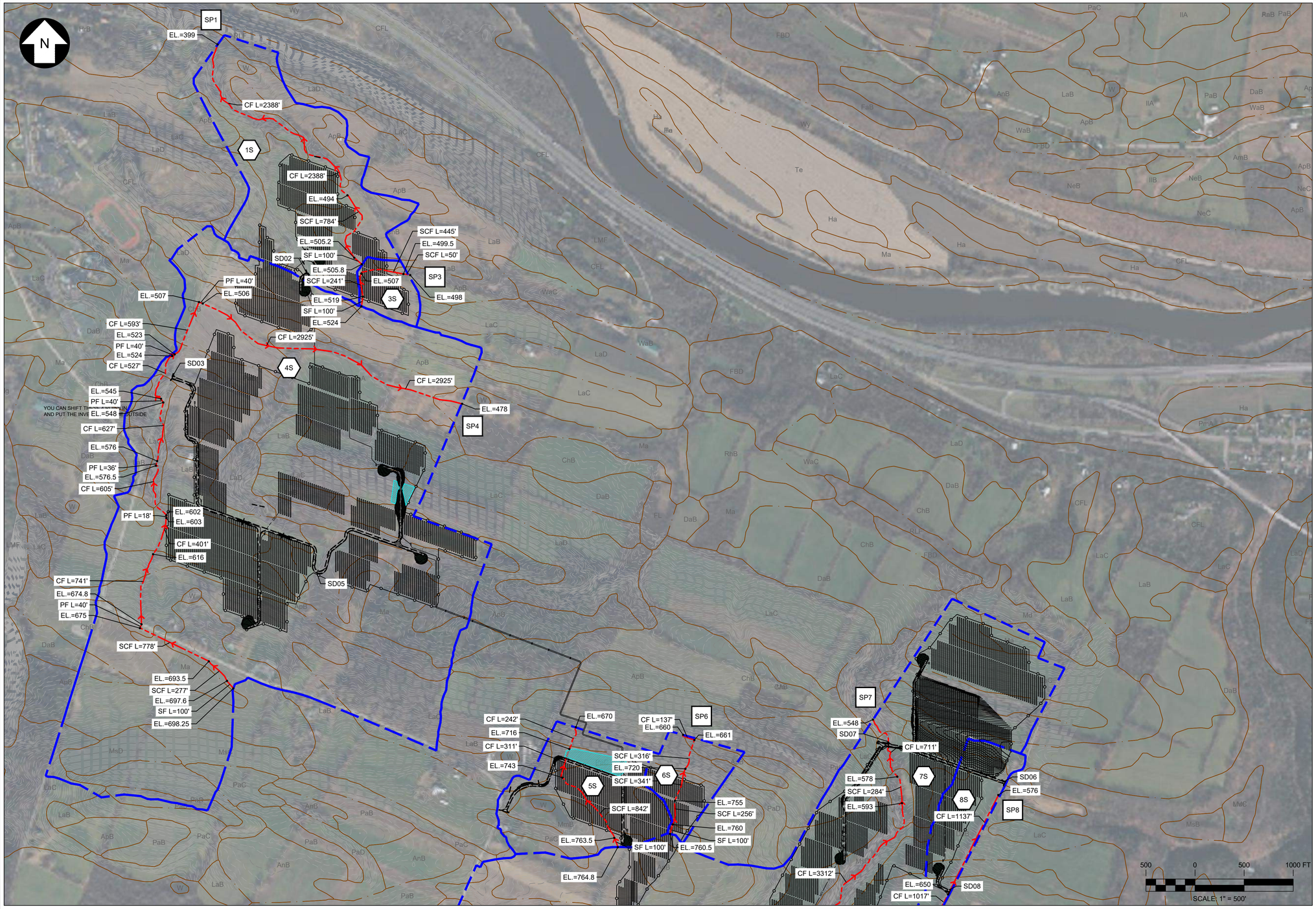
Appendix L – Post-Development Modeling

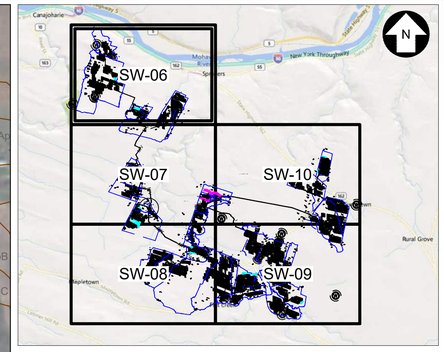
- Post-Development Subcatchment Map -

- Post-Development HydroCAD Model -

Note: Documents provided in this Appendix are preliminary and will be amended and finalized for the Final SWPPP prior to construction.

Appendix L – Post-Development Subcatchment Map





LOCATION MAP

N.T.S.

LEGEND

- 1P — POND
- 1R — REACH
- 1S — SUBCATCHMENT
- PROPERTY BOUNDARY
- TC FLOW
- SUBCATCHMENT BOUNDARY
- SOILS
- VERNAL POOL
- REACH
- UNDISTURBED VEGETATED AREA

Call 811 before you dig

PRELIMINARY
NOT FOR CONSTRUCTION

TRC — 249 Western Avenue, Augusta, ME 04330

CORDELIO POWER — SUITE 1805 - 55 FIFTH AVE, NEW YORK, NY 10003

PROJECT NO: 435979

REV	DESCRIPTION	DATE	DES	CHK	APP
A	ISSUED FOR ORES 94C REVIEW	07/12/2024	TRC	TRC	TRC

ZG — DESIGNED
ZG — DRAWN
PT — CHECKED
APPROVED
REVIEW 1
REVIEW 2

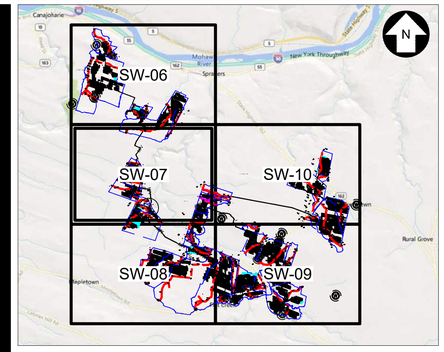
FLAT CREEK SOLAR PROJECT
CORDELIO POWER LP
STORMWATER MAP
POST DEVELOPMENT
ROOT/CANAJOHARIE NEW YORK

07/12/2024 — DATE
1"=500' — SCALE

TRC

SW-06

REV. A



LOCATION MAP

N.T.S.

LEGEND

- 1P — POND
- 1R — REACH
- 1S — SUBCATCHMENT
- PROPERTY BOUNDARY
- TC FLOW
- SUBCATCHMENT BOUNDARY
- SOILS
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REVIEW 1
REVIEW 2

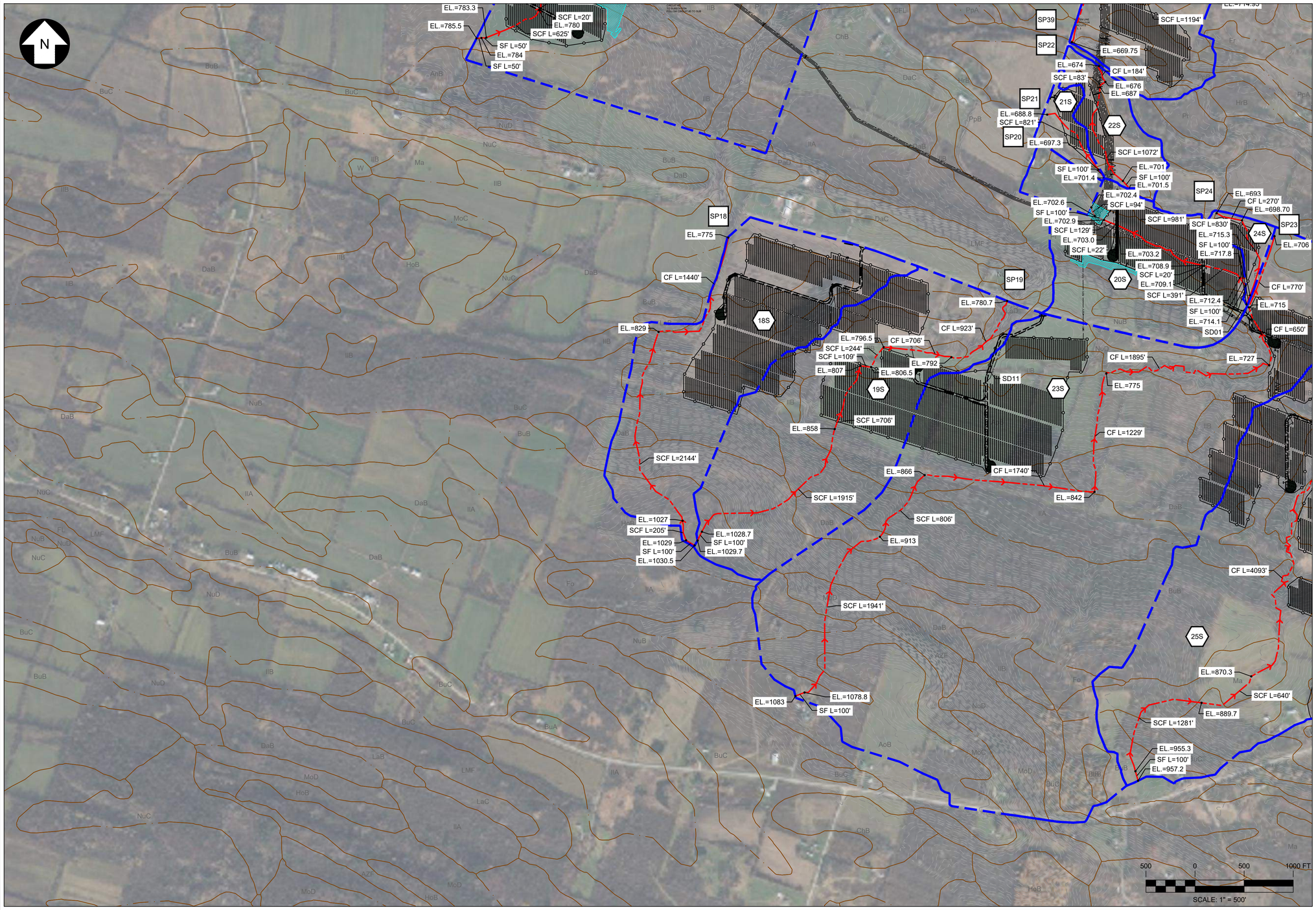
FLAT CREEK SOLAR PROJECT
CORDELIO POWER LP
STORMWATER MAP
POST DEVELOPMENT
ROOT/CANAJOHARIE — NEW YORK

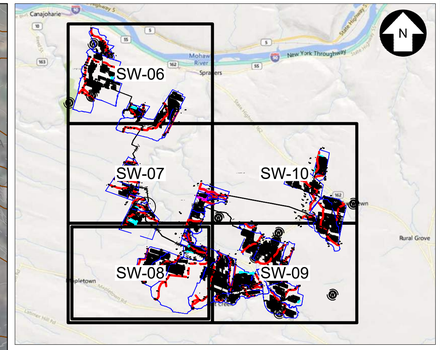
07/12/2024 — DATE
1"=500' — SCALE

TRC

SW-07

REV. A





LOCATION MAP

N.T.S.

LEGEND

- POND (1P)
- REACH (1R)
- SUBCATCHMENT (1S)
- PROPERTY BOUNDARY
- TC FLOW
- SUBCATCHMENT BOUNDARY
- SOILS
- VERNAL POOL
- REACH
- UNDISTURBED VEGETATED AREA

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PROJECT NO: 435979

REV	DESCRIPTION	DATE	DES	CHK	APP
A	ISSUED FOR ORES 94C REVIEW	07/12/2024	TRC	TRC	TRC

ZG DESIGNED
ZG DRAWN
PT CHECKED
APPROVED
REVIEW 1
REVIEW 2

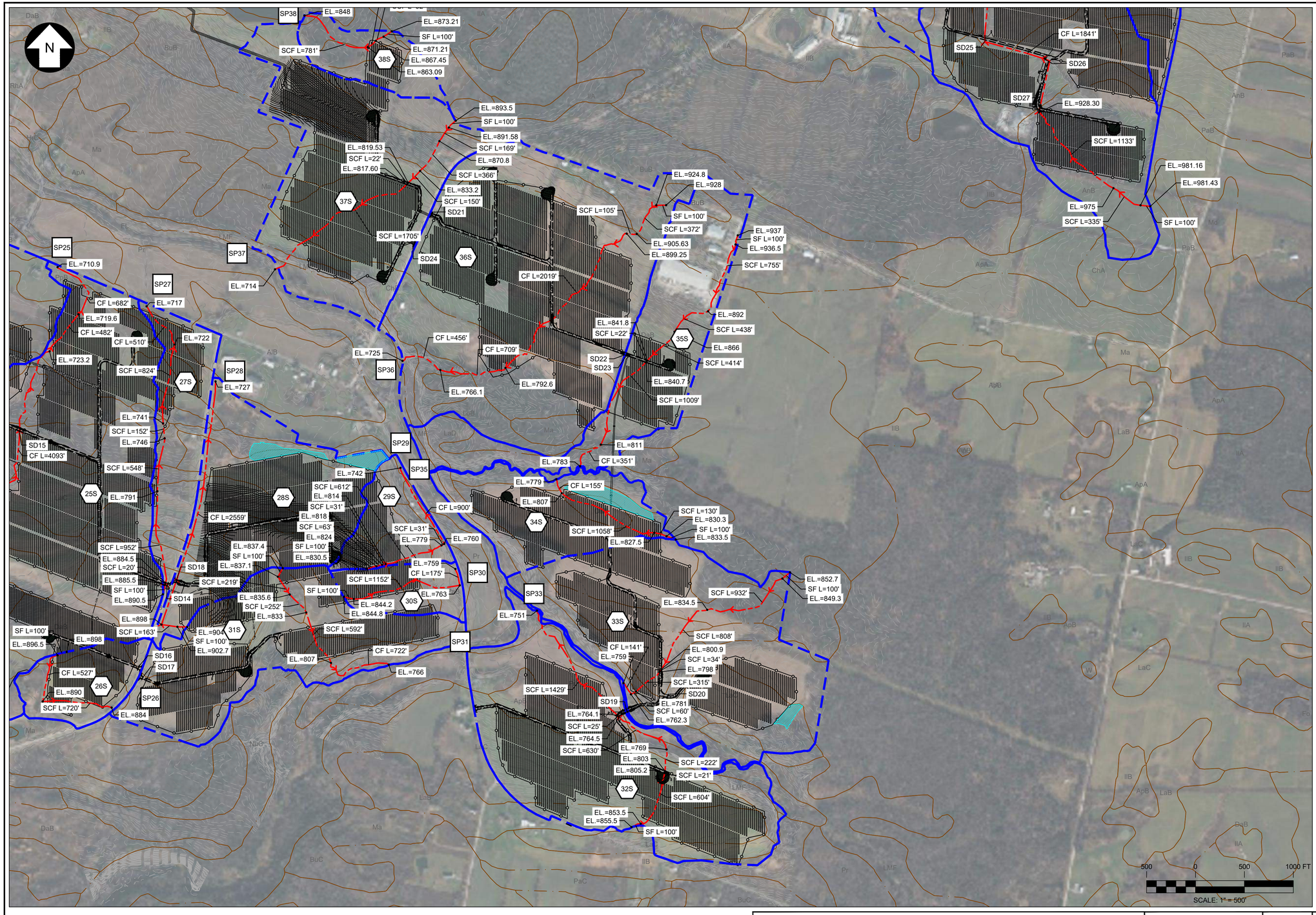
FLAT CREEK SOLAR PROJECT
CORDELIO POWER LP
STORMWATER MAP
POST DEVELOPMENT
ROOT/CANAJOHARIE NEW YORK

07/12/2024 DATE
1"=500' SCALE

TRC

SW-08

REV. A



LOCATION MAP

N.T.S.

