.09	177.94	179.71		179.72	0.000629	0.40	0.94	0.37	51.88	69.96	0.24
17_305	2645	200-yr	26.26	177.94	179.81		179.82	0.000799	0.42	0.96	0.40	58.71	70.48	0.24
17_305	2476	50-yr	19.96	177.77	179.55		179.57	0.000613	0.28	1.04	0.36	44.06	60.99	0.28
17_305	2476	100-yr	22.09	177.77	179.59		179.62	0.000627	0.29	1.07	0.38	47.03	61.52	0.28
17_305	2476	200-yr	26.26	177.77	179.69		179.72	0.000622	0.31	1.12	0.41	53.23	62.70	0.29
17_305	2270	50-yr	19.96	177.57	179.25		179.34	0.001708	0.38	1.47	0.31	25.30	37.37	0.42
17_305	2270	100-yr	22.09	177.57	179.28		179.38	0.001687	0.41	1.57	0.33	26.41	37.55	0.44
17_305	2270	200-yr	26.26	177.57	179.36		179.47	0.002051	0.46	1.72	0.36	29.21	38.10	0.47
17_305	2136	50-yr	19.96	177.43	179.95		179.06	0.002975	0.29	1.78	0.28	28.96	82.98	0.54
17_305	2136	100-yr	22.09	177.43	179.01		179.11	0.002573	0.31	1.72	0.28	34.29	83.95	0.50
17_305	2136	200-yr	26.26	177.43	179.14		179.21	0.001923	0.33	1.59	0.27	45.26	85.46	0.44
17_305	2016	50-yr	19.96	177.31	179.92		179.93	0.000468	0.24	0.74	0.28	67.14	104.67	0.20
17_305	2016	100-yr	22.09	177.31	179.98		179.99	0.000434	0.24	0.73	0.28	74.00	105.37	0.20
17_305	2016	200-yr	26.26	177.31	179.11		179.12	0.000351	0.25	0.70	0.28	86.14	106.65	0.18

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m2)	Trip Width (m)	Froude # Cnl
17_305	1748	50-yr	19.96	177.04	178.74		178.77	0.001133	0.25	1.22	0.43	36.88	63.98	0.33
17_305	1748	100-yr	22.09	177.04	178.82		178.85	0.001017	0.23	1.21	0.44	41.48	68.40	0.32
17_305	1748	200-yr	26.26	177.04	178.98		179.02	0.000767	0.27	1.13	0.42	53.40	71.94	0.28
17_305	1687	50-yr	19.96	176.98	178.62		178.70	0.001447	0.43	1.36	0.28	22.06	30.75	0.39
17_305	1687	100-yr	22.09	176.98	178.71		178.78	0.001341	0.44	1.37	0.29	24.82	32.56	0.38
17_305	1687	200-yr	26.26	176.98	178.88		178.96	0.001118	0.46	1.36	0.30	30.95	35.97	0.35
17_305	1563	50-yr	19.96	176.86	178.61		178.63	0.000298	0.17	0.68	0.28	62.51	64.51	0.17
17_305	1563	100-yr	22.09	176.86	178.70		178.71	0.000277	0.18	0.67	0.28	68.41	65.15	0.17
17_305	1563	200-yr	26.26	176.86	178.89		178.90	0.000237	0.18	0.66	0.29	80.58	66.51	0.16
17_305	1499	50-yr	19.96	176.79	178.54		178.59	0.000976	0.33	1.26	0.36	32.14	45.24	0.33
17_305	1499	100-yr	22.09	176.79	178.63		178.68	0.000884	0.33	1.25	0.37	36.84	48.23	0.32
17_305	1499	200-yr	26.26	176.79	178.83		178.87	0.000709	0.32	1.21	0.38	46.67	54.17	0.29
17_305	1279	50-yr	19.96	176.57	178.39		178.43	0.000894	0.34	1.00	0.16	34.42	42.48	0.27
17_305	1279	100-yr	22.09	176.57	178.51		178.54	0.000880	0.34	0.97	0.16	39.47	43.51	0.25
17_305	1279	200-yr	26.26	176.57	178.74		178.76	0.000449	0.35	0.93	0.17	49.49	44.99	0.23
17_305	1196	50-yr	19.96	176.48	178.37		178.39	0.000310	0.32	0.70	0.10	45.86	55.76	0.18
17_305	1196	100-yr	22.09	176.48	178.50		178.51	0.000255	0.32	0.67	0.10	52.75	58.86	0.17
17_305	1196	200-yr	26.26	176.48	178.73		178.74	0.000186	0.32	0.63	0.10	66.20	58.11	0.15
17_305	1126	50-yr	19.96	176.41	178.34		178.37	0.000454	0.35	0.90	0.16	41.07	39.20	0.23
17_305	1126	100-yr	22.09	176.41	178.47		178.49	0.000403	0.35	0.89	0.17	46.03	38.97	0.22
17_305	1126	200-yr	26.26	176.41	178.70		178.72	0.000333	0.36	0.88	0.18	50.61	41.38	0.20
17_305	1042	50-yr	19.96	176.33	178.28		178.32	0.000524	0.24	0.83	0.22	28.14	23.46	0.24
17_305	1042	100-yr	22.09	176.33	178.41		178.45	0.000474	0.26	0.80	0.22	28.19	24.03	0.23