LEGEND

- POND (1P)
- REACH (1R)
- SUBCATCHMENT (1S)
- PROPERTY BOUNDARY
- TC FLOW
- SUBCATCHMENT BOUNDARY
- SOILS
- VERNAL POOL
- REACH
- UNDISTURBED VEGETATED AREA

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NEW YORK, NY 10003
PROJECT NO: 435979

REV	DESCRIPTION	DATE	DES	CHK	APP
A	ISSUED FOR ORES 94C REVIEW	07/12/2024	TRC	TRC	TRC

ZG DESIGNED
ZG DRAWN
PT CHECKED
APPROVED
REVIEW 1
REVIEW 2

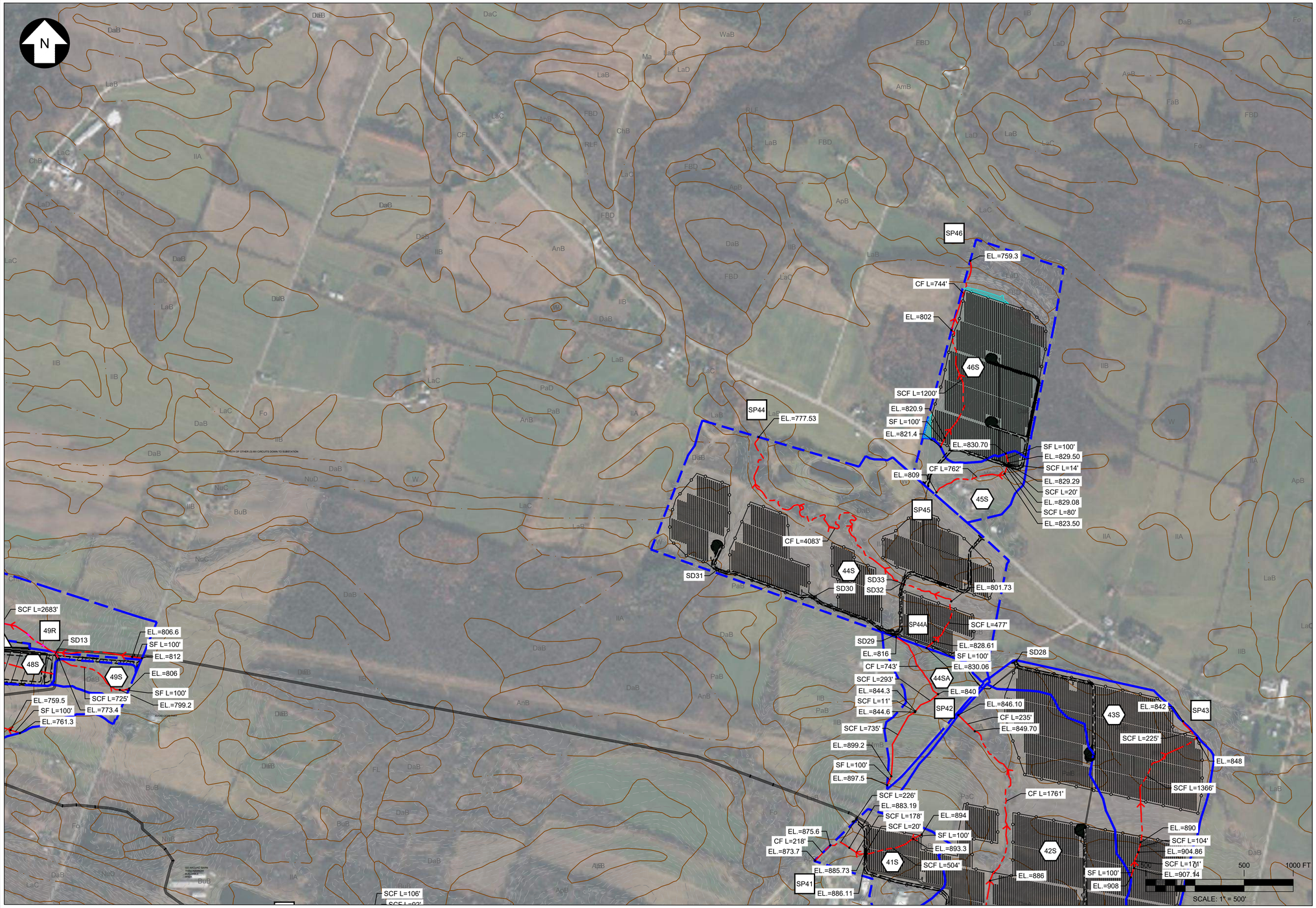
FLAT CREEK SOLAR PROJECT
CORDELIO POWER LP
STORMWATER MAP
POST DEVELOPMENT
ROOT/CANAJOHARIE NEW YORK

07/12/2024 DATE
1"=500' SCALE

TRC

SW-09

REV. A



LOCATION MAP

N.T.S.

LEGEND

- 1P — POND
- 1R — REACH
- 1S — SUBCATCHMENT
- PROPERTY BOUNDARY
- TC FLOW
- SUBCATCHMENT BOUNDARY
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REV	DESCRIPTION	DATE	DES	CHK	APP
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PT CHECKED
APPROVED
REVIEW 1
REVIEW 2

FLAT CREEK SOLAR PROJECT
CORDELIO POWER LP
STORMWATER MAP
POST DEVELOPMENT
ROOT/CANAJOHARIE NEW YORK

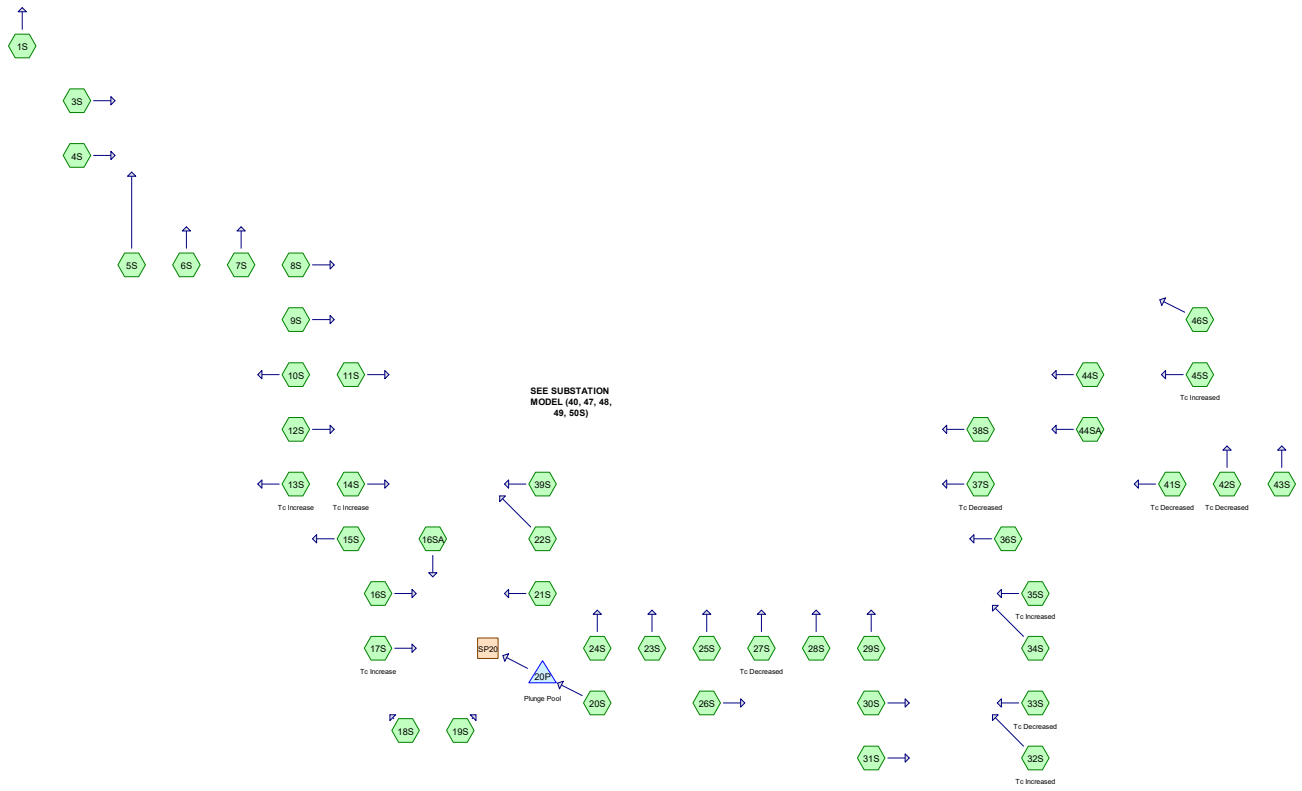
07/12/2024 DATE
1"=500' SCALE

TRC

SW-10

REV. A

Appendix L – Post-Development HydroCAD Model



Subcat Reach Pond Link

Routing Diagram for Flat Creek Post
Prepared by TRC, Printed 7/11/2024

Flat Creek Post
Prepared by TRC
Printed 7/11/2024

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-yr	Type II 24-hr		Default	24.00	1	2.04	2
2	10-yr	Type II 24-hr		Default	24.00	1	3.42	2
3	25-yr	Type II 24-hr		Default	24.00	1	4.07	2
4	100-yr	Type II 24-hr		Default	24.00	1	5.07	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.768	61	>75% Grass cover, Good, HSG B (41S)
0.155	74	>75% Grass cover, Good, HSG C (41S)
0.280	30	Brush, Good, HSG A (21S, 39S)
6.711	48	Brush, Good, HSG B (1S, 4S, 5S, 7S, 8S, 9S, 10S, 14S, 15S, 16SA, 19S, 27S, 28S, 29S, 32S, 33S, 34S, 36S, 37S, 41S, 44SA)
11.320	65	Brush, Good, HSG C (5S, 6S, 7S, 17S, 21S, 22S, 23S, 27S, 28S, 29S, 32S, 41S, 42S, 44S)
80.384	73	Brush, Good, HSG D (1S, 3S, 4S, 5S, 6S, 7S, 9S, 10S, 11S, 12S, 13S, 14S, 15S, 16S, 16SA, 17S, 18S, 19S, 20S, 22S, 23S, 24S, 25S, 27S, 28S, 31S, 32S, 33S, 34S, 35S, 36S, 37S, 39S, 42S, 44S, 44SA, 45S, 46S)
21.365	96	Gravel (13S, 14S, 15S, 16S, 16SA, 17S, 18S, 19S, 20S, 21S, 25S, 26S, 28S, 29S, 31S, 33S, 34S, 35S, 39S, 41S, 43S, 44S, 44SA, 45S, 46S)
0.222	96	Gravel Access Roads (1S)
4.940	96	Gravel surface, HSG A (27S, 32S, 37S, 42S)
4.321	96	Gravel surface, HSG D (23S, 36S)
28.497	98	Impervious (4S, 5S, 7S, 8S, 9S, 10S, 11S, 13S, 14S, 15S, 16S, 16SA, 17S, 18S, 19S, 20S, 21S, 23S, 24S, 25S, 33S, 34S, 35S, 36S, 37S, 41S, 43S, 44SA, 45S)
7.420	96	Impervious Gravel (4S, 5S, 7S, 8S, 9S, 10S, 11S)
2.901	98	Impervious Pavement (1S, 26S, 29S, 39S)
1.933	98	Impervious Surface (28S, 30S, 31S, 32S)
10.951	30	Meadow, non-grazed, HSG A (20S, 21S, 22S, 23S, 27S, 39S)
390.754	58	Meadow, non-grazed, HSG B (1S, 3S, 4S, 5S, 7S, 8S, 9S, 10S, 12S, 13S, 14S, 15S, 16SA, 18S, 19S, 20S, 25S, 27S, 28S, 29S, 31S, 32S, 33S, 34S, 35S, 36S, 37S, 41S, 44S, 44SA)
305.204	71	Meadow, non-grazed, HSG C (4S, 5S, 6S, 7S, 8S, 16S, 17S, 18S, 19S, 20S, 21S, 22S, 23S, 25S, 26S, 27S, 28S, 29S, 30S, 31S, 32S, 35S, 36S, 41S, 42S, 43S, 44S, 44SA)
1,802.088	78	Meadow, non-grazed, HSG D (1S, 3S, 4S, 5S, 6S, 7S, 8S, 9S, 10S, 11S, 12S, 13S, 14S, 15S, 16S, 16SA, 17S, 18S, 19S, 20S, 21S, 22S, 23S, 24S, 25S, 26S, 27S, 28S, 29S, 30S, 31S, 32S, 33S, 34S, 35S, 36S, 37S, 38S, 39S, 41S, 42S, 43S, 44S, 44SA, 45S, 46S)
1.382	98	Paved roads w/curbs & sewers, HSG A (22S, 27S)
0.234	98	Unconnected roofs, HSG A (12S)
7.146	98	Water (17S, 19S, 20S, 23S, 25S, 26S, 28S, 35S, 37S, 44S, 44SA, 45S)
0.553	98	Water Surface, HSG A (18S, 42S)
2.921	30	Woods, Good, HSG A (21S, 22S, 27S, 39S)
109.654	55	Woods, Good, HSG B (1S, 3S, 4S, 5S, 7S, 8S, 9S, 10S, 13S, 15S, 18S, 19S, 20S, 25S, 27S, 28S, 29S, 31S, 32S, 33S, 34S, 35S, 36S, 37S, 41S, 44S, 44SA, 46S)
83.951	70	Woods, Good, HSG C (4S, 5S, 6S, 7S, 16S, 17S, 18S, 19S, 20S, 22S, 23S, 27S, 28S, 29S, 30S, 31S, 32S, 35S, 36S, 37S, 39S, 41S, 42S, 43S, 44SA)
483.664	77	Woods, Good, HSG D (1S, 3S, 4S, 5S, 6S, 7S, 8S, 10S, 12S, 13S, 15S, 16S, 16SA, 17S, 18S, 19S, 20S, 22S, 23S, 24S, 25S, 26S, 27S, 28S, 29S, 31S, 32S, 33S, 34S, 35S, 36S, 37S, 38S, 39S, 42S, 43S, 44S, 44SA, 45S, 46S)

Area Listing (selected nodes) (continued)

Area (acres)	CN	Description (subcatchment-numbers)
3,369.717	**74**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
21.261	HSG A	12S, 18S, 20S, 21S, 22S, 23S, 27S, 32S, 37S, 39S, 42S
507.887	HSG B	1S, 3S, 4S, 5S, 7S, 8S, 9S, 10S, 12S, 13S, 14S, 15S, 16SA, 18S, 19S, 20S, 25S, 27S, 28S, 29S, 31S, 32S, 33S, 34S, 35S, 36S, 37S, 41S, 44S, 44SA, 46S
400.630	HSG C	4S, 5S, 6S, 7S, 8S, 16S, 17S, 18S, 19S, 20S, 21S, 22S, 23S, 25S, 26S, 27S, 28S, 29S, 30S, 31S, 32S, 35S, 36S, 37S, 39S, 41S, 42S, 43S, 44S, 44SA
2,370.457	HSG D	1S, 3S, 4S, 5S, 6S, 7S, 8S, 9S, 10S, 11S, 12S, 13S, 14S, 15S, 16S, 16SA, 17S, 18S, 19S, 20S, 21S, 22S, 23S, 24S, 25S, 26S, 27S, 28S, 29S, 30S, 31S, 32S, 33S, 34S, 35S, 36S, 37S, 38S, 39S, 41S, 42S, 43S, 44S, 44SA, 45S, 46S
69.484	Other	1S, 4S, 5S, 7S, 8S, 9S, 10S, 11S, 13S, 14S, 15S, 16S, 16SA, 17S, 18S, 19S, 20S, 21S, 23S, 24S, 25S, 26S, 28S, 29S, 30S, 31S, 32S, 33S, 34S, 35S, 36S, 37S, 39S, 41S, 43S, 44S, 44SA, 45S, 46S
3,369.717		**TOTAL AREA**