17_305	1042	200-yr	26.26	176.33	178.65		178.69	0.000408	0.27	0.95	0.23	34.14	26.36	0.22
17_305	1026	50-yr	19.96	176.32	178.19	177.44	178.29	0.001111	0.52	1.50	0.40	17.28	18.83	0.36
17_305	1026	100-yr	22.09	176.32	178.32	177.51	178.42	0.001054	0.55	1.53	0.39	18.98	20.25	0.35
17_305	1026	200-yr	26.26	176.32	178.56	177.64	178.68	0.000862	0.60	1.58	0.37	22.42	23.22	0.35
17_305	1013	W D Townline Rd	Culvert											
17_305	998	50-yr	19.96	175.88	177.61	176.92	177.72	0.001644	0.55	1.51	0.13	13.73	12.10	0.40
17_305	998	100-yr	22.09	175.88	177.65	176.99	177.78	0.001817	0.61	1.62	0.15	14.26	12.39	0.42
17_305	998	200-yr	26.26	175.88	177.73	177.12	177.90	0.002147	0.71	1.83	0.20	15.23	12.85	0.47
17_305	967	50-yr	19.96	175.87	177.55		177.69	0.002229	0.64	1.71	0.32	13.02	13.74	0.48
17_305	967	100-yr	22.09	175.87	177.59		177.75	0.002476	0.69	1.84	0.35	13.51	14.02	0.51
17_305	967	200-yr	26.26	175.87	177.65		177.88	0.002970	0.79	2.07	0.40	14.38	14.50	0.56
17_305	856	50-yr	19.96	175.66	177.37		177.43	0.001545	0.59	1.47	0.43	24.58	55.11	0.39
17_305	856	100-yr	22.09	175.66	177.41		177.47	0.001541	0.62	1.50	0.46	26.76	56.76	0.39
17_305	856	200-yr	26.26	175.66	177.48		177.54	0.001500	0.67	1.53	0.49	31.16	60.07	0.38
17_305	726	50-yr	19.96	175.48	177.22		177.25	0.001903	0.42	1.13	0.31	36.90	83.58	0.31
17_305	726	100-yr	22.09	175.48	177.27		177.30	0.000930	0.44	1.11	0.31	40.87	84.72	0.30
17_305	726	200-yr	26.26	175.48	177.36		177.39	0.000810	0.47	1.08	0.31	48.59	87.06	0.28
17_305	613	50-yr	19.96	175.28	177.09		177.13	0.001314	0.50	1.25	0.29	34.51	69.46	0.35
17_305	613	100-yr	22.09	175.28	177.14		177.18	0.001212	0.51	1.23	0.30	36.45	71.12	0.34
17_305	613	200-yr	26.26	175.28	177.25		177.29	0.001029	0.54	1.18	0.31	46.34	73.77	0.32
17_305	536	50-yr	19.96	175.16	176.88		177.00	0.002170	0.53	1.62	0.46	16.28	32.21	0.47
17_305	536	100-yr	22.09	175.16	176.94		177.06	0.002152	0.56	1.67	0.46	18.18	36.48	0.47
17_305	536	200-yr	26.26	175.16	177.07		177.18	0.001925	0.58	1.68	0.35	23.45	51.52	0.45
17_305	411	50-yr	19.96	174.97	176.87		176.88	0.000338	0.32	0.72	0.39	45.16	70.02	0.18
17_305	411	100-yr	22.09	174.97	176.93		176.94	0.000319	0.33	0.72	0.40	49.54	70.96	0.18
17_305	411	200-yr	26.26	174.97	177.07		177.08	0.000272	0.35	0.70	0.40	59.23	73.57	0.17
17_305	236	50-yr	19.96	174.70	176.77	176.60	176.80	0.000797	0.37	1.06	0.33	38.34	112.06	0.27
17_305	236	100-yr	22.09	174.70	176.85	176.63	176.88	0.000692	0.38	0.95	0.31	46.97	152.03	0.24
17_305	236	200-yr	26.26	174.70	177.02	176.68	177.03	0.000315	0.28	0.74	0.25	77.39	167.75	0.18
17_305	108	50-yr	19.96	174.50	176.71		176.73	0.000417	0.24	0.83	0.38	39.12	65.41	0.21
17_305	108	100-yr	22.09	174.50	176.80		176.82	0.000347	0.26	0.79	0.38	45.29	66.40	0.19
17_305	108	200-yr	26.26	174.50	176.96		177.00	0.000255	0.28	0.72	0.39	57.33	68.23	0.17
17_302	388	50-yr	6.47	177.37	178.28		178.29	0.001068	0.48	0.28	0.40	16.37	44.69	0.10
17_302	388	100-yr	7.23	177.37	178.41		178.42	0.000461	0.36	0.20	0.33	22.53	46.78	0.07
17_302	388	200-yr	8.73	177.37	178.68		178.69	0.000150	0.27	0.14	0.25	35.70	50.12	0.04
17_302	293	50-yr	6.47	176.88	178.25		178.25	0.000201	0.25	0.15	0.26	27.30	48.66	0.05
17_302	293	100-yr	7.23	176.88	178.40		178.40	0.000118	0.22	0.12	0.23	34.74	51.03	0.03