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Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.768	0.155	0.000	0.000	0.923	>75% Grass cover, Good	41S
0.280	6.711	11.320	80.384	0.000	98.696	Brush, Good	1S, 3S, 4S, 5S, 6S, 7S, 8S, 9S, 10S, 11S, 12S, 13S, 14S, 15S, 16S, 16SA, 17S, 18S, 19S, 20S, 21S, 22

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Ground Covers (selected nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	21.365	21.365	Gravel	13 S, 14 S, 15 S, 16 S, 16 SA, 17 S, 18 S, 19 S, 20 S, 21 S, 25 S, 26 S, 28 S, 29 S, 31 S, 33 S, 34 S, 35 S, 39 S, 41 S, 43 S, 44 S, 44

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Ground Covers (selected nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	0.222	0.222	Gravel Access Roads	1S
4.940	0.000	0.000	4.321	0.000	9.261	Gravel surface	23S, 27S, 32S, 36S, 37S, 42S
0.000	0.000	0.000	0.000	28.497	28.497	Impervious	4S, 5S, 7S, 8S, 9S, 10S, 11S, 13S, 14S, 15S, 16S, 16SA, 17S, 18S, 19S, 20S,

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Ground Covers (selected nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	7.420	7.420	Impervious Gravel	4S, 5S, 7S, 8S, 9S, 10S, 11S
0.000	0.000	0.000	0.000	2.901	2.901	Impervious Pavement	1S, 26S, 29S, 39S
0.000	0.000	0.000	0.000	1.933	1.933	Impervious Surface	28S, 30S, 31S, 32S
10.951	390.754	305.204	1,802.088	0.000	2,508.995	Meadow, non-grazed	1S, 3S, 4S, 5S, 6S, 7S, 8S, 9S,

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Ground Covers (selected nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
1.382	0.000	0.000	0.000	0.000	1.382	Paved roads w/curbs & sewers	22S, 27S
0.234	0.000	0.000	0.000	0.000	0.234	Unconnected roofs	12S
0.000	0.000	0.000	0.000	7.146	7.146	Water	17S, 19S, 20S, 23S, 25S, 26S, 28S, 35S, 37S, 44S, 44SA, 45S
0.553	0.000	0.000	0.000	0.000	0.553	Water Surface	18S, 42S
2.921	109.654	83.951	483.664	0.000	680.190	Woods, Good	1S, 3S, 4S, 5S, 6S, 7S,

Ground Covers (selected nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
21.261	**507.887**	**400.630**	**2,370.457**	**69.484**	**3,369.717**	**TOTAL AREA**	

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Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	4S	0.00	0.00	40.0	0.0050	0.025	0.0	24.0	0.0
2	4S	0.00	0.00	18.0	0.0560	0.025	0.0	24.0	0.0
3	4S	0.00	0.00	36.0	0.0140	0.025	0.0	24.0	0.0
4	4S	0.00	0.00	40.0	0.0750	0.025	0.0	24.0	0.0
5	4S	0.00	0.00	40.0	0.0250	0.025	0.0	12.0	0.0
6	4S	0.00	0.00	40.0	0.0250	0.025	0.0	30.0	0.0

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Runoff Area=3,020,873 sf 2.32% Impervious Runoff Depth=0.15"
Flow Length=3,272' Tc=52.0 min CN=65 Runoff=2.37 cfs 0.844 af

Subcatchment 3S: Runoff Area=324,754 sf 0.00% Impervious Runoff Depth=0.13"
Flow Length=836' Tc=23.1 min CN=64 Runoff=0.27 cfs 0.080 af

Subcatchment 4S: Runoff Area=16,260,538 sf 1.80% Impervious Runoff Depth=0.26"
Flow Length=7,788' Tc=76.3 min CN=70 Runoff=26.54 cfs 7.959 af

Subcatchment 5S: Runoff Area=1,679,234 sf 4.96% Impervious Runoff Depth=0.34"
Tc=34.3 min CN=73 Runoff=7.29 cfs 1.087 af

Subcatchment 6S: Runoff Area=598,623 sf 0.00% Impervious Runoff Depth=0.31"
Flow Length=1,150' Tc=39.7 min CN=72 Runoff=2.03 cfs 0.354 af

Subcatchment 7S: Runoff Area=10,734,763 sf 0.12% Impervious Runoff Depth=0.26"
Flow Length=6,505' Tc=76.1 min CN=70 Runoff=17.50 cfs 5.254 af

Subcatchment 8S: Runoff Area=1,124,521 sf 2.06% Impervious Runoff Depth=0.28"
Flow Length=2,618' Tc=29.5 min CN=71 Runoff=4.04 cfs 0.606 af

Subcatchment 9S: Runoff Area=698,860 sf 9.80% Impervious Runoff Depth=0.43"
Flow Length=1,212' Tc=81.2 min CN=76 Runoff=2.35 cfs 0.581 af

Subcatchment 10S: Runoff Area=1,561,270 sf 0.03% Impervious Runoff Depth=0.43"
Flow Length=2,211' Tc=88.4 min CN=76 Runoff=4.95 cfs 1.298 af

Subcatchment 11S: Runoff Area=521,344 sf 3.42% Impervious Runoff Depth=0.55"
Flow Length=1,039' Tc=43.1 min CN=79 Runoff=3.85 cfs 0.545 af

Subcatchment 12S: Runoff Area=1,437,516 sf 0.71% Impervious Runoff Depth=0.51"
Flow Length=2,388' Tc=104.6 min CN=78 Runoff=4.99 cfs 1.394 af

Subcatchment 13S: Tc Increase Runoff Area=2,395,812 sf 0.01% Impervious Runoff Depth=0.37"
Tc=84.2 min CN=74 Runoff=6.23 cfs 1.690 af

Subcatchment 14S: Tc Increase Runoff Area=516,650 sf 1.80% Impervious Runoff Depth=0.43"
Tc=36.6 min CN=76 Runoff=3.12 cfs 0.429 af

Subcatchment 15S: Runoff Area=329,223 sf 1.70% Impervious Runoff Depth=0.17"
Flow Length=707' Tc=30.6 min CN=66 Runoff=0.43 cfs 0.104 af

Subcatchment 16S: Runoff Area=1,134,608 sf 1.18% Impervious Runoff Depth=0.51"
Flow Length=1,611' Tc=58.8 min CN=78 Runoff=6.02 cfs 1.100 af

Subcatchment 16SA: Runoff Area=657,258 sf 1.69% Impervious Runoff Depth=0.43"
Tc=39.9 min CN=76 Runoff=3.73 cfs 0.546 af

Subcatchment 17S: Tc Increase Runoff Area=6,847,927 sf 0.62% Impervious Runoff Depth=0.47"
Tc=94.5 min CN=77 Runoff=22.97 cfs 6.155 af

Subcatchment 18S: Runoff Area=4,001,602 sf 0.46% Impervious Runoff Depth=0.47"
Flow Length=3,889' Tc=66.4 min CN=77 Runoff=17.46 cfs 3.597 af

Subcatchment 19S: Runoff Area=5,028,770 sf 1.45% Impervious Runoff Depth=0.43"
Flow Length=4,703' Tc=80.9 min CN=76 Runoff=17.12 cfs 4.179 af

Subcatchment 20S: Runoff Area=2,479,797 sf 2.55% Impervious Runoff Depth=0.37"
Tc=108.6 min CN=74 Runoff=5.44 cfs 1.749 af

Subcatchment 21S: Runoff Area=332,609 sf 6.35% Impervious Runoff Depth=0.23"
Flow Length=921' Tc=31.9 min CN=69 Runoff=0.80 cfs 0.147 af

Subcatchment 22S: Runoff Area=785,644 sf 0.82% Impervious Runoff Depth=0.23"
Flow Length=1,439' Tc=53.3 min CN=69 Runoff=1.36 cfs 0.348 af

Subcatchment 23S: Runoff Area=17,302,399 sf 0.48% Impervious Runoff Depth=0.43"
Flow Length=9,131' Tc=88.7 min CN=76 Runoff=55.11 cfs 14.379 af

Subcatchment 24S: Runoff Area=260,905 sf 6.58% Impervious Runoff Depth=0.55"
Flow Length=1,200' Tc=31.2 min CN=79 Runoff=2.43 cfs 0.273 af

Subcatchment 25S: Runoff Area=10,643,407 sf 0.30% Impervious Runoff Depth=0.40"
Flow Length=7,278' Tc=71.0 min CN=75 Runoff=35.47 cfs 8.159 af

Subcatchment 26S: Runoff Area=823,994 sf 2.72% Impervious Runoff Depth=0.51"
Flow Length=1,347' Tc=43.1 min CN=78 Runoff=5.50 cfs 0.799 af

Subcatchment 27S: Tc Decreased Runoff Area=1,317,635 sf 4.08% Impervious Runoff Depth=0.28"
Flow Length=3,106' Tc=46.3 min CN=71 Runoff=3.47 cfs 0.710 af

Subcatchment 28S: Runoff Area=2,868,130 sf 1.48% Impervious Runoff Depth=0.34"
Flow Length=2,822' Tc=32.9 min CN=73 Runoff=12.82 cfs 1.856 af

Subcatchment 29S: Runoff Area=776,122 sf 2.71% Impervious Runoff Depth=0.37"
Flow Length=1,737' Tc=24.4 min CN=74 Runoff=4.92 cfs 0.547 af

Subcatchment 30S: Runoff Area=618,450 sf 1.49% Impervious Runoff Depth=0.31"
Flow Length=1,427' Tc=38.4 min CN=72 Runoff=2.15 cfs 0.366 af

Subcatchment 31S: Runoff Area=2,981,588 sf 0.45% Impervious Runoff Depth=0.37"
Flow Length=1,885' Tc=60.7 min CN=74 Runoff=9.88 cfs 2.103 af

Subcatchment 32S: Tc Increased Runoff Area=4,274,758 sf 0.81% Impervious Runoff Depth=0.13"
Tc=75.2 min CN=64 Runoff=2.23 cfs 1.047 af

Subcatchment 33S: Tc Decreased Runoff Area=4,477,391 sf 0.02% Impervious Runoff Depth=0.21"
Flow Length=2,390' Tc=58.5 min CN=68 Runoff=6.13 cfs 1.782 af

Subcatchment 34S: Runoff Area=1,658,827 sf 0.06% Impervious Runoff Depth=0.28"
Flow Length=1,443' Tc=42.0 min CN=71 Runoff=4.66 cfs 0.894 af

Subcatchment 35S: Tc Increased Runoff Area=2,634,778 sf 10.72% Impervious Runoff Depth=0.43"
Tc=26.1 min CN=76 Runoff=20.26 cfs 2.190 af

Subcatchment 36S: Runoff Area=6,697,461 sf 0.98% Impervious Runoff Depth=0.47"
Tc=38.4 min CN=77 Runoff=43.74 cfs 6.020 af

Subcatchment 37S: Tc Decreased Runoff Area=3,957,824 sf 1.35% Impervious Runoff Depth=0.47"
Tc=39.5 min CN=77 Runoff=25.32 cfs 3.557 af

Subcatchment 38S: Runoff Area=734,553 sf 0.00% Impervious Runoff Depth=0.47"
Tc=38.1 min CN=77 Runoff=4.83 cfs 0.660 af

Subcatchment 39S: Runoff Area=2,495,437 sf 0.69% Impervious Runoff Depth=0.34"
Tc=54.4 min CN=73 Runoff=7.84 cfs 1.615 af

Subcatchment 41S: Tc Decreased Runoff Area=1,003,158 sf 1.68% Impervious Runoff Depth=0.31"
Tc=46.3 min CN=72 Runoff=3.06 cfs 0.594 af

Subcatchment 42S: Tc Decreased Runoff Area=7,512,433 sf 0.28% Impervious Runoff Depth=0.47"
Tc=90.9 min CN=77 Runoff=25.84 cfs 6.752 af

Subcatchment 43S: Runoff Area=2,645,848 sf 0.11% Impervious Runoff Depth=0.47"
Tc=48.7 min CN=77 Runoff=14.50 cfs 2.378 af

Subcatchment 44S: Runoff Area=5,126,184 sf 2.66% Impervious Runoff Depth=0.51"
Tc=97.1 min CN=78 Runoff=18.78 cfs 4.972 af

Subcatchment 44SA: Runoff Area=785,481 sf 3.78% Impervious Runoff Depth=0.51"
Tc=25.5 min CN=78 Runoff=7.63 cfs 0.762 af

Subcatchment 45S: Tc Increased Runoff Area=581,958 sf 9.77% Impervious Runoff Depth=0.59"
Tc=29.1 min CN=80 Runoff=6.26 cfs 0.654 af

Subcatchment 46S: Runoff Area=2,133,969 sf 0.00% Impervious Runoff Depth=0.40"
Tc=53.8 min CN=75 Runoff=8.67 cfs 1.636 af

Reach SP20: Inflow=5.43 cfs 1.724 af
Outflow=5.43 cfs 1.724 af

Pond 20P: Plunge Pool Peak Elev=703.12' Storage=1,186 cf Inflow=5.44 cfs 1.749 af
Outflow=5.43 cfs 1.724 af

Total Runoff Area = 3,369.717 ac Runoff Volume = 104.750 af Average Runoff Depth = 0.37"
98.73% Pervious = 3,327.070 ac 1.27% Impervious = 42.647 ac

Summary for Subcatchment 1S:

Runoff = 2.37 cfs @ 12.82 hrs, Volume= 0.844 af, Depth= 0.15"
Routed to Reach SP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	94,532	77	Woods, Good, HSG D
	177,755	55	Woods, Good, HSG B
	8,365	48	Brush, Good, HSG B
	9,216	73	Brush, Good, HSG D
*	70,022	98	Impervious Pavement
	1,850,413	58	Meadow, non-grazed, HSG B
	800,918	78	Meadow, non-grazed, HSG D
*	9,652	96	Gravel Access Roads
	3,020,873	65	Weighted Average
	2,950,851		97.68% Pervious Area
	70,022		2.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.7	100	0.0060	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
15.8	784	0.0140	0.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.5	2,388		4.20		**Direct Entry, Small Tributary & Swamp w/ Channels**
52.0	3,272	Total			

Summary for Subcatchment 3S:

Runoff = 0.27 cfs @ 12.33 hrs, Volume= 0.080 af, Depth= 0.13"
Routed to Reach SP3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

Area (sf)	CN	Description
1,021	55	Woods, Good, HSG B
223,756	58	Meadow, non-grazed, HSG B
1,749	73	Brush, Good, HSG D
970	77	Woods, Good, HSG D
97,258	78	Meadow, non-grazed, HSG D
0	48	Brush, Good, HSG B
324,754	64	Weighted Average
324,754		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
2.6	241	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.1	445	0.0170	0.91		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	50	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.1	836	Total			

Summary for Subcatchment 4S:

[47] Hint: Peak is 319% of capacity of segment #4
[47] Hint: Peak is 191% of capacity of segment #9
[47] Hint: Peak is 906% of capacity of segment #13

Runoff = 26.54 cfs @ 13.06 hrs, Volume= 7.959 af, Depth= 0.26"
Routed to Reach SP4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
*	5,055,245	58	Meadow, non-grazed, HSG B
*	37,498	48	Brush, Good, HSG B
*	1,235,064	55	Woods, Good, HSG B
*	605,955	71	Meadow, non-grazed, HSG C
*	0	65	Brush, Good, HSG C
*	42,916	70	Woods, Good, HSG C
*	7,600,605	78	Meadow, non-grazed, HSG D
*	66,844	73	Brush, Good, HSG D
*	1,163,308	77	Woods, Good, HSG D
*	292,513	98	Impervious
*	160,590	96	Impervious Gravel
	16,260,538	70	Weighted Average
	15,968,025		98.20% Pervious Area
	292,513		1.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.7	100	0.0060	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
5.4	277	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.6	778	0.0240	2.32		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.3	40	0.0050	2.65	8.32	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
2.1	741		5.90		**Direct Entry, Small Tributary & Swamp w/ Channels**
1.8	401		3.76		**Direct Entry, Small Tributary & Swamp w/Channels**
0.0	18	0.0560	8.86	27.84	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
2.3	605		4.30		**Direct Entry, Small Tributary & Swamp w/ Channels**
0.1	36	0.0140	4.43	13.92	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
2.3	627		4.46		**Direct Entry, Small Tributary & Swamp w/ Channels**
0.1	40	0.0750	10.25	32.22	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
2.1	527		4.20		**Direct Entry, Small Tributary & Swamp w/ Channels**
0.2	40	0.0250	3.73	2.93	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.025 Corrugated metal
4.0	593		2.47		**Direct Entry, Roadside Ditch**
0.1	40	0.0250	6.87	33.72	**Pipe Channel,** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.025 Corrugated metal
23.2	2,925		2.10		**Direct Entry, Small Tributary & Swamp w/ Channels**
76.3	7,788	Total			

Summary for Subcatchment 5S:

Runoff = 7.29 cfs @ 12.38 hrs, Volume= 1.087 af, Depth= 0.34"
Routed to Reach SP4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	52,679	58	Meadow, non-grazed, HSG B
	3,284	48	Brush, Good, HSG B
	55,693	55	Woods, Good, HSG B
	840,293	71	Meadow, non-grazed, HSG C
	86,000	65	Brush, Good, HSG C
	106,467	70	Woods, Good, HSG C
	384,691	78	Meadow, non-grazed, HSG D
	6,417	73	Brush, Good, HSG D
	517	77	Woods, Good, HSG D
*	83,276	98	Impervious
*	59,917	96	Impervious Gravel
	1,679,234	73	Weighted Average
	1,595,958		95.04% Pervious Area
	83,276		4.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
34.3					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 6S:

Runoff = 2.03 cfs @ 12.47 hrs, Volume= 0.354 af, Depth= 0.31"
Routed to Reach SP6 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

Area (sf)	CN	Description
450,041	71	Meadow, non-grazed, HSG C
31,090	65	Brush, Good, HSG C
23,988	70	Woods, Good, HSG C
76,643	78	Meadow, non-grazed, HSG D
11,524	73	Brush, Good, HSG D
5,337	77	Woods, Good, HSG D
598,623	72	Weighted Average
598,623		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7	100	0.0050	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
4.3	256	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.5	341	0.1030	2.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	316	0.1870	2.16		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.8	137		1.26		**Direct Entry, Grassed Waterway**
39.7	1,150	Total			

Summary for Subcatchment 7S:

Runoff = 17.50 cfs @ 13.07 hrs, Volume= 5.254 af, Depth= 0.26"
Routed to Reach SP7 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	2,818,354	58	Meadow, non-grazed, HSG B
	23,489	48	Brush, Good, HSG B
	609,636	55	Woods, Good, HSG B
	2,235,076	71	Meadow, non-grazed, HSG C
	2,183	65	Brush, Good, HSG C
	140,335	70	Woods, Good, HSG C
	2,961,060	78	Meadow, non-grazed, HSG D
	59,423	73	Brush, Good, HSG D
	1,804,999	77	Woods, Good, HSG D
*	13,334	98	Impervious
*	66,874	96	Impervious Gravel
	10,734,763	70	Weighted Average
	10,721,429		99.88% Pervious Area
	13,334		0.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0190	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
5.4	449	0.0390	1.38		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.2	512	0.0220	1.04		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.3	945	0.0240	0.77		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.6	192	0.0310	0.88		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.9	3,312		3.70		**Direct Entry, Small Tributary & Swamp w/ Channels**
4.1	284	0.0530	1.15		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.8	711		4.30		**Direct Entry, Small Tributary & Swamp w/ Channels**
76.1	6,505	Total			

Summary for Subcatchment 8S:

Runoff = 4.04 cfs @ 12.32 hrs, Volume= 0.606 af, Depth= 0.28"
Routed to Reach SP8 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	388,863	58	Meadow, non-grazed, HSG B
	12,787	48	Brush, Good, HSG B
	25,785	55	Woods, Good, HSG B
	12,891	71	Meadow, non-grazed, HSG C
	617,944	78	Meadow, non-grazed, HSG D
	0	73	Brush, Good, HSG D
	24,932	77	Woods, Good, HSG D
*	23,130	98	Impervious
*	18,189	96	Impervious Gravel
	1,124,521	71	Weighted Average
	1,101,391		97.94% Pervious Area
	23,130		2.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.2	100	0.0420	0.14		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
6.0	364	0.0210	1.01		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.3	1,017		2.68		**Direct Entry, Roadside Ditch**
5.0	1,137		3.82		**Direct Entry, Roadside Ditch**
29.5	2,618	Total			

Summary for Subcatchment 9S:

Runoff = 2.35 cfs @ 13.04 hrs, Volume= 0.581 af, Depth= 0.43"
Routed to Reach SP9 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	110,684	58	Meadow, non-grazed, HSG B
	7,321	48	Brush, Good, HSG B
	2,058	55	Woods, Good, HSG B
	477,069	78	Meadow, non-grazed, HSG D
	30,437	73	Brush, Good, HSG D
	0	77	Woods, Good, HSG D
*	68,468	98	Impervious
*	2,823	96	Impervious Gravel
	698,860	76	Weighted Average
	630,392		90.20% Pervious Area
	68,468		9.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
54.6	100	0.0010	0.03		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
18.0	540	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.6	572		1.11		**Direct Entry, Large Tributary**
81.2	1,212	Total			

Summary for Subcatchment 10S:

Runoff = 4.95 cfs @ 13.11 hrs, Volume= 1.298 af, Depth= 0.43"
Routed to Reach SP10 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	29,043	55	Woods, Good, HSG B
	1,789	48	Brush, Good, HSG B
	101,568	58	Meadow, non-grazed, HSG B
	11,050	73	Brush, Good, HSG D
	2,326	77	Woods, Good, HSG D
	1,408,691	78	Meadow, non-grazed, HSG D
*	6,323	96	Impervious Gravel
*	480	98	Impervious
	1,561,270	76	Weighted Average
	1,560,790		99.97% Pervious Area
	480		0.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
54.6	100	0.0010	0.03		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
16.9	388	0.0030	0.38		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	33	0.0610	1.23		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.6	165	0.0120	0.77		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.2	310		1.63		**Direct Entry, Small Tributary & Swamp w/ Channels**
8.2	920		1.88		**Direct Entry, Small Tributary & Swamp w/ Channels**
1.5	295		3.39		**Direct Entry, Small Tributary & Swamp w/ Channels**
88.4	2,211	Total			

Summary for Subcatchment 11S:

Runoff = 3.85 cfs @ 12.46 hrs, Volume= 0.545 af, Depth= 0.55"
Routed to Reach SP11 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	493,130	78	Meadow, non-grazed, HSG D
	1,884	73	Brush, Good, HSG D
*	17,843	98	Impervious
*	8,487	96	Impervious Gravel
	521,344	79	Weighted Average
	503,501		96.58% Pervious Area
	17,843		3.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.2	100	0.0120	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
11.8	521	0.0110	0.73		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.1	418	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
43.1	1,039	Total			

Summary for Subcatchment 12S:

Runoff = 4.99 cfs @ 13.36 hrs, Volume= 1.394 af, Depth= 0.51"
Routed to Reach SP12 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

Area (sf)	CN	Description
10,201	98	Unconnected roofs, HSG A
8,610	58	Meadow, non-grazed, HSG B
1,312,538	78	Meadow, non-grazed, HSG D
5,822	73	Brush, Good, HSG D
100,345	77	Woods, Good, HSG D
1,437,516	78	Weighted Average
1,427,315		99.29% Pervious Area
10,201		0.71% Impervious Area
10,201		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.7	100	0.0470	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.40"
25.9	601	0.0060	0.39		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
48.0	1,687	0.0070	0.59		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
104.6	2,388	Total			

Summary for Subcatchment 13S: Tc Increase

Runoff = 6.23 cfs @ 13.09 hrs, Volume= 1.690 af, Depth= 0.37"
Routed to Reach SP13 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	279,424	58	Meadow, non-grazed, HSG B
	1,560,883	78	Meadow, non-grazed, HSG D
	0	48	Brush, Good, HSG B
	77,098	73	Brush, Good, HSG D
	137,874	55	Woods, Good, HSG B
	323,619	77	Woods, Good, HSG D
*	219	98	Impervious
*	16,695	96	Gravel
	2,395,812	74	Weighted Average
	2,395,593		99.99% Pervious Area
	219		0.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
84.2					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 14S: Tc Increase

Runoff = 3.12 cfs @ 12.39 hrs, Volume= 0.429 af, Depth= 0.43"
Routed to Reach SP14 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
*	9,279	98	Impervious
	70,836	58	Meadow, non-grazed, HSG B
	422,033	78	Meadow, non-grazed, HSG D
	739	48	Brush, Good, HSG B
	189	73	Brush, Good, HSG D
*	13,574	96	Gravel
	516,650	76	Weighted Average
	507,371		98.20% Pervious Area
	9,279		1.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.6					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 15S:

Runoff = 0.43 cfs @ 12.41 hrs, Volume= 0.104 af, Depth= 0.17"
Routed to Reach SP15 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
*	5,583	98	Impervious
	182,614	58	Meadow, non-grazed, HSG B
	124,093	78	Meadow, non-grazed, HSG D
	4,836	48	Brush, Good, HSG B
	2,091	73	Brush, Good, HSG D
	5,021	55	Woods, Good, HSG B
	4,077	77	Woods, Good, HSG D
*	908	96	Gravel
	329,223	66	Weighted Average
	323,640		98.30% Pervious Area
	5,583		1.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.9	100	0.0220	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
6.4	387	0.0210	1.01		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.3	220	0.0040	0.44		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
30.6	707	Total			

Summary for Subcatchment 16S:

Runoff = 6.02 cfs @ 12.69 hrs, Volume= 1.100 af, Depth= 0.51"
Routed to Reach SP16 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
*	13,357	98	Impervious
*	38,791	96	Gravel
	22,931	71	Meadow, non-grazed, HSG C
	906,909	78	Meadow, non-grazed, HSG D
	0	65	Brush, Good, HSG C
	22,358	73	Brush, Good, HSG D
	863	70	Woods, Good, HSG C
	129,399	77	Woods, Good, HSG D
	1,134,608	78	Weighted Average
	1,121,251		98.82% Pervious Area
	13,357		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.0	100	0.0170	0.06		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 2.40"
3.8	142	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
26.0	1,035	0.0090	0.66		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.0	334		2.74		**Direct Entry, Small Tributary & Swamp w/ Channels**
58.8	1,611	Total			

Summary for Subcatchment 16SA:

Runoff = 3.73 cfs @ 12.43 hrs, Volume= 0.546 af, Depth= 0.43"
Routed to Reach SP16 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
*	11,093	98	Impervious
*	7,200	96	Gravel
	70,093	58	Meadow, non-grazed, HSG B
	352,729	78	Meadow, non-grazed, HSG D
	259	48	Brush, Good, HSG B
	14,806	73	Brush, Good, HSG D
	0	70	Woods, Good, HSG C
	201,078	77	Woods, Good, HSG D
	657,258	76	Weighted Average
	646,165		98.31% Pervious Area
	11,093		1.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
39.9					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 17S: Tc Increase

Runoff = 22.97 cfs @ 13.17 hrs, Volume= 6.155 af, Depth= 0.47"
Routed to Reach SP17 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	250,002	71	Meadow, non-grazed, HSG C
	4,840,683	78	Meadow, non-grazed, HSG D
	15,222	65	Brush, Good, HSG C
	303,983	73	Brush, Good, HSG D
	105,112	70	Woods, Good, HSG C
	1,226,602	77	Woods, Good, HSG D
*	19,863	98	Impervious
*	22,826	98	Water
*	63,634	96	Gravel
	6,847,927	77	Weighted Average
	6,805,238		99.38% Pervious Area
	42,689		0.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
94.5					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 18S:

Runoff = 17.46 cfs @ 12.79 hrs, Volume= 3.597 af, Depth= 0.47"
Routed to Reach SP18 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	3,354	98	Water Surface, HSG A
*	15,090	98	Impervious
	5,936	58	Meadow, non-grazed, HSG B
	29,943	71	Meadow, non-grazed, HSG C
	2,418,932	78	Meadow, non-grazed, HSG D
	156,565	73	Brush, Good, HSG D
	23,440	55	Woods, Good, HSG B
	321,869	70	Woods, Good, HSG C
	978,658	77	Woods, Good, HSG D
	0	48	Brush, Good, HSG B
*	47,815	96	Gravel
	4,001,602	77	Weighted Average
	3,983,158		99.54% Pervious Area
	18,444		0.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.8	100	0.0150	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
6.8	205	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.6	2,144	0.0920	1.52		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	1,440		2.92		**Direct Entry, Ditch**
66.4	3,889	Total			

Summary for Subcatchment 19S:

Runoff = 17.12 cfs @ 13.04 hrs, Volume= 4.179 af, Depth= 0.43"
Routed to Reach SP19 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
*	28,979	98	Impervious
*	21,540	96	Gravel
*	44,123	98	Water
	84,343	58	Meadow, non-grazed, HSG B
	89,334	71	Meadow, non-grazed, HSG C
	2,665,044	78	Meadow, non-grazed, HSG D
	10,082	48	Brush, Good, HSG B
	47,175	73	Brush, Good, HSG D
	16,971	55	Woods, Good, HSG B
	681,805	70	Woods, Good, HSG C
	1,339,374	77	Woods, Good, HSG D
	5,028,770	76	Weighted Average
	4,955,668		98.55% Pervious Area
	73,102		1.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.7	100	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
21.4	1,915	0.0890	1.49		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.3	706	0.0720	1.88		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.7	109	0.0050	0.49		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.9	244	0.0410	1.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.2	706		1.63		**Direct Entry, Small Tributary & Swamp w/ Channels**
6.7	923		2.30		**Direct Entry, Small Tributary & Swamps w/ Channels**
80.9	4,703	Total			

Summary for Subcatchment 20S:

Runoff = 5.44 cfs @ 13.46 hrs, Volume= 1.749 af, Depth= 0.37"
Routed to Pond 20P : Plunge Pool

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
*	21,402	98	Water
*	41,934	98	Impervious
*	22,850	96	Gravel
	97,547	30	Meadow, non-grazed, HSG A
	56,401	58	Meadow, non-grazed, HSG B
	129,691	71	Meadow, non-grazed, HSG C
	1,647,144	78	Meadow, non-grazed, HSG D
	60,097	73	Brush, Good, HSG D
	131,709	55	Woods, Good, HSG B
	6,015	70	Woods, Good, HSG C
	265,007	77	Woods, Good, HSG D
	0	30	Brush, Good, HSG A
	0	48	Brush, Good, HSG B
	0	65	Brush, Good, HSG C
	2,479,797	74	Weighted Average
	2,416,461		97.45% Pervious Area
	63,336		2.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
108.6					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 21S:

Runoff = 0.80 cfs @ 12.38 hrs, Volume= 0.147 af, Depth= 0.23"
Routed to Reach SP21 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	29,188	30	Meadow, non-grazed, HSG A
	257,297	71	Meadow, non-grazed, HSG C
	12,465	78	Meadow, non-grazed, HSG D
	683	30	Brush, Good, HSG A
	5,947	65	Brush, Good, HSG C
	1,326	30	Woods, Good, HSG A
*	21,108	98	Impervious
*	4,595	96	Gravel
	332,609	69	Weighted Average
	311,501		93.65% Pervious Area
	21,108		6.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0410	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
19.5	821	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
31.9	921	Total			