17_302	293	200-yr	8.73	176.88	178.68		178.68	0.000094	0.19	0.10	0.19	48.81	54.67	0.02
17_302	199	50-yr	6.47	176.39	178.24		178.25	0.000024	0.10	0.21	0.12	52.72	71.18	0.05
17_302	199	100-yr	7.23	176.39	178.39		178.40	0.000018	0.09	0.19	0.12	63.75	75.61	0.04
17_302	199	200-yr	8.73	176.39	178.68		178.68	0.000011	0.09	0.16	0.10	86.17	82.94	0.04
17_302	165	50-yr	6.47	176.36	178.24	178.87	178.24	0.000092	0.25	0.40	0.26	18.72	66.49	0.10
17_302	165	100-yr	7.23	176.36	178.39	177.01	178.39	0.000081	0.26	0.40	0.27	20.92	68.17	0.09
17_302	165	200-yr	8.73	176.36	178.67	177.09	178.67	0.000067	0.28	0.40	0.29	25.06	72.29	0.09
17_302	169	Castorville Rd	Culvert											
17_302	153	50-yr	6.47	176.45	177.47	177.47	177.68	0.008143	1.13	2.25	1.06	3.39	22.90	0.80
17_302	153	100-yr	7.23	176.45	177.50	177.50	177.73	0.008496	1.23	2.36	1.13	3.85	23.92	0.82

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m2)	Trip Width (m)	Froude # Crl
17_302	153	200-yr	8.73	176.45	177.56	177.56	177.83	0.008969	1.43	2.54	1.19	4.32	25.57	0.85
17_302	147	50-yr	8.47	176.41	177.14	177.14	177.32	0.010631	0.74	1.98	0.56	3.84	13.40	0.90
17_302	147	100-yr	7.23	176.41	177.21	177.21	177.36	0.007874	0.65	1.85	0.61	4.94	18.28	0.79
17_302	147	200-yr	8.73	176.41	177.25	177.25	177.42	0.007798	0.75	1.95	0.88	5.25	15.77	0.85
17_400	5033	50-yr	37.20	176.18	178.53		178.55	0.000247	0.31	0.80	0.16	79.48	63.32	0.18
17_400	5033	100-yr	40.86	176.18	178.70		178.72	0.000209	0.31	0.77	0.15	90.43	65.70	0.16
17_400	5033	200-yr	47.91	176.18	178.85		178.87	0.000215	0.34	0.82	0.16	100.37	67.31	0.17
17_400	4847	50-yr	37.20	176.10	178.52		178.53	0.000061	0.07	0.40	0.16	184.54	207.62	0.09
17_400	4847	100-yr	40.86	176.10	178.70		178.70	0.000044	0.06	0.36	0.16	221.23	214.47	0.08
17_400	4847	200-yr	47.91	176.10	178.85		178.85	0.000041	0.06	0.36	0.16	254.26	222.44	0.07
17_400	4777	50-yr	37.20	176.07	178.52		178.52	0.000072	0.08	0.44	0.18	171.72	178.37	0.10
17_400	4777	100-yr	40.86	176.07	178.69		178.70	0.000054	0.08	0.40	0.17	203.29	183.65	0.08
17_400	4777	200-yr	47.91	176.07	178.84		178.85	0.000052	0.08	0.41	0.18	231.80	190.68	0.08
17_400	4674	50-yr	37.20	176.03	178.50		178.51	0.000175	0.13	0.69	0.15	142.37	188.43	0.15
17_400	4674	100-yr	40.86	176.03	178.66		178.69	0.000126	0.13	0.62	0.15	177.58	196.76	0.13
17_400	4674	200-yr	47.91	176.03	178.83		178.84	0.000118	0.14	0.62	0.16	207.74	198.32	0.12
17_400	4522	50-yr	37.20	175.96	178.42		178.47	0.000458	0.18	1.10	0.20	80.17	82.74	0.24
17_400	4522	100-yr	40.86	175.96	178.61		178.66	0.000376	0.15	1.06	0.21	72.08	86.07	0.22
17_400	4522	200-yr	47.91	175.96	178.76		178.81	0.000405	0.17	1.14	0.22	83.38	85.31	0.23
17_400	4424	50-yr	37.20	175.92	178.38		178.43	0.000382	0.18	0.99	0.23	50.22	48.62	0.22
17_400	4424	100-yr	40.86	175.92	178.58		178.62	0.000306	0.15	0.95	0.25	40.89	54.99	0.20
17_400	4424	200-yr	47.91	175.92	178.73		178.77	0.000318	0.18	1.00	0.30	49.14	57.40	0.20
17_400	4316	50-yr	37.20	175.88	178.40		178.40	0.000064	0.14	0.41	0.17	170.75	193.05	0.09
17_400	4316	100-yr	40.86	175.88	178.60		178.60	0.000042	0.13	0.36	0.17	206.92	195.36	0.07
17_400	4316	200-yr	47.91	175.88	178.75		178.75	0.000039	0.13	0.36	0.18	238.17	196.98	0.07
17_400	4148	50-yr	37.20	175.80	178.38		178.39	0.000114	0.13	0.57	0.17	145.65	118.39	0.12
17_400	4148	100-yr	40.86	175.80	178.59		178.59	0.000091	0.13	0.54	0.16	170.12	120.17	0.11