Summary for Subcatchment 22S:

Runoff = 1.36 cfs @ 12.73 hrs, Volume= 0.348 af, Depth= 0.23"
Routed to Reach SP39 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

Area (sf)	CN	Description
87,751	30	Meadow, non-grazed, HSG A
420,889	71	Meadow, non-grazed, HSG C
132,262	78	Meadow, non-grazed, HSG D
814	65	Brush, Good, HSG C
7,253	73	Brush, Good, HSG D
376	30	Woods, Good, HSG A
3,389	70	Woods, Good, HSG C
126,479	77	Woods, Good, HSG D
6,431	98	Paved roads w/curbs & sewers, HSG A
785,644	69	Weighted Average
779,213		99.18% Pervious Area
6,431		0.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7	100	0.0050	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
22.4	1,072	0.0130	0.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	83	0.1330	1.82		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	184		2.20		**Direct Entry, Small Tributary & Swamp w/ Channels**
53.3	1,439	Total			

Summary for Subcatchment 23S:

Runoff = 55.11 cfs @ 13.12 hrs, Volume= 14.379 af, Depth= 0.43"
Routed to Reach SP23 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	33,362	30	Meadow, non-grazed, HSG A
	494,394	71	Meadow, non-grazed, HSG C
	7,481,745	78	Meadow, non-grazed, HSG D
	299,742	65	Brush, Good, HSG C
	1,781,898	73	Brush, Good, HSG D
	1,493,479	70	Woods, Good, HSG C
	5,556,751	77	Woods, Good, HSG D
*	68,445	98	Impervious
	78,077	96	Gravel surface, HSG D
*	14,506	98	Water
	17,302,399	76	Weighted Average
	17,219,448		99.52% Pervious Area
	82,951		0.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.4	100	0.0420	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
22.2	1,941	0.0850	1.46		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.2	806	0.0580	1.20		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.6	1,740		2.49		**Direct Entry, Small Tributary & Swamp w/ Channels**
4.2	1,229		4.93		**Direct Entry, Small Tributary & Swamp w/ Channels**
9.5	1,895		3.32		**Direct Entry, Small Tributary & Swamp w/ Channels**
3.8	650		2.82		**Direct Entry, Small Tributary & Swamp w/ Channels**
7.8	770		1.64		**Direct Entry, Roadside Ditch**
88.7	9,131	Total			

Summary for Subcatchment 24S:

Runoff = 2.43 cfs @ 12.29 hrs, Volume= 0.273 af, Depth= 0.55"
Routed to Reach SP24 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	226,793	78	Meadow, non-grazed, HSG D
	7,721	73	Brush, Good, HSG D
	9,216	77	Woods, Good, HSG D
*	17,175	98	Impervious
	260,905	79	Weighted Average
	243,730		93.42% Pervious Area
	17,175		6.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	100	0.0250	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
14.0	830	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.1	270		2.17		**Direct Entry, Small Tributary & Swamp w/ Channels**
31.2	1,200	Total			

Summary for Subcatchment 25S:

Runoff = 35.47 cfs @ 12.88 hrs, Volume= 8.159 af, Depth= 0.40"
Routed to Reach SP25 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	862,128	58	Meadow, non-grazed, HSG B
	932,684	71	Meadow, non-grazed, HSG C
	5,546,681	78	Meadow, non-grazed, HSG D
	0	48	Brush, Good, HSG B
	0	65	Brush, Good, HSG C
	119,208	73	Brush, Good, HSG D
	153,918	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	2,861,400	77	Woods, Good, HSG D
*	24,324	98	Impervious
*	135,269	96	Gravel
*	7,795	98	Water
	10,643,407	75	Weighted Average
	10,611,288		99.70% Pervious Area
	32,119		0.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0190	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
18.9	1,281	0.0510	1.13		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.8	640	0.0300	1.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.1	4,093		3.98		**Direct Entry, Small Tributary & Swamp w/ Channels**
4.6	482		1.76		**Direct Entry, Small Tributary & Swamp w/ Channels**
4.8	682		2.39		**Direct Entry, Small Tributary & Swamp w/ Channels**
71.0	7,278	Total			

Summary for Subcatchment 26S:

Runoff = 5.50 cfs @ 12.46 hrs, Volume= 0.799 af, Depth= 0.51"
Routed to Reach SP26 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	64,296	77	Woods, Good, HSG D
*	4,254	98	Water
	49,680	71	Meadow, non-grazed, HSG C
*	18,136	98	Impervious Pavement
	675,322	78	Meadow, non-grazed, HSG D
	0	65	Brush, Good, HSG C
	0	73	Brush, Good, HSG D
*	12,306	96	Gravel
	823,994	78	Weighted Average
	801,604		97.28% Pervious Area
	22,390		2.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.5	100	0.0150	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
5.4	527		1.64		**Direct Entry, Ditch**
19.2	720	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
43.1	1,347	Total			

Summary for Subcatchment 27S: Tc Decreased

Runoff = 3.47 cfs @ 12.58 hrs, Volume= 0.710 af, Depth= 0.28"
Routed to Reach SP27 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

Area (sf)	CN	Description
102,401	30	Meadow, non-grazed, HSG A
72,705	58	Meadow, non-grazed, HSG B
352,955	71	Meadow, non-grazed, HSG C
599,484	78	Meadow, non-grazed, HSG D
12,548	48	Brush, Good, HSG B
136	65	Brush, Good, HSG C
30,962	73	Brush, Good, HSG D
1,761	30	Woods, Good, HSG A
10,015	55	Woods, Good, HSG B
44,190	70	Woods, Good, HSG C
27,054	77	Woods, Good, HSG D
53,768	98	Paved roads w/curbs & sewers, HSG A
9,656	96	Gravel surface, HSG A
0	30	Brush, Good, HSG A
1,317,635	71	Weighted Average
1,263,867		95.92% Pervious Area
53,768		4.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
0.1	20	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.2	952	0.0980	2.19		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.4	548	0.0820	1.43		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.0	152	0.0330	1.27		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.9	824	0.0230	1.06		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.3	510		1.34		**Direct Entry, Small Tributary & Swamp w/ Channels**
46.3	3,106	Total			

Summary for Subcatchment 28S:

Runoff = 12.82 cfs @ 12.35 hrs, Volume= 1.856 af, Depth= 0.34"
Routed to Reach SP28 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	101,277	58	Meadow, non-grazed, HSG B
	1,345,272	71	Meadow, non-grazed, HSG C
	1,105,675	78	Meadow, non-grazed, HSG D
	66,838	48	Brush, Good, HSG B
	158	65	Brush, Good, HSG C
	107,034	73	Brush, Good, HSG D
	36,439	55	Woods, Good, HSG B
	794	70	Woods, Good, HSG C
	10,011	77	Woods, Good, HSG D
*	26,701	98	Impervious Surface
*	15,860	98	Water
*	52,071	96	Gravel
	2,868,130	73	Weighted Average
	2,825,569		98.52% Pervious Area
	42,561		1.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	100	0.0130	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
2.3	163	0.0290	1.19		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.0	2,559		3.88		**Direct Entry, Roadside Ditch**
32.9	2,822	Total			

Summary for Subcatchment 29S:

Runoff = 4.92 cfs @ 12.22 hrs, Volume= 0.547 af, Depth= 0.37"
Routed to Reach SP29 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	247,600	71	Meadow, non-grazed, HSG C
	34,093	70	Woods, Good, HSG C
*	21,045	98	Impervious Pavement
*	5,127	96	Gravel
	11,168	55	Woods, Good, HSG B
	9,072	48	Brush, Good, HSG B
	56,526	58	Meadow, non-grazed, HSG B
	3,801	77	Woods, Good, HSG D
	386,950	78	Meadow, non-grazed, HSG D
	0	73	Brush, Good, HSG D
	740	65	Brush, Good, HSG C
	776,122	74	Weighted Average
	755,077		97.29% Pervious Area
	21,045		2.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	100	0.0650	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
0.5	63	0.0950	2.16		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	31	0.1290	1.80		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.1	612	0.0570	1.67		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	31	0.6100	3.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.1	900		2.12		**Direct Entry, Roadside Ditch**
24.4	1,737	Total			

Summary for Subcatchment 30S:

Runoff = 2.15 cfs @ 12.44 hrs, Volume= 0.366 af, Depth= 0.31"
Routed to Reach SP30 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	519,229	71	Meadow, non-grazed, HSG C
	80,992	78	Meadow, non-grazed, HSG D
	8,985	70	Woods, Good, HSG C
*	9,244	98	Impervious Surface
	0	65	Brush, Good, HSG C
	0	73	Brush, Good, HSG D
	618,450	72	Weighted Average
	609,206		98.51% Pervious Area
	9,244		1.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.7	100	0.0060	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
10.4	1,152	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.3	175		2.28		**Direct Entry, Roadside Ditch**
38.4	1,427	Total			

Summary for Subcatchment 31S:

Runoff = 9.88 cfs @ 12.76 hrs, Volume= 2.103 af, Depth= 0.37"
Routed to Reach SP31 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	71,984	58	Meadow, non-grazed, HSG B
	1,182,870	71	Meadow, non-grazed, HSG C
	1,399,315	78	Meadow, non-grazed, HSG D
	1,947	73	Brush, Good, HSG D
	79,506	55	Woods, Good, HSG B
	1,957	70	Woods, Good, HSG C
	195,809	77	Woods, Good, HSG D
*	13,479	98	Impervious Surface
*	34,721	96	Gravel
	0	48	Brush, Good, HSG B
	0	65	Brush, Good, HSG C
	2,981,588	74	Weighted Average
	2,968,109		99.55% Pervious Area
	13,479		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.2	100	0.0030	0.05		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
6.2	219	0.0070	0.59		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.4	252	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.7	592	0.0440	1.47		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.2	722		2.87		**Direct Entry, Small Tributary & Swamp w/ Channels**
60.7	1,885	Total			

Summary for Subcatchment 32S: Tc Increased

Runoff = 2.23 cfs @ 13.29 hrs, Volume= 1.047 af, Depth= 0.13"
Routed to Reach SP33 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	2,511,941	58	Meadow, non-grazed, HSG B
	718,775	71	Meadow, non-grazed, HSG C
	504,318	78	Meadow, non-grazed, HSG D
	869	48	Brush, Good, HSG B
	3,094	65	Brush, Good, HSG C
	3,715	73	Brush, Good, HSG D
	194,229	55	Woods, Good, HSG B
	36,472	70	Woods, Good, HSG C
	208,159	77	Woods, Good, HSG D
*	34,797	98	Impervious Surface
	58,389	96	Gravel surface, HSG A
	4,274,758	64	Weighted Average
	4,239,961		99.19% Pervious Area
	34,797		0.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
75.2					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 33S: Tc Decreased

Runoff = 6.13 cfs @ 12.83 hrs, Volume= 1.782 af, Depth= 0.21"
Routed to Reach SP33 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	1,673,064	58	Meadow, non-grazed, HSG B
	1,532,439	78	Meadow, non-grazed, HSG D
	30,000	48	Brush, Good, HSG B
	1,381	73	Brush, Good, HSG D
	365,248	55	Woods, Good, HSG B
	817,228	77	Woods, Good, HSG D
*	990	98	Impervious
*	57,041	96	Gravel
	4,477,391	68	Weighted Average
	4,476,401		99.98% Pervious Area
	990		0.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.1	100	0.0340	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
24.6	932	0.0160	0.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	808	0.0420	1.43		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	34	0.0850	4.69		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.2	315	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	60	0.3120	2.79		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	141		3.19		**Direct Entry, Small Tributary & Swamp w/ Channels**
58.5	2,390	Total			

Summary for Subcatchment 34S:

Runoff = 4.66 cfs @ 12.51 hrs, Volume= 0.894 af, Depth= 0.28"
Routed to Reach SP35 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	48,755	58	Meadow, non-grazed, HSG B
	901,892	78	Meadow, non-grazed, HSG D
	14,431	48	Brush, Good, HSG B
	122,984	73	Brush, Good, HSG D
	402,745	55	Woods, Good, HSG B
	142,417	77	Woods, Good, HSG D
*	924	98	Impervious
*	24,679	96	Gravel
	1,658,827	71	Weighted Average
	1,657,903		99.94% Pervious Area
	924		0.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5	100	0.0320	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
2.9	130	0.0220	0.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.3	1,058	0.0190	0.96		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	155		8.93		**Direct Entry,**
42.0	1,443	Total			

Summary for Subcatchment 35S: Tc Increased

Runoff = 20.26 cfs @ 12.24 hrs, Volume= 2.190 af, Depth= 0.43"
Routed to Reach SP35 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	32,311	58	Meadow, non-grazed, HSG B
	36,347	71	Meadow, non-grazed, HSG C
	1,435,818	78	Meadow, non-grazed, HSG D
	0	48	Brush, Good, HSG B
	26,860	73	Brush, Good, HSG D
	450,341	55	Woods, Good, HSG B
	79,608	70	Woods, Good, HSG C
	204,500	77	Woods, Good, HSG D
*	262,087	98	Impervious
*	86,419	96	Gravel
*	20,487	98	Water
	2,634,778	76	Weighted Average
	2,352,204		89.28% Pervious Area
	282,574		10.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 36S:

Runoff = 43.74 cfs @ 12.40 hrs, Volume= 6.020 af, Depth= 0.47"
Routed to Reach SP36 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	52,184	58	Meadow, non-grazed, HSG B
	695	71	Meadow, non-grazed, HSG C
	5,084,227	78	Meadow, non-grazed, HSG D
	1,145	48	Brush, Good, HSG B
	16,580	73	Brush, Good, HSG D
	260,974	55	Woods, Good, HSG B
	346,117	70	Woods, Good, HSG C
	759,795	77	Woods, Good, HSG D
*	65,616	98	Impervious
	110,128	96	Gravel surface, HSG D
	6,697,461	77	Weighted Average
	6,631,845		99.02% Pervious Area
	65,616		0.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.4					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 37S: Tc Decreased

Runoff = 25.32 cfs @ 12.42 hrs, Volume= 3.557 af, Depth= 0.47"
Routed to Reach SP37 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
*	45,998	98	Impervious
	43,580	96	Gravel surface, HSG A
	38,279	58	Meadow, non-grazed, HSG B
	3,240,699	78	Meadow, non-grazed, HSG D
	805	48	Brush, Good, HSG B
	915	73	Brush, Good, HSG D
	112,226	55	Woods, Good, HSG B
	61,578	70	Woods, Good, HSG C
	406,259	77	Woods, Good, HSG D
*	7,485	98	Water
	3,957,824	77	Weighted Average
	3,904,341		98.65% Pervious Area
	53,483		1.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
39.5					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 38S:

Runoff = 4.83 cfs @ 12.40 hrs, Volume= 0.660 af, Depth= 0.47"
Routed to Reach SP38 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

Area (sf)	CN	Description
358,535	78	Meadow, non-grazed, HSG D
376,018	77	Woods, Good, HSG D
734,553	77	Weighted Average
734,553		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.1					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 39S:

Runoff = 7.84 cfs @ 12.67 hrs, Volume= 1.615 af, Depth= 0.34"
Routed to Reach SP39 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	123,759	30	Woods, Good, HSG A
*	17,184	98	Impervious Pavement
	126,757	30	Meadow, non-grazed, HSG A
	11,527	30	Brush, Good, HSG A
	37,275	70	Woods, Good, HSG C
	0	71	Meadow, non-grazed, HSG C
	193,814	77	Woods, Good, HSG D
	106,670	73	Brush, Good, HSG D
*	31,902	96	Gravel
	1,846,549	78	Meadow, non-grazed, HSG D
	2,495,437	73	Weighted Average
	2,478,253		99.31% Pervious Area
	17,184		0.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
54.4					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 41S: Tc Decreased