17_400	4148	200-yr	47.91	175.80	178.73		178.74	0.000087	0.15	0.58	0.17	188.10	122.83	0.11
17_400	3971	50-yr	37.20	175.73	178.35		178.37	0.000198	0.11	0.68	0.22	100.99	76.00	0.14
17_400	3971	100-yr	40.86	175.73	178.56		178.58	0.000128	0.11	0.63	0.22	117.13	78.04	0.13
17_400	3971	200-yr	47.91	175.73	178.71		178.72	0.000137	0.12	0.68	0.24	126.66	79.57	0.14
17_400	3708	50-yr	37.20	175.61	178.33	176.85	178.34	0.000110	0.15	0.56	0.10	152.98	135.11	0.12
17_400	3708	100-yr	40.86	175.61	178.55	176.91	178.55	0.000094	0.15	0.52	0.10	182.43	138.00	0.10
17_400	3708	200-yr	47.91	175.61	178.69	177.14	178.70	0.000088	0.18	0.55	0.08	202.90	148.65	0.11
17_400	3385	50-yr	37.20	175.47	178.25		178.28	0.000279	0.12	0.87	0.15	86.05	82.72	0.19
17_400	3385	100-yr	40.86	175.47	178.48		178.51	0.000226	0.12	0.84	0.15	81.99	87.11	0.17
17_400	3385	200-yr	47.91	175.47	178.62		178.65	0.000208	0.14	0.93	0.14	95.65	103.48	0.18
17_400	3215	50-yr	37.20	175.40	178.24		178.25	0.000115	0.10	0.59	0.11	118.67	118.29	0.12
17_400	3215	100-yr	40.86	175.40	178.47		178.48	0.000091	0.10	0.55	0.10	140.00	136.22	0.11
17_400	3215	200-yr	47.91	175.40	178.61		178.62	0.000087	0.10	0.59	0.12	168.37	141.81	0.12
17_400	3014	50-yr	37.20	175.32	178.20		178.23	0.000164	0.14	0.71	0.15	76.53	93.38	0.15
17_400	3014	100-yr	40.86	175.32	178.44		178.46	0.000139	0.14	0.69	0.14	90.47	83.68	0.14
17_400	3014	200-yr	47.91	175.32	178.57		178.60	0.000159	0.18	0.77	0.15	89.39	88.94	0.15
17_400	2836	50-yr	37.20	175.24	178.19		178.20	0.000104	0.28	0.58	0.11	95.20	79.59	0.12
17_400	2836	100-yr	40.86	175.24	178.43		178.44	0.000077	0.25	0.52	0.11	115.14	83.62	0.10
17_400	2836	200-yr	47.91	175.24	178.56		178.58	0.000082	0.28	0.55	0.12	126.46	85.86	0.11
17_400	2828	50-yr	37.20	175.24	178.19	176.22	178.20	0.000098	0.19	0.56	0.06	96.62	79.62	0.11
17_400	2828	100-yr	40.86	175.24	178.43	176.28	178.44	0.000075	0.19	0.52	0.05	116.66	85.10	0.10
17_400	2828	200-yr	47.91	175.24	178.56	176.37	178.57	0.000083	0.22	0.58	0.04	128.28	88.78	0.10
17_400	2613	Townline Rd E	Bridge											
17_400	2799	50-yr	37.20	175.25	177.97	176.54	177.99	0.000183	0.18	0.70	0.37	114.73	174.80	0.15
17_400	2799	100-yr	40.86	175.25	178.29	176.61	178.30	0.000095	0.14	0.55	0.32	166.25	189.54	0.11
17_400	2799	200-yr	47.91	175.25	178.42	176.73	178.43	0.000078	0.14	0.51	0.26	211.11	195.73	0.10
17_400	2793	50-yr	37.20	175.25	177.97		177.98	0.000098	0.12	0.50	0.23	150.69	189.59	0.11
17_400	2793	100-yr	40.86	175.25	178.30		178.30	0.000051	0.11	0.40	0.20	213.86	201.71	0.08
17_400	2793	200-yr	47.91	175.25	178.42		178.42	0.000052	0.12	0.42	0.22	238.67	205.03	0.08
17_400	2504	50-yr	37.20	175.19	177.86		177.92	0.000569	0.29	1.30	0.40	51.41	44.09	0.27
17_400	2504	100-yr	40.86	175.19	178.23		178.27	0.000362	0.26	1.13	0.37	68.44	48.86	0.22
17_400	2504	200-yr	47.91	175.19	178.34		178.39	0.000402	0.28	1.23	0.41	74.27	52.52	0.23
17_400	2439	50-yr	37.20	175.18	177.85		177.89	0.000303	0.24	0.95	0.33	68.10	56.91	0.20
17_400	2439	100-yr	40.86	175.18	178.22		178.25	0.000192	0.22	0.83	0.30	90.45	66.58	0.16
17_400	2439	200-yr	47.91	175.18	178.33		178.38	0.000228	0.22	0.93	0.33	98.82	78.90	0.18
17_400	2433	50-yr	37.20	175.18	177.81	176.38	177.88	0.000467	0.34	1.14	0.15	35.65	45.58	0.24
17_400	2433	100-yr	40.86	175.18	178.21	176.45	178.24	0.000250	0.22	0.91	0.14	71.54	61.76	0.18