Runoff = 3.06 cfs @ 12.57 hrs, Volume= 0.594 af, Depth= 0.31"
Routed to Reach SP41 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
*	16,863	98	Impervious
*	72,825	96	Gravel
	5,483	58	Meadow, non-grazed, HSG B
	588,558	71	Meadow, non-grazed, HSG C
	144,388	78	Meadow, non-grazed, HSG D
	12,946	55	Woods, Good, HSG B
	30,598	70	Woods, Good, HSG C
	0	77	Woods, Good, HSG D
	45,174	48	Brush, Good, HSG B
	46,122	65	Brush, Good, HSG C
	33,461	61	>75% Grass cover, Good, HSG B
	6,740	74	>75% Grass cover, Good, HSG C
	1,003,158	72	Weighted Average
	986,295		98.32% Pervious Area
	16,863		1.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
46.3					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 42S: Tc Decreased

Runoff = 25.84 cfs @ 13.16 hrs, Volume= 6.752 af, Depth= 0.47"
Routed to Reach SP42 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

Area (sf)	CN	Description
20,734	98	Water Surface, HSG A
0	98	Unconnected roofs, HSG A
103,574	96	Gravel surface, HSG A
937,658	71	Meadow, non-grazed, HSG C
5,676,297	78	Meadow, non-grazed, HSG D
1,664	65	Brush, Good, HSG C
84,283	73	Brush, Good, HSG D
15,094	70	Woods, Good, HSG C
673,129	77	Woods, Good, HSG D
7,512,433	77	Weighted Average
7,491,699		99.72% Pervious Area
20,734		0.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
90.9					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 43S:

Runoff = 14.50 cfs @ 12.55 hrs, Volume= 2.378 af, Depth= 0.47"
Routed to Reach SP43 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
*	2,810	98	Impervious
*	31,551	96	Gravel
	437,819	71	Meadow, non-grazed, HSG C
	2,143,512	78	Meadow, non-grazed, HSG D
	11,726	70	Woods, Good, HSG C
	18,430	77	Woods, Good, HSG D
	2,645,848	77	Weighted Average
	2,643,038		99.89% Pervious Area
	2,810		0.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
48.7					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 44S:

Runoff = 18.78 cfs @ 13.26 hrs, Volume= 4.972 af, Depth= 0.51"
Routed to Reach SP44 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
*	136,521	98	Water
*	96,600	96	Gravel
	130,201	58	Meadow, non-grazed, HSG B
	48,275	71	Meadow, non-grazed, HSG C
	4,197,773	78	Meadow, non-grazed, HSG D
	199	65	Brush, Good, HSG C
	120,170	73	Brush, Good, HSG D
	3,597	55	Woods, Good, HSG B
	392,848	77	Woods, Good, HSG D
	5,126,184	78	Weighted Average
	4,989,663		97.34% Pervious Area
	136,521		2.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
97.1					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 44SA:

Runoff = 7.63 cfs @ 12.22 hrs, Volume= 0.762 af, Depth= 0.51"
Routed to Reach SP44A :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
*	8,459	98	Water
*	21,218	98	Impervious
*	12,958	96	Gravel
	4,574	58	Meadow, non-grazed, HSG B
	57,514	71	Meadow, non-grazed, HSG C
	588,570	78	Meadow, non-grazed, HSG D
	988	48	Brush, Good, HSG B
	17,587	73	Brush, Good, HSG D
	2,222	55	Woods, Good, HSG B
	22,179	70	Woods, Good, HSG C
	49,212	77	Woods, Good, HSG D
	785,481	78	Weighted Average
	755,804		96.22% Pervious Area
	29,677		3.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.5					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 45S: Tc Increased

Runoff = 6.26 cfs @ 12.26 hrs, Volume= 0.654 af, Depth= 0.59"
Routed to Reach SP45 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
*	49,323	98	Impervious
	33,429	77	Woods, Good, HSG D
	12,134	73	Brush, Good, HSG D
*	7,562	98	Water
*	17,226	96	Gravel
	462,284	78	Meadow, non-grazed, HSG D
	581,958	80	Weighted Average
	525,073		90.23% Pervious Area
	56,885		9.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.1					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 46S:

Runoff = 8.67 cfs @ 12.64 hrs, Volume= 1.636 af, Depth= 0.40"
Routed to Reach SP46 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	273,270	77	Woods, Good, HSG D
	229,882	55	Woods, Good, HSG B
	1,564,954	78	Meadow, non-grazed, HSG D
*	22,352	96	Gravel
	43,511	73	Brush, Good, HSG D
	2,133,969	75	Weighted Average
	2,133,969		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
53.8					**Direct Entry, SEE SPREADSHEET**

Summary for Reach SP20:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 56.928 ac, 2.55% Impervious, Inflow Depth = 0.36" for 1-yr event
Inflow = 5.43 cfs @ 13.47 hrs, Volume= 1.724 af
Outflow = 5.43 cfs @ 13.47 hrs, Volume= 1.724 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Summary for Pond 20P: Plunge Pool

Inflow Area = 56.928 ac, 2.55% Impervious, Inflow Depth = 0.37" for 1-yr event
Inflow = 5.44 cfs @ 13.46 hrs, Volume= 1.749 af
Outflow = 5.43 cfs @ 13.47 hrs, Volume= 1.724 af, Atten= 0%, Lag= 0.9 min
Primary = 5.43 cfs @ 13.47 hrs, Volume= 1.724 af
Routed to Reach SP20 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 703.12' @ 13.47 hrs Surf.Area= 1,407 sf Storage= 1,186 cf

Plug-Flow detention time= 12.5 min calculated for 1.724 af (99% of inflow)
Center-of-Mass det. time= 4.2 min (995.1 - 990.9)

Volume	Invert	Avail.Storage	Storage Description
#1	702.00'	2,775 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
702.00	0	0	0
702.10	880	44	44
703.00	1,300	981	1,025
704.00	2,200	1,750	2,775

Device	Routing	Invert	Outlet Devices
#1	Primary	703.00'	**40.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.0' Crest Height

Primary OutFlow Max=5.43 cfs @ 13.47 hrs HW=703.12' (Free Discharge)
1=Sharp-Crested Rectangular Weir (Weir Controls 5.43 cfs @ 1.14 fps)

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Runoff Area=3,020,873 sf 2.32% Impervious Runoff Depth=0.71"
Flow Length=3,272' Tc=52.0 min CN=65 Runoff=22.85 cfs 4.106 af

Subcatchment 3S: Runoff Area=324,754 sf 0.00% Impervious Runoff Depth=0.67"
Flow Length=836' Tc=23.1 min CN=64 Runoff=4.00 cfs 0.413 af

Subcatchment 4S: Runoff Area=16,260,538 sf 1.80% Impervious Runoff Depth=0.96"
Flow Length=7,788' Tc=76.3 min CN=70 Runoff=140.28 cfs 29.834 af

Subcatchment 5S: Runoff Area=1,679,234 sf 4.96% Impervious Runoff Depth=1.13"
Tc=34.3 min CN=73 Runoff=32.00 cfs 3.618 af

Subcatchment 6S: Runoff Area=598,623 sf 0.00% Impervious Runoff Depth=1.07"
Flow Length=1,150' Tc=39.7 min CN=72 Runoff=9.64 cfs 1.224 af

Subcatchment 7S: Runoff Area=10,734,763 sf 0.12% Impervious Runoff Depth=0.96"
Flow Length=6,505' Tc=76.1 min CN=70 Runoff=93.03 cfs 19.696 af

Subcatchment 8S: Runoff Area=1,124,521 sf 2.06% Impervious Runoff Depth=1.01"
Flow Length=2,618' Tc=29.5 min CN=71 Runoff=20.86 cfs 2.180 af

Subcatchment 9S: Runoff Area=698,860 sf 9.80% Impervious Runoff Depth=1.31"
Flow Length=1,212' Tc=81.2 min CN=76 Runoff=8.47 cfs 1.748 af

Subcatchment 10S: Runoff Area=1,561,270 sf 0.03% Impervious Runoff Depth=1.31"
Flow Length=2,211' Tc=88.4 min CN=76 Runoff=17.83 cfs 3.906 af

Subcatchment 11S: Runoff Area=521,344 sf 3.42% Impervious Runoff Depth=1.50"
Flow Length=1,039' Tc=43.1 min CN=79 Runoff=11.92 cfs 1.500 af

Subcatchment 12S: Runoff Area=1,437,516 sf 0.71% Impervious Runoff Depth=1.44"
Flow Length=2,388' Tc=104.6 min CN=78 Runoff=16.04 cfs 3.951 af

Subcatchment 13S: Tc Increase Runoff Area=2,395,812 sf 0.01% Impervious Runoff Depth=1.19"
Tc=84.2 min CN=74 Runoff=25.18 cfs 5.431 af

Subcatchment 14S: Tc Increase Runoff Area=516,650 sf 1.80% Impervious Runoff Depth=1.31"
Tc=36.6 min CN=76 Runoff=11.25 cfs 1.292 af

Subcatchment 15S: Runoff Area=329,223 sf 1.70% Impervious Runoff Depth=0.76"
Flow Length=707' Tc=30.6 min CN=66 Runoff=4.01 cfs 0.477 af

Subcatchment 16S: Runoff Area=1,134,608 sf 1.18% Impervious Runoff Depth=1.44"
Flow Length=1,611' Tc=58.8 min CN=78 Runoff=19.62 cfs 3.119 af

Subcatchment 16SA: Runoff Area=657,258 sf 1.69% Impervious Runoff Depth=1.31"
Tc=39.9 min CN=76 Runoff=13.47 cfs 1.644 af

Subcatchment 17S: Tc Increase Runoff Area=6,847,927 sf 0.62% Impervious Runoff Depth=1.37"
Tc=94.5 min CN=77 Runoff=78.53 cfs 17.966 af

Subcatchment 18S: Runoff Area=4,001,602 sf 0.46% Impervious Runoff Depth=1.37"
Flow Length=3,889' Tc=66.4 min CN=77 Runoff=59.93 cfs 10.498 af

Subcatchment 19S: Runoff Area=5,028,770 sf 1.45% Impervious Runoff Depth=1.31"
Flow Length=4,703' Tc=80.9 min CN=76 Runoff=61.10 cfs 12.579 af

Subcatchment 20S: Runoff Area=2,479,797 sf 2.55% Impervious Runoff Depth=1.19"
Tc=108.6 min CN=74 Runoff=21.47 cfs 5.622 af

Subcatchment 21S: Runoff Area=332,609 sf 6.35% Impervious Runoff Depth=0.91"
Flow Length=921' Tc=31.9 min CN=69 Runoff=5.05 cfs 0.577 af

Subcatchment 22S: Runoff Area=785,644 sf 0.82% Impervious Runoff Depth=0.91"
Flow Length=1,439' Tc=53.3 min CN=69 Runoff=8.22 cfs 1.362 af

Subcatchment 23S: Runoff Area=17,302,399 sf 0.48% Impervious Runoff Depth=1.31"
Flow Length=9,131' Tc=88.7 min CN=76 Runoff=196.79 cfs 43.282 af

Subcatchment 24S: Runoff Area=260,905 sf 6.58% Impervious Runoff Depth=1.50"
Flow Length=1,200' Tc=31.2 min CN=79 Runoff=7.47 cfs 0.751 af

Subcatchment 25S: Runoff Area=10,643,407 sf 0.30% Impervious Runoff Depth=1.25"
Flow Length=7,278' Tc=71.0 min CN=75 Runoff=135.13 cfs 25.360 af

Subcatchment 26S: Runoff Area=823,994 sf 2.72% Impervious Runoff Depth=1.44"
Flow Length=1,347' Tc=43.1 min CN=78 Runoff=17.88 cfs 2.265 af

Subcatchment 27S: Tc Decreased Runoff Area=1,317,635 sf 4.08% Impervious Runoff Depth=1.01"
Flow Length=3,106' Tc=46.3 min CN=71 Runoff=17.70 cfs 2.554 af

Subcatchment 28S: Runoff Area=2,868,130 sf 1.48% Impervious Runoff Depth=1.13"
Flow Length=2,822' Tc=32.9 min CN=73 Runoff=56.32 cfs 6.179 af

Subcatchment 29S: Runoff Area=776,122 sf 2.71% Impervious Runoff Depth=1.19"
Flow Length=1,737' Tc=24.4 min CN=74 Runoff=19.81 cfs 1.760 af

Subcatchment 30S: Runoff Area=618,450 sf 1.49% Impervious Runoff Depth=1.07"
Flow Length=1,427' Tc=38.4 min CN=72 Runoff=10.18 cfs 1.265 af

Subcatchment 31S: Runoff Area=2,981,588 sf 0.45% Impervious Runoff Depth=1.19"
Flow Length=1,885' Tc=60.7 min CN=74 Runoff=39.94 cfs 6.759 af

Subcatchment 32S: Tc Increased Runoff Area=4,274,758 sf 0.81% Impervious Runoff Depth=0.67"
Tc=75.2 min CN=64 Runoff=22.66 cfs 5.439 af

Subcatchment 33S: Tc Decreased Runoff Area=4,477,391 sf 0.02% Impervious Runoff Depth=0.86"
Flow Length=2,390' Tc=58.5 min CN=68 Runoff=40.40 cfs 7.326 af

Subcatchment 34S: Runoff Area=1,658,827 sf 0.06% Impervious Runoff Depth=1.01"
Flow Length=1,443' Tc=42.0 min CN=71 Runoff=23.92 cfs 3.215 af

Subcatchment 35S: Tc Increased Runoff Area=2,634,778 sf 10.72% Impervious Runoff Depth=1.31"
Tc=26.1 min CN=76 Runoff=72.29 cfs 6.591 af

Subcatchment 36S: Runoff Area=6,697,461 sf 0.98% Impervious Runoff Depth=1.37"
Tc=38.4 min CN=77 Runoff=149.27 cfs 17.571 af

Subcatchment 37S: Tc Decreased Runoff Area=3,957,824 sf 1.35% Impervious Runoff Depth=1.37"
Tc=39.5 min CN=77 Runoff=86.40 cfs 10.383 af

Subcatchment 38S: Runoff Area=734,553 sf 0.00% Impervious Runoff Depth=1.37"
Tc=38.1 min CN=77 Runoff=16.44 cfs 1.927 af

Subcatchment 39S: Runoff Area=2,495,437 sf 0.69% Impervious Runoff Depth=1.13"
Tc=54.4 min CN=73 Runoff=34.06 cfs 5.376 af

Subcatchment 41S: Tc Decreased Runoff Area=1,003,158 sf 1.68% Impervious Runoff Depth=1.07"
Tc=46.3 min CN=72 Runoff=14.43 cfs 2.051 af

Subcatchment 42S: Tc Decreased Runoff Area=7,512,433 sf 0.28% Impervious Runoff Depth=1.37"
Tc=90.9 min CN=77 Runoff=88.40 cfs 19.709 af

Subcatchment 43S: Runoff Area=2,645,848 sf 0.11% Impervious Runoff Depth=1.37"
Tc=48.7 min CN=77 Runoff=49.77 cfs 6.941 af

Subcatchment 44S: Runoff Area=5,126,184 sf 2.66% Impervious Runoff Depth=1.44"
Tc=97.1 min CN=78 Runoff=60.50 cfs 14.091 af

Subcatchment 44SA: Runoff Area=785,481 sf 3.78% Impervious Runoff Depth=1.44"
Tc=25.5 min CN=78 Runoff=24.34 cfs 2.159 af