17_400	2433	200-yr	47.91	175.18	178.32	176.58	178.36	0.000296	0.23	1.02	0.16	78.70	72.22	0.19
17_400	2421	H D Townline Rd	Bridge											
17_400	2411	50-yr	37.20	175.23	177.63	176.37	177.68	0.000400	0.54	0.99		38.83	67.01	0.22
17_400	2411	100-yr	40.86	175.23	177.70	176.42	177.76	0.000425	0.50	1.05		40.41	72.95	0.23
17_400	2411	200-yr	47.91	175.23	177.85	176.51	177.81	0.000464	0.67	1.14		43.37	78.25	0.24

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m³/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m²)	Trip Width (m)	Froude # Cfl
17_400	2405	50-yr	37.20	175.23	177.64		177.66	0.000263	0.31	0.77	0.12	67.33	75.43	0.18
17_400	2405	100-yr	40.86	175.23	177.72		177.74	0.000260	0.32	0.78	0.13	74.06	99.89	0.18
17_400	2405	200-yr	47.91	175.23	177.86		177.88	0.000269	0.29	0.84	0.14	90.63	123.25	0.18
17_400	2260	50-yr	37.20	175.17	177.80		177.82	0.000275	0.34	0.81	0.12	77.83	91.54	0.18
17_400	2260	100-yr	40.86	175.17	177.88		177.70	0.000264	0.35	0.82	0.13	85.23	94.30	0.18
17_400	2260	200-yr	47.91	175.17	177.83		177.85	0.000245	0.36	0.82	0.13	100.48	111.33	0.18
17_400	2040	50-yr	37.20	175.08	177.54		177.57	0.000488	0.35	1.01	0.27	80.84	82.65	0.22
17_400	2040	100-yr	40.86	175.08	177.62		177.65	0.000468	0.36	1.01	0.30	87.73	83.83	0.22
17_400	2040	200-yr	47.91	175.08	177.78		177.80	0.000434	0.38	1.02	0.33	100.73	95.87	0.22
17_400	1896	50-yr	37.20	175.02	177.49		177.51	0.000289	0.21	0.86	0.32	80.50	81.02	0.19
17_400	1896	100-yr	40.86	175.02	177.57		177.59	0.000282	0.22	0.89	0.34	87.40	82.97	0.19
17_400	1896	200-yr	47.91	175.02	177.73		177.75	0.000268	0.22	0.90	0.36	100.81	86.42	0.19
17_400	1687	50-yr	37.20	174.94	177.39		177.44	0.000471	0.29	1.13	0.30	58.99	58.03	0.24
17_400	1687	100-yr	40.86	174.94	177.47		177.52	0.000471	0.30	1.16	0.32	63.95	58.92	0.25
17_400	1687	200-yr	47.91	174.94	177.63		177.68	0.000464	0.31	1.20	0.36	73.65	63.20	0.25
17_400	1422	50-yr	37.20	174.83	177.27		177.32	0.000454	0.20	1.05	0.48	44.69	37.38	0.24
17_400	1422	100-yr	40.86	174.83	177.35		177.40	0.000473	0.21	1.10	0.48	47.78	40.02	0.24
17_400	1422	200-yr	47.91	174.83	177.50		177.56	0.000512	0.23	1.20	0.46	54.57	51.24	0.26
17_400	1216	50-yr	37.20	174.75	177.21		177.23	0.000348	0.24	0.93	0.18	87.93	105.02	0.21
17_400	1216	100-yr	40.86	174.75	177.29		177.32	0.000330	0.26	0.93	0.18	96.88	107.99	0.20
17_400	1216	200-yr	47.91	174.75	177.45		177.47	0.000299	0.27	0.93	0.18	114.06	113.09	0.20
17_400	959	50-yr	37.20	174.65	177.01		177.10	0.000902	0.23	1.38	0.22	37.73	40.24	0.33
17_400	959	100-yr	40.86	174.65	177.09		177.18	0.000920	0.25	1.44	0.24	41.00	41.83	0.33
17_400	959	200-yr	47.91	174.65	177.24		177.34	0.000936	0.28	1.53	0.26	47.49	44.37	0.34
17_400	634	50-yr	37.20	174.52	176.81		176.86	0.000575	0.18	1.06	0.18	59.86	79.88	0.26
17_400	634	100-yr	40.86	174.52	176.90		176.95	0.000559	0.17	1.08	0.20	66.86	81.71	0.26
17_400	634	200-yr	47.91	174.52	177.07		177.11	0.000514	0.19	1.10	0.22	80.82	95.83	0.25
17_400	521	50-yr	37.20	174.48	176.80	175.84	176.81	0.000247	0.13	0.71	0.18	111.08	108.94	0.17
17_400	521	100-yr	40.86	174.48	176.86	175.88	176.90	0.000239	0.13	0.72	0.19	120.71	109.42	0.17
17_400	521	200-yr	47.91	174.48	177.05	175.97	177.07	0.000221	0.14	0.73	0.20	138.38	110.32	0.17
17_400	206	50-yr	37.20	174.35	176.79		176.78	0.000141	0.28	0.58	0.11	113.40	144.02	0.13
17_400	206	100-yr	40.86	174.35	176.84		176.85	0.000124	0.26	0.56	0.11	127.08	147.81	0.12
17_400	206	200-yr	47.91	174.35	177.02		177.03	0.000100	0.27	0.53	0.11	154.50	158.48	0.11
17_301	469	50-yr	18.36	174.41	176.89		176.70	0.000137	0.25	0.44	0.33	61.29	76.95	0.11
17_301	469	100-yr	20.03	174.41	176.79		176.79	0.000115	0.25	0.42	0.32	68.77	77.43	0.10
17_301	469	200-yr	23.35	174.41	176.97		176.98	0.000087	0.25	0.39	0.31	83.01	76.27	0.09
17_301	371	50-yr	18.36	174.38	176.88		176.68	0.000108	0.29	0.43	0.23	64.51	72.75	0.10
17_301	371	100-yr	20.03	174.38	176.78		176.78	0.000093	0.28	0.41	0.23	71.78	74.10	0.10
17_301	371	200-yr	23.35	174.38	176.96		176.87	0.000074	0.28	0.39	0.23	85.71	76.58	0.09
17_301	63	50-yr	18.36	174.26	176.67		176.67	0.000014	0.08	0.17	0.12	154.86	138.78	0.04
17_301	63	100-yr	20.03	174.26	176.77		176.77	0.000013	0.08	0.16	0.12	168.82	141.11	0.04
17_301	63	200-yr	23.35	174.26	176.96		176.96	0.000011	0.08	0.16	0.12	195.33	143.75	0.03
17_300	670	50-yr	51.18	174.15	176.58		176.64	0.000462	0.35	1.08	0.14	50.64	32.35	0.24
17_300	670	100-yr	55.64	174.15	176.68		176.74	0.000462	0.38	1.11	0.15	53.88	33.39	0.24
17_300	670	200-yr	64.45	174.15	176.86		176.93	0.000461	0.43	1.17	0.17	60.09	34.99	0.24
17_300	444	50-yr	51.18	174.06	176.57		176.58	0.000120	0.09	0.57	0.19	209.89	222.02	0.12
17_300	444	100-yr	55.64	174.06	176.67		176.68	0.000111	0.09	0.56	0.19	232.29	241.10	0.12
17_300	444	200-yr	64.45	174.06	176.86		176.87	0.000096	0.09	0.55	0.19	262.52	262.73	0.11
17_300	211	50-yr	51.18	173.98	176.50		176.54	0.000283	0.28	0.88	0.37	73.94	49.35	0.19
17_300	211	100-yr	55.64	173.98	176.60		176.64	0.000281	0.27	0.90	0.39	79.02	49.90	0.19
17_300	211	200-yr	64.45	173.98	176.79		176.83	0.000277	0.30	0.95	0.40	86.61	50.82	0.19
34_806	1612	50-yr	4.13	182.33	183.49		183.50	0.002624	0.23	0.46	0.24	14.09	80.09	0.15
34_806	1612	100-yr	4.61	182.33	183.51		183.52	0.002750	0.24	0.48	0.26	15.23	82.62	0.16
34_806	1612	200-yr	5.58	182.33	183.55		183.58	0.002836	0.26	0.50	0.28	17.74	87.74	0.16
34_806	1481	50-yr	4.13	181.84	183.08		183.09	0.002785	0.55	0.45	0.45	8.88	32.51	0.15
34_806	1481	100-yr	4.61	181.84	183.10		183.12	0.002675	0.57	0.45	0.47	9.44	33.37	0.15
34_806	1481	200-yr	5.58	181.84	183.15		183.18	0.002518	0.60	0.45	0.48	10.97	36.14	0.15
34_806	1179	50-yr	4.13	180.88	182.37		182.38	0.002357	0.51	0.45	0.58	8.25	22.98	0.14
34_806	1179	100-yr	4.61	180.88	182.39		182.41	0.002414	0.55	0.46	0.59	8.78	23.48	0.14
34_806	1179	200-yr	5.58	180.88	182.43		182.45	0.002550	0.60	0.46	0.65	9.73	24.42	0.14
34_806	1022	50-yr	4.13	180.34	181.91		181.93	0.003718	0.58	0.50	0.50	7.77	26.80	0.15
34_806	1022	100-yr	4.61	180.34	181.94		181.95	0.003618	0.60	0.49	0.52	8.43	30.97	0.14
34_806	1022	200-yr	5.58	180.34	181.98	181.77	182.00	0.003330	0.64	0.49	0.54	9.81	33.29	0.14
34_806	762	50-yr	4.13	179.45	181.17	180.43	181.18	0.002286	0.53	0.43	0.59	8.23	19.56	0.12
34_806	762	100-yr	4.61	179.45	181.19	180.49	181.21	0.002335	0.56	0.44	0.63	8.78	20.14	0.13
34_806	762	200-yr	5.58	179.45	181.25	180.59	181.27	0.002385	0.54	0.46	0.68	10.07	25.72	0.13
34_806	462	50-yr	4.13	178.43	179.34	179.34	179.45	0.045652	1.20	1.48	1.23	2.97	14.44	0.58
34_806	462	100-yr	4.61	178.43	179.37	179.37	179.47	0.041986	1.22	1.45	1.32	3.31	15.30	0.56
34_806	462	200-yr	5.58	178.43	179.40	179.40	179.51	0.044099	1.28	1.53	1.46	3.75	17.38	0.58
34_806	270	50-yr	4.13	177.77	179.35		179.35	0.000032	0.13	0.07	0.11	36.28	49.77	0.02
34_806	270	100-yr	4.61	177.77	179.37		179.37	0.000037	0.14	0.07	0.12	37.43	50.66	0.02

HEC-RAS Plan: Oswego Watershed NPCA (Continued)

Reach	River Sta	Profile	Q Total (m³/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Left (m/s)	Vel Chf (m/s)	Vel Right (m/s)	Flow Area (m²)	Top Width (m)	Froude # Crl
34_806	270	200-yr	5.56	177.77	179.40		179.40	0.000047	0.16	0.06	0.14	36.02	50.46	0.02
34_806	90	50-yr	4.13	177.18	179.35		179.35	0.000003	0.04	0.02	0.05	66.34	83.03	0.01
34_806	90	100-yr	4.61	177.16	179.37		179.37	0.000003	0.04	0.03	0.06	90.27	83.63	0.01
34_806	90	200-yr	5.56	177.16	179.40		179.40	0.000004	0.05	0.03	0.07	92.91	84.47	0.01
34_806	77	50-yr	4.13	177.13	179.35	177.94	179.35	0.000005	0.06	0.03	0.06	70.79	72.44	0.01
34_806	77	100-yr	4.61	177.13	179.37	177.96	179.37	0.000006	0.06	0.03	0.07	72.47	72.80	0.01
34_806	77	200-yr	5.56	177.13	179.40	177.98	179.40	0.000007	0.07	0.04	0.08	74.77	73.30	0.01
34_806	67	Darling Rd	Culvert											
34_806	55	50-yr	4.13	177.29	178.88	177.83	178.88	0.000063	0.18	0.09	0.23	28.52	43.75	0.03
34_806	55	100-yr	4.61	177.29	178.91	177.85	178.91	0.000072	0.20	0.10	0.25	29.36	44.36	0.03
34_806	55	200-yr	5.56	177.29	178.97	177.90	178.98	0.000042	0.18	0.08	0.18	42.52	46.04	0.02
34_806	49	50-yr	4.13	177.24	178.88	177.80	178.88	0.000009	0.07	0.04	0.07	62.40	117.65	0.01
34_806	49	100-yr	4.61	177.24	178.91	177.82	178.91	0.000010	0.07	0.04	0.08	64.61	121.00	0.01
34_806	49	200-yr	5.56	177.24	178.96	177.84	178.98	0.000012	0.08	0.05	0.09	70.02	128.46	0.01
34_804	6226	50-yr	3.54	190.76	192.12	191.33	192.12	0.000027	0.10	0.17	0.05	41.33	142.41	0.05
34_804	6226	100-yr	3.93	190.76	192.23	191.44	192.23	0.000016	0.08	0.14	0.05	57.14	158.96	0.04
34_804	6226	200-yr	4.69	190.76	192.43	191.49	192.44	0.000007	0.05	0.10	0.04	93.45	195.48	0.03
34_804	6045	50-yr	3.54	190.44	192.12	191.11	192.12	0.000011	0.08	0.13	0.06	41.85	76.33	0.03
34_804	6045	100-yr	3.93	190.44	192.22	191.13	192.22	0.000009	0.08	0.12	0.06	48.39	85.47	0.03
34_804	6045	200-yr	4.69	190.44	192.43	191.15	192.43	0.000006	0.07	0.11	0.04	73.07	115.73	0.02
34_804	6025	50-yr	3.54	190.43	192.12	190.85	192.12	0.000015	0.12	0.15	0.11	24.72	84.53	0.04
34_804	6025	100-yr	3.93	190.43	192.22	190.87	192.22	0.000014	0.13	0.16	0.12	26.64	88.76	0.04
34_804	6025	200-yr	4.69	190.43	192.43	190.90	192.43	0.000013	0.13	0.16	0.13	30.51	95.72	0.04
34_804	6005	Highway 56	Culvert											
34_804	5989	50-yr	11.90	190.57	191.90	191.18	191.83	0.000490		0.75		15.88	44.16	0.23
34_804	5989	100-yr	13.19	190.57	191.95	191.22	191.89	0.000517		0.79		16.60	45.07	0.23
34_804	5989	200-yr	15.74	190.57	192.05	191.27	192.09	0.000567		0.88		17.95	48.78	0.25
34_804	5966	50-yr	11.90	190.53	191.55	191.55	191.83	0.003947	2.87	0.55	0.39	12.92	50.25	0.19
34_804	5966	100-yr	13.19	190.53	191.60	191.60	191.88	0.003741	3.03	0.55	0.40	14.15	51.26	0.19
34_804	5966	200-yr	15.74	190.53	191.70	191.70	191.99	0.003131	3.04	0.54	0.39	17.33	55.63	0.17
34_804	5963	50-yr	11.90	190.33	191.12		191.13	0.000933	0.51	0.24	0.52	24.61	52.57	0.09
34_804	5963	100-yr	13.19	190.33	191.17		191.19	0.000831	0.51	0.23	0.49	27.56	55.10	0.09
34_804	5963	200-yr	15.74	190.33	191.25		191.26	0.000792	0.54	0.24	0.47	31.88	59.30	0.09
34_804	5519	50-yr	11.90	189.67	190.67		190.62	0.003967	0.39	0.51	0.45	25.89	57.52	0.19
34_804	5519	100-yr	13.19	189.67	190.40		190.45	0.003331	0.71	1.08	0.84	14.49	30.00	0.48
34_804	5519	200-yr	15.74	189.67	190.33	190.33	190.44	0.002222	1.01	1.75	1.26	11.08	47.26	0.83
34_804	5181	50-yr	11.90	188.99	189.76		188.77	0.002393	0.48	0.35	0.30	33.97	141.56	0.14
34_804	5161	100-yr	13.19	188.99	189.90		188.91	0.000620	0.33	0.21	0.21	54.71	149.22	0.08
34_804	5161	200-yr	15.74	188.99	190.22		190.22	0.001089	0.21	0.11	0.13	103.86	160.10	0.03
34_804	4948	50-yr	11.90	188.61	189.73		188.73	0.000076	0.16	0.09	0.15	79.22	192.52	0.03
34_804	4948	100-yr	13.19	188.61	189.89		188.89	0.000048	0.12	0.08	0.14	108.12	201.92	0.02
34_804	4948	200-yr	15.74	188.61	190.21		190.22	0.000014	0.09	0.05	0.09	177.28	217.74	0.01
34_804	4634	50-yr	11.90	188.02	189.71	188.75	188.71	0.000041	0.06	0.08	0.17	106.79	140.49	0.02
34_804	4634	100-yr	13.19	188.02	189.88	188.70	188.88	0.000029	0.05	0.07	0.15	130.46	190.57	0.02
34_804	4634	200-yr	15.74	188.02	190.21	188.77	190.21	0.000016	0.05	0.06	0.13	168.33	248.99	0.01
34_804	4387	50-yr	11.90	187.55	189.71		188.71	0.000021	0.12	0.07	0.12	102.95	113.00	0.02
34_804	4387	100-yr	13.19	187.55	189.87		188.87	0.000018	0.10	0.07	0.12	123.95	138.20	0.01
34_804	4387	200-yr	15.74	187.55	190.21		190.21	0.000011	0.07	0.08	0.10	164.16	213.13	0.01
34_804	4170	50-yr	11.90	187.14	189.71		188.71	0.000004	0.05	0.03	0.06	223.00	218.33	0.01
34_804	4170	100-yr	13.19	187.14	189.87		188.87	0.000003	0.05	0.03	0.05	260.78	239.91	0.01
34_804	4170	200-yr	15.74	187.14	190.21		190.21	0.000002	0.05	0.03	0.05	348.39	272.06	0.01
34_804	4142	50-yr	11.90	187.08	189.70	188.09	188.70	0.000049	0.29	0.37	0.32	36.18	226.05	0.08
34_804	4142	100-yr	13.19	187.08	189.86	188.12	188.87	0.000047	0.30	0.37	0.32	39.16	235.89	0.08
34_804	4142	200-yr	15.74	187.08	190.20	188.19	190.20	0.000041	0.32	0.38	0.33	45.28	269.56	0.07
34_804	4131	Abandon Railway	Culvert											
34_804	4121	50-yr	11.90	187.21	188.11	187.98	188.21	0.004707	0.85	1.46	0.80	8.83	40.71	0.62
34_804	4121	100-yr	13.19	187.21	188.12	188.02	188.24	0.005296	0.93	1.58	0.87	9.09	40.95	0.66
34_804	4121	200-yr	15.74	187.21	188.15	188.09	188.30	0.006235	1.08	1.77	0.81	9.68	41.69	0.72
34_804	4112	50-yr	11.90	187.19	188.10		188.13	0.005157	0.87	0.98	0.72	15.53	44.41	0.22
34_804	4112	100-yr	13.19	187.19	188.11		188.15	0.005521	0.93	0.81	0.76	16.20	44.63	0.22
34_804	4112	200-yr	15.74	187.19	188.15		188.19	0.006055	1.00	0.85	0.84	17.82	47.64	0.24
34_804	4049	50-yr	11.90	187.06	187.91		187.92	0.001575	0.48	0.34	0.43	25.10	102.87	0.13
34_804	4049	100-yr	13.19	187.06	187.94		187.95	0.001752	0.48	0.33	0.44	26.51	104.99	0.12
34_804	4049	200-yr	15.74	187.06	187.98		187.99	0.001590	0.50	0.33	0.45	32.82	107.44	0.12
34_804	3887	50-yr	11.90	186.70	187.63		187.65	0.001626	0.62	0.36	0.51	22.23	51.19	0.12
34_804	3887	100-yr	13.19	186.70	187.66		187.68	0.001670	0.65	0.37	0.52	23.66	53.00	0.13
34_804	3887	200-yr	15.74	186.70	187.71		187.73	0.001688	0.68	0.39	0.53	26.01	56.30	0.13
34_804	3709	50-yr	11.90	186.32	187.25		187.28	0.002794	0.72	0.43	0.77	17.97	44.33	0.16
34_804	3709	100-yr	13.19	186.32	187.28		187.31	0.002719	0.73	0.44	0.80	19.36	45.51	0.16