Subcatchment 45S: Tc Increased Runoff Area=581,958 sf 9.77% Impervious Runoff Depth=1.57"
Tc=29.1 min CN=80 Runoff=18.30 cfs 1.751 af

Subcatchment 46S: Runoff Area=2,133,969 sf 0.00% Impervious Runoff Depth=1.25"
Tc=53.8 min CN=75 Runoff=33.26 cfs 5.085 af

Reach SP20: Inflow=21.46 cfs 5.598 af
Outflow=21.46 cfs 5.598 af

Pond 20P: Plunge Pool Peak Elev=703.29' Storage=1,444 cf Inflow=21.47 cfs 5.622 af
Outflow=21.46 cfs 5.598 af

Total Runoff Area = 3,369.717 ac Runoff Volume = 332.534 af Average Runoff Depth = 1.18"
98.73% Pervious = 3,327.070 ac 1.27% Impervious = 42.647 ac

Summary for Subcatchment 1S:

Runoff = 22.85 cfs @ 12.61 hrs, Volume= 4.106 af, Depth= 0.71"
Routed to Reach SP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	94,532	77	Woods, Good, HSG D
	177,755	55	Woods, Good, HSG B
	8,365	48	Brush, Good, HSG B
	9,216	73	Brush, Good, HSG D
*	70,022	98	Impervious Pavement
	1,850,413	58	Meadow, non-grazed, HSG B
	800,918	78	Meadow, non-grazed, HSG D
*	9,652	96	Gravel Access Roads
	3,020,873	65	Weighted Average
	2,950,851		97.68% Pervious Area
	70,022		2.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.7	100	0.0060	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
15.8	784	0.0140	0.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.5	2,388		4.20		**Direct Entry, Small Tributary & Swamp w/ Channels**
52.0	3,272	Total			

Summary for Subcatchment 3S:

Runoff = 4.00 cfs @ 12.20 hrs, Volume= 0.413 af, Depth= 0.67"
Routed to Reach SP3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

Area (sf)	CN	Description
1,021	55	Woods, Good, HSG B
223,756	58	Meadow, non-grazed, HSG B
1,749	73	Brush, Good, HSG D
970	77	Woods, Good, HSG D
97,258	78	Meadow, non-grazed, HSG D
0	48	Brush, Good, HSG B
324,754	64	Weighted Average
324,754		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
2.6	241	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.1	445	0.0170	0.91		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	50	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.1	836	Total			

Summary for Subcatchment 4S:

[47] Hint: Peak is 1686% of capacity of segment #4
[47] Hint: Peak is 504% of capacity of segment #7
[47] Hint: Peak is 1008% of capacity of segment #9
[47] Hint: Peak is 435% of capacity of segment #11
[47] Hint: Peak is 4789% of capacity of segment #13
[47] Hint: Peak is 416% of capacity of segment #15

Runoff = 140.28 cfs @ 12.93 hrs, Volume= 29.834 af, Depth= 0.96"
Routed to Reach SP4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
*	5,055,245	58	Meadow, non-grazed, HSG B
*	37,498	48	Brush, Good, HSG B
*	1,235,064	55	Woods, Good, HSG B
*	605,955	71	Meadow, non-grazed, HSG C
*	0	65	Brush, Good, HSG C
*	42,916	70	Woods, Good, HSG C
*	7,600,605	78	Meadow, non-grazed, HSG D
*	66,844	73	Brush, Good, HSG D
*	1,163,308	77	Woods, Good, HSG D
*	292,513	98	Impervious
*	160,590	96	Impervious Gravel
	16,260,538	70	Weighted Average
	15,968,025		98.20% Pervious Area
	292,513		1.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.7	100	0.0060	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
5.4	277	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.6	778	0.0240	2.32		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.3	40	0.0050	2.65	8.32	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
2.1	741		5.90		**Direct Entry, Small Tributary & Swamp w/ Channels**
1.8	401		3.76		**Direct Entry, Small Tributary & Swamp w/Channels**
0.0	18	0.0560	8.86	27.84	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
2.3	605		4.30		**Direct Entry, Small Tributary & Swamp w/ Channels**
0.1	36	0.0140	4.43	13.92	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
2.3	627		4.46		**Direct Entry, Small Tributary & Swamp w/ Channels**
0.1	40	0.0750	10.25	32.22	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
2.1	527		4.20		**Direct Entry, Small Tributary & Swamp w/ Channels**
0.2	40	0.0250	3.73	2.93	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.025 Corrugated metal
4.0	593		2.47		**Direct Entry, Roadside Ditch**
0.1	40	0.0250	6.87	33.72	**Pipe Channel,** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.025 Corrugated metal
23.2	2,925		2.10		**Direct Entry, Small Tributary & Swamp w/ Channels**
76.3	7,788	Total			

Summary for Subcatchment 5S:

Runoff = 32.00 cfs @ 12.32 hrs, Volume= 3.618 af, Depth= 1.13"
Routed to Reach SP4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	52,679	58	Meadow, non-grazed, HSG B
	3,284	48	Brush, Good, HSG B
	55,693	55	Woods, Good, HSG B
	840,293	71	Meadow, non-grazed, HSG C
	86,000	65	Brush, Good, HSG C
	106,467	70	Woods, Good, HSG C
	384,691	78	Meadow, non-grazed, HSG D
	6,417	73	Brush, Good, HSG D
	517	77	Woods, Good, HSG D
*	83,276	98	Impervious
*	59,917	96	Impervious Gravel
	1,679,234	73	Weighted Average
	1,595,958		95.04% Pervious Area
	83,276		4.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
34.3					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 6S:

Runoff = 9.64 cfs @ 12.40 hrs, Volume= 1.224 af, Depth= 1.07"
Routed to Reach SP6 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

Area (sf)	CN	Description
450,041	71	Meadow, non-grazed, HSG C
31,090	65	Brush, Good, HSG C
23,988	70	Woods, Good, HSG C
76,643	78	Meadow, non-grazed, HSG D
11,524	73	Brush, Good, HSG D
5,337	77	Woods, Good, HSG D
598,623	72	Weighted Average
598,623		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7	100	0.0050	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
4.3	256	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.5	341	0.1030	2.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	316	0.1870	2.16		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.8	137		1.26		**Direct Entry, Grassed Waterway**
39.7	1,150	Total			

Summary for Subcatchment 7S:

Runoff = 93.03 cfs @ 12.93 hrs, Volume= 19.696 af, Depth= 0.96"
Routed to Reach SP7 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	2,818,354	58	Meadow, non-grazed, HSG B
	23,489	48	Brush, Good, HSG B
	609,636	55	Woods, Good, HSG B
	2,235,076	71	Meadow, non-grazed, HSG C
	2,183	65	Brush, Good, HSG C
	140,335	70	Woods, Good, HSG C
	2,961,060	78	Meadow, non-grazed, HSG D
	59,423	73	Brush, Good, HSG D
	1,804,999	77	Woods, Good, HSG D
*	13,334	98	Impervious
*	66,874	96	Impervious Gravel
	10,734,763	70	Weighted Average
	10,721,429		99.88% Pervious Area
	13,334		0.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0190	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
5.4	449	0.0390	1.38		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.2	512	0.0220	1.04		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.3	945	0.0240	0.77		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.6	192	0.0310	0.88		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.9	3,312		3.70		**Direct Entry, Small Tributary & Swamp w/ Channels**
4.1	284	0.0530	1.15		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.8	711		4.30		**Direct Entry, Small Tributary & Swamp w/ Channels**
76.1	6,505	Total			

Summary for Subcatchment 8S:

Runoff = 20.86 cfs @ 12.26 hrs, Volume= 2.180 af, Depth= 1.01"
Routed to Reach SP8 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	388,863	58	Meadow, non-grazed, HSG B
	12,787	48	Brush, Good, HSG B
	25,785	55	Woods, Good, HSG B
	12,891	71	Meadow, non-grazed, HSG C
	617,944	78	Meadow, non-grazed, HSG D
	0	73	Brush, Good, HSG D
	24,932	77	Woods, Good, HSG D
*	23,130	98	Impervious
*	18,189	96	Impervious Gravel
	1,124,521	71	Weighted Average
	1,101,391		97.94% Pervious Area
	23,130		2.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.2	100	0.0420	0.14		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
6.0	364	0.0210	1.01		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.3	1,017		2.68		**Direct Entry, Roadside Ditch**
5.0	1,137		3.82		**Direct Entry, Roadside Ditch**
29.5	2,618	Total			

Summary for Subcatchment 9S:

Runoff = 8.47 cfs @ 12.92 hrs, Volume= 1.748 af, Depth= 1.31"
Routed to Reach SP9 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	110,684	58	Meadow, non-grazed, HSG B
	7,321	48	Brush, Good, HSG B
	2,058	55	Woods, Good, HSG B
	477,069	78	Meadow, non-grazed, HSG D
	30,437	73	Brush, Good, HSG D
	0	77	Woods, Good, HSG D
*	68,468	98	Impervious
*	2,823	96	Impervious Gravel
	698,860	76	Weighted Average
	630,392		90.20% Pervious Area
	68,468		9.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
54.6	100	0.0010	0.03		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
18.0	540	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.6	572		1.11		**Direct Entry, Large Tributary**
81.2	1,212	Total			

Summary for Subcatchment 10S:

Runoff = 17.83 cfs @ 13.05 hrs, Volume= 3.906 af, Depth= 1.31"
Routed to Reach SP10 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	29,043	55	Woods, Good, HSG B
	1,789	48	Brush, Good, HSG B
	101,568	58	Meadow, non-grazed, HSG B
	11,050	73	Brush, Good, HSG D
	2,326	77	Woods, Good, HSG D
	1,408,691	78	Meadow, non-grazed, HSG D
*	6,323	96	Impervious Gravel
*	480	98	Impervious
	1,561,270	76	Weighted Average
	1,560,790		99.97% Pervious Area
	480		0.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
54.6	100	0.0010	0.03		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
16.9	388	0.0030	0.38		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	33	0.0610	1.23		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.6	165	0.0120	0.77		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.2	310		1.63		**Direct Entry, Small Tributary & Swamp w/ Channels**
8.2	920		1.88		**Direct Entry, Small Tributary & Swamp w/ Channels**
1.5	295		3.39		**Direct Entry, Small Tributary & Swamp w/ Channels**
88.4	2,211	Total			

Summary for Subcatchment 11S:

Runoff = 11.92 cfs @ 12.42 hrs, Volume= 1.500 af, Depth= 1.50"
Routed to Reach SP11 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	493,130	78	Meadow, non-grazed, HSG D
	1,884	73	Brush, Good, HSG D
*	17,843	98	Impervious
*	8,487	96	Impervious Gravel
	521,344	79	Weighted Average
	503,501		96.58% Pervious Area
	17,843		3.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.2	100	0.0120	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
11.8	521	0.0110	0.73		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.1	418	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
43.1	1,039	Total			

Summary for Subcatchment 12S:

Runoff = 16.04 cfs @ 13.26 hrs, Volume= 3.951 af, Depth= 1.44"
Routed to Reach SP12 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

Area (sf)	CN	Description
10,201	98	Unconnected roofs, HSG A
8,610	58	Meadow, non-grazed, HSG B
1,312,538	78	Meadow, non-grazed, HSG D
5,822	73	Brush, Good, HSG D
100,345	77	Woods, Good, HSG D
1,437,516	78	Weighted Average
1,427,315		99.29% Pervious Area
10,201		0.71% Impervious Area
10,201		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.7	100	0.0470	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.40"
25.9	601	0.0060	0.39		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
48.0	1,687	0.0070	0.59		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
104.6	2,388	Total			

Summary for Subcatchment 13S: Tc Increase

Runoff = 25.18 cfs @ 13.00 hrs, Volume= 5.431 af, Depth= 1.19"
Routed to Reach SP13 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	279,424	58	Meadow, non-grazed, HSG B
	1,560,883	78	Meadow, non-grazed, HSG D
	0	48	Brush, Good, HSG B
	77,098	73	Brush, Good, HSG D
	137,874	55	Woods, Good, HSG B
	323,619	77	Woods, Good, HSG D
*	219	98	Impervious
*	16,695	96	Gravel
	2,395,812	74	Weighted Average
	2,395,593		99.99% Pervious Area
	219		0.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
84.2					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 14S: Tc Increase

Runoff = 11.25 cfs @ 12.34 hrs, Volume= 1.292 af, Depth= 1.31"
Routed to Reach SP14 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
*	9,279	98	Impervious
	70,836	58	Meadow, non-grazed, HSG B
	422,033	78	Meadow, non-grazed, HSG D
	739	48	Brush, Good, HSG B
	189	73	Brush, Good, HSG D
*	13,574	96	Gravel
	516,650	76	Weighted Average
	507,371		98.20% Pervious Area
	9,279		1.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.6					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 15S:

Runoff = 4.01 cfs @ 12.30 hrs, Volume= 0.477 af, Depth= 0.76"
Routed to Reach SP15 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
*	5,583	98	Impervious
	182,614	58	Meadow, non-grazed, HSG B
	124,093	78	Meadow, non-grazed, HSG D
	4,836	48	Brush, Good, HSG B
	2,091	73	Brush, Good, HSG D
	5,021	55	Woods, Good, HSG B
	4,077	77	Woods, Good, HSG D
*	908	96	Gravel
	329,223	66	Weighted Average
	323,640		98.30% Pervious Area
	5,583		1.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.9	100	0.0220	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
6.4	387	0.0210	1.01		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.3	220	0.0040	0.44		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
30.6	707	Total			

Summary for Subcatchment 16S:

Runoff = 19.62 cfs @ 12.62 hrs, Volume= 3.119 af, Depth= 1.44"
Routed to Reach SP16 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
*	13,357	98	Impervious
*	38,791	96	Gravel
	22,931	71	Meadow, non-grazed, HSG C
	906,909	78	Meadow, non-grazed, HSG D
	0	65	Brush, Good, HSG C
	22,358	73	Brush, Good, HSG D
	863	70	Woods, Good, HSG C
	129,399	77	Woods, Good, HSG D
	1,134,608	78	Weighted Average
	1,121,251		98.82% Pervious Area
	13,357		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.0	100	0.0170	0.06		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 2.40"
3.8	142	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
26.0	1,035	0.0090	0.66		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.0	334		2.74		**Direct Entry, Small Tributary & Swamp w/ Channels**
58.8	1,611	Total			

Summary for Subcatchment 16SA:

Runoff = 13.47 cfs @ 12.38 hrs, Volume= 1.644 af, Depth= 1.31"
Routed to Reach SP16 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
*	11,093	98	Impervious
*	7,200	96	Gravel
	70,093	58	Meadow, non-grazed, HSG B
	352,729	78	Meadow, non-grazed, HSG D
	259	48	Brush, Good, HSG B
	14,806	73	Brush, Good, HSG D
	0	70	Woods, Good, HSG C
	201,078	77	Woods, Good, HSG D
	657,258	76	Weighted Average
	646,165		98.31% Pervious Area
	11,093		1.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
39.9					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 17S: Tc Increase

Runoff = 78.53 cfs @ 13.12 hrs, Volume= 17.966 af, Depth= 1.37"
Routed to Reach SP17 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	250,002	71	Meadow, non-grazed, HSG C
	4,840,683	78	Meadow, non-grazed, HSG D
	15,222	65	Brush, Good, HSG C
	303,983	73	Brush, Good, HSG D
	105,112	70	Woods, Good, HSG C
	1,226,602	77	Woods, Good, HSG D
*	19,863	98	Impervious
*	22,826	98	Water
*	63,634	96	Gravel
	6,847,927	77	Weighted Average
	6,805,238		99.38% Pervious Area
	42,689		0.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
94.5					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 18S:

Runoff = 59.93 cfs @ 12.74 hrs, Volume= 10.498 af, Depth= 1.37"
Routed to Reach SP18 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	3,354	98	Water Surface, HSG A
*	15,090	98	Impervious
	5,936	58	Meadow, non-grazed, HSG B
	29,943	71	Meadow, non-grazed, HSG C
	2,418,932	78	Meadow, non-grazed, HSG D
	156,565	73	Brush, Good, HSG D
	23,440	55	Woods, Good, HSG B
	321,869	70	Woods, Good, HSG C
	978,658	77	Woods, Good, HSG D
	0	48	Brush, Good, HSG B
*	47,815	96	Gravel
	4,001,602	77	Weighted Average
	3,983,158		99.54% Pervious Area
	18,444		0.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.8	100	0.0150	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
6.8	205	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.6	2,144	0.0920	1.52		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	1,440		2.92		**Direct Entry, Ditch**
66.4	3,889	Total			

Summary for Subcatchment 19S:

Runoff = 61.10 cfs @ 12.95 hrs, Volume= 12.579 af, Depth= 1.31"
Routed to Reach SP19 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
*	28,979	98	Impervious
*	21,540	96	Gravel
*	44,123	98	Water
	84,343	58	Meadow, non-grazed, HSG B
	89,334	71	Meadow, non-grazed, HSG C
	2,665,044	78	Meadow, non-grazed, HSG D
	10,082	48	Brush, Good, HSG B
	47,175	73	Brush, Good, HSG D
	16,971	55	Woods, Good, HSG B
	681,805	70	Woods, Good, HSG C
	1,339,374	77	Woods, Good, HSG D
	5,028,770	76	Weighted Average
	4,955,668		98.55% Pervious Area
	73,102		1.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.7	100	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
21.4	1,915	0.0890	1.49		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.3	706	0.0720	1.88		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.7	109	0.0050	0.49		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.9	244	0.0410	1.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.2	706		1.63		**Direct Entry, Small Tributary & Swamp w/ Channels**
6.7	923		2.30		**Direct Entry, Small Tributary & Swamps w/ Channels**
80.9	4,703	Total			

Summary for Subcatchment 20S:

Runoff = 21.47 cfs @ 13.38 hrs, Volume= 5.622 af, Depth= 1.19"
Routed to Pond 20P : Plunge Pool

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
*	21,402	98	Water
*	41,934	98	Impervious
*	22,850	96	Gravel
	97,547	30	Meadow, non-grazed, HSG A
	56,401	58	Meadow, non-grazed, HSG B
	129,691	71	Meadow, non-grazed, HSG C
	1,647,144	78	Meadow, non-grazed, HSG D
	60,097	73	Brush, Good, HSG D
	131,709	55	Woods, Good, HSG B
	6,015	70	Woods, Good, HSG C
	265,007	77	Woods, Good, HSG D
	0	30	Brush, Good, HSG A
	0	48	Brush, Good, HSG B
	0	65	Brush, Good, HSG C
	2,479,797	74	Weighted Average
	2,416,461		97.45% Pervious Area
	63,336		2.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
108.6					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 21S:

Runoff = 5.05 cfs @ 12.30 hrs, Volume= 0.577 af, Depth= 0.91"
Routed to Reach SP21 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	29,188	30	Meadow, non-grazed, HSG A
	257,297	71	Meadow, non-grazed, HSG C
	12,465	78	Meadow, non-grazed, HSG D
	683	30	Brush, Good, HSG A
	5,947	65	Brush, Good, HSG C
	1,326	30	Woods, Good, HSG A
*	21,108	98	Impervious
*	4,595	96	Gravel
	332,609	69	Weighted Average
	311,501		93.65% Pervious Area
	21,108		6.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0410	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
19.5	821	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
31.9	921	Total			

Summary for Subcatchment 22S:

Runoff = 8.22 cfs @ 12.60 hrs, Volume= 1.362 af, Depth= 0.91"
Routed to Reach SP39 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

Area (sf)	CN	Description
87,751	30	Meadow, non-grazed, HSG A
420,889	71	Meadow, non-grazed, HSG C
132,262	78	Meadow, non-grazed, HSG D
814	65	Brush, Good, HSG C
7,253	73	Brush, Good, HSG D
376	30	Woods, Good, HSG A
3,389	70	Woods, Good, HSG C
126,479	77	Woods, Good, HSG D
6,431	98	Paved roads w/curbs & sewers, HSG A
785,644	69	Weighted Average
779,213		99.18% Pervious Area
6,431		0.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7	100	0.0050	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
22.4	1,072	0.0130	0.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	83	0.1330	1.82		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	184		2.20		**Direct Entry, Small Tributary & Swamp w/ Channels**
53.3	1,439	Total			

Summary for Subcatchment 23S:

Runoff = 196.79 cfs @ 13.08 hrs, Volume= 43.282 af, Depth= 1.31"
Routed to Reach SP23 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	33,362	30	Meadow, non-grazed, HSG A
	494,394	71	Meadow, non-grazed, HSG C
	7,481,745	78	Meadow, non-grazed, HSG D
	299,742	65	Brush, Good, HSG C
	1,781,898	73	Brush, Good, HSG D
	1,493,479	70	Woods, Good, HSG C
	5,556,751	77	Woods, Good, HSG D
*	68,445	98	Impervious
	78,077	96	Gravel surface, HSG D
*	14,506	98	Water
	17,302,399	76	Weighted Average
	17,219,448		99.52% Pervious Area
	82,951		0.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.4	100	0.0420	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
22.2	1,941	0.0850	1.46		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.2	806	0.0580	1.20		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.6	1,740		2.49		**Direct Entry, Small Tributary & Swamp w/ Channels**
4.2	1,229		4.93		**Direct Entry, Small Tributary & Swamp w/ Channels**
9.5	1,895		3.32		**Direct Entry, Small Tributary & Swamp w/ Channels**
3.8	650		2.82		**Direct Entry, Small Tributary & Swamp w/ Channels**
7.8	770		1.64		**Direct Entry, Roadside Ditch**
88.7	9,131	Total			

Summary for Subcatchment 24S:

Runoff = 7.47 cfs @ 12.27 hrs, Volume= 0.751 af, Depth= 1.50"
Routed to Reach SP24 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	226,793	78	Meadow, non-grazed, HSG D
	7,721	73	Brush, Good, HSG D
	9,216	77	Woods, Good, HSG D
*	17,175	98	Impervious
	260,905	79	Weighted Average
	243,730		93.42% Pervious Area
	17,175		6.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	100	0.0250	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
14.0	830	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.1	270		2.17		**Direct Entry, Small Tributary & Swamp w/ Channels**
31.2	1,200	Total			

Summary for Subcatchment 25S:

Runoff = 135.13 cfs @ 12.83 hrs, Volume= 25.360 af, Depth= 1.25"
Routed to Reach SP25 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	862,128	58	Meadow, non-grazed, HSG B
	932,684	71	Meadow, non-grazed, HSG C
	5,546,681	78	Meadow, non-grazed, HSG D
	0	48	Brush, Good, HSG B
	0	65	Brush, Good, HSG C
	119,208	73	Brush, Good, HSG D
	153,918	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	2,861,400	77	Woods, Good, HSG D
*	24,324	98	Impervious
*	135,269	96	Gravel
*	7,795	98	Water
	10,643,407	75	Weighted Average
	10,611,288		99.70% Pervious Area
	32,119		0.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0190	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
18.9	1,281	0.0510	1.13		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.8	640	0.0300	1.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.1	4,093		3.98		**Direct Entry, Small Tributary & Swamp w/ Channels**
4.6	482		1.76		**Direct Entry, Small Tributary & Swamp w/ Channels**
4.8	682		2.39		**Direct Entry, Small Tributary & Swamp w/ Channels**
71.0	7,278	Total			

Summary for Subcatchment 26S:

Runoff = 17.88 cfs @ 12.42 hrs, Volume= 2.265 af, Depth= 1.44"
Routed to Reach SP26 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	64,296	77	Woods, Good, HSG D
*	4,254	98	Water
	49,680	71	Meadow, non-grazed, HSG C
*	18,136	98	Impervious Pavement
	675,322	78	Meadow, non-grazed, HSG D
	0	65	Brush, Good, HSG C
	0	73	Brush, Good, HSG D
*	12,306	96	Gravel
	823,994	78	Weighted Average
	801,604		97.28% Pervious Area
	22,390		2.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.5	100	0.0150	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
5.4	527		1.64		**Direct Entry, Ditch**
19.2	720	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
43.1	1,347	Total			

Summary for Subcatchment 27S: Tc Decreased

Runoff = 17.70 cfs @ 12.49 hrs, Volume= 2.554 af, Depth= 1.01"
Routed to Reach SP27 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

Area (sf)	CN	Description
102,401	30	Meadow, non-grazed, HSG A
72,705	58	Meadow, non-grazed, HSG B
352,955	71	Meadow, non-grazed, HSG C
599,484	78	Meadow, non-grazed, HSG D
12,548	48	Brush, Good, HSG B
136	65	Brush, Good, HSG C
30,962	73	Brush, Good, HSG D
1,761	30	Woods, Good, HSG A
10,015	55	Woods, Good, HSG B
44,190	70	Woods, Good, HSG C
27,054	77	Woods, Good, HSG D
53,768	98	Paved roads w/curbs & sewers, HSG A
9,656	96	Gravel surface, HSG A
0	30	Brush, Good, HSG A
1,317,635	71	Weighted Average
1,263,867		95.92% Pervious Area
53,768		4.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
0.1	20	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.2	952	0.0980	2.19		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.4	548	0.0820	1.43		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.0	152	0.0330	1.27		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.9	824	0.0230	1.06		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.3	510		1.34		**Direct Entry, Small Tributary & Swamp w/ Channels**
46.3	3,106	Total			

Summary for Subcatchment 28S:

Runoff = 56.32 cfs @ 12.30 hrs, Volume= 6.179 af, Depth= 1.13"
Routed to Reach SP28 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	101,277	58	Meadow, non-grazed, HSG B
	1,345,272	71	Meadow, non-grazed, HSG C
	1,105,675	78	Meadow, non-grazed, HSG D
	66,838	48	Brush, Good, HSG B
	158	65	Brush, Good, HSG C
	107,034	73	Brush, Good, HSG D
	36,439	55	Woods, Good, HSG B
	794	70	Woods, Good, HSG C
	10,011	77	Woods, Good, HSG D
*	26,701	98	Impervious Surface
*	15,860	98	Water
*	52,071	96	Gravel
	2,868,130	73	Weighted Average
	2,825,569		98.52% Pervious Area
	42,561		1.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	100	0.0130	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
2.3	163	0.0290	1.19		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.0	2,559		3.88		**Direct Entry, Roadside Ditch**
32.9	2,822	Total			

Summary for Subcatchment 29S:

Runoff = 19.81 cfs @ 12.19 hrs, Volume= 1.760 af, Depth= 1.19"
Routed to Reach SP29 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	247,600	71	Meadow, non-grazed, HSG C
	34,093	70	Woods, Good, HSG C
*	21,045	98	Impervious Pavement
*	5,127	96	Gravel
	11,168	55	Woods, Good, HSG B
	9,072	48	Brush, Good, HSG B
	56,526	58	Meadow, non-grazed, HSG B
	3,801	77	Woods, Good, HSG D
	386,950	78	Meadow, non-grazed, HSG D
	0	73	Brush, Good, HSG D
	740	65	Brush, Good, HSG C
	776,122	74	Weighted Average
	755,077		97.29% Pervious Area
	21,045		2.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	100	0.0650	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
0.5	63	0.0950	2.16		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	31	0.1290	1.80		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.1	612	0.0570	1.67		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	31	0.6100	3.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.1	900		2.12		**Direct Entry, Roadside Ditch**
24.4	1,737	Total			

Summary for Subcatchment 30S:

Runoff = 10.18 cfs @ 12.38 hrs, Volume= 1.265 af, Depth= 1.07"
Routed to Reach SP30 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	519,229	71	Meadow, non-grazed, HSG C
	80,992	78	Meadow, non-grazed, HSG D
	8,985	70	Woods, Good, HSG C
*	9,244	98	Impervious Surface
	0	65	Brush, Good, HSG C
	0	73	Brush, Good, HSG D
	618,450	72	Weighted Average
	609,206		98.51% Pervious Area
	9,244		1.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.7	100	0.0060	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
10.4	1,152	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.3	175		2.28		**Direct Entry, Roadside Ditch**
38.4	1,427	Total			

Summary for Subcatchment 31S:

Runoff = 39.94 cfs @ 12.67 hrs, Volume= 6.759 af, Depth= 1.19"
Routed to Reach SP31 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	71,984	58	Meadow, non-grazed, HSG B
	1,182,870	71	Meadow, non-grazed, HSG C
	1,399,315	78	Meadow, non-grazed, HSG D
	1,947	73	Brush, Good, HSG D
	79,506	55	Woods, Good, HSG B
	1,957	70	Woods, Good, HSG C
	195,809	77	Woods, Good, HSG D
*	13,479	98	Impervious Surface
*	34,721	96	Gravel
	0	48	Brush, Good, HSG B
	0	65	Brush, Good, HSG C
	2,981,588	74	Weighted Average
	2,968,109		99.55% Pervious Area
	13,479		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.2	100	0.0030	0.05		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
6.2	219	0.0070	0.59		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.4	252	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.7	592	0.0440	1.47		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.2	722		2.87		**Direct Entry, Small Tributary & Swamp w/ Channels**
60.7	1,885	Total			

Summary for Subcatchment 32S: Tc Increased

Runoff = 22.66 cfs @ 12.96 hrs, Volume= 5.439 af, Depth= 0.67"
Routed to Reach SP33 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	2,511,941	58	Meadow, non-grazed, HSG B
	718,775	71	Meadow, non-grazed, HSG C
	504,318	78	Meadow, non-grazed, HSG D
	869	48	Brush, Good, HSG B
	3,094	65	Brush, Good, HSG C
	3,715	73	Brush, Good, HSG D
	194,229	55	Woods, Good, HSG B
	36,472	70	Woods, Good, HSG C
	208,159	77	Woods, Good, HSG D
*	34,797	98	Impervious Surface
	58,389	96	Gravel surface, HSG A
	4,274,758	64	Weighted Average
	4,239,961		99.19% Pervious Area
	34,797		0.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
75.2					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 33S: Tc Decreased

Runoff = 40.40 cfs @ 12.68 hrs, Volume= 7.326 af, Depth= 0.86"
Routed to Reach SP33 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	1,673,064	58	Meadow, non-grazed, HSG B
	1,532,439	78	Meadow, non-grazed, HSG D
	30,000	48	Brush, Good, HSG B
	1,381	73	Brush, Good, HSG D
	365,248	55	Woods, Good, HSG B
	817,228	77	Woods, Good, HSG D
*	990	98	Impervious
*	57,041	96	Gravel
	4,477,391	68	Weighted Average
	4,476,401		99.98% Pervious Area
	990		0.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.1	100	0.0340	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
24.6	932	0.0160	0.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	808	0.0420	1.43		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	34	0.0850	4.69		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.2	315	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	60	0.3120	2.79		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	141		3.19		**Direct Entry, Small Tributary & Swamp w/ Channels**
58.5	2,390	Total			

Summary for Subcatchment 34S:

Runoff = 23.92 cfs @ 12.43 hrs, Volume= 3.215 af, Depth= 1.01"
Routed to Reach SP35 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	48,755	58	Meadow, non-grazed, HSG B
	901,892	78	Meadow, non-grazed, HSG D
	14,431	48	Brush, Good, HSG B
	122,984	73	Brush, Good, HSG D
	402,745	55	Woods, Good, HSG B
	142,417	77	Woods, Good, HSG D
*	924	98	Impervious
*	24,679	96	Gravel
	1,658,827	71	Weighted Average
	1,657,903		99.94% Pervious Area
	924		0.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5	100	0.0320	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
2.9	130	0.0220	0.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.3	1,058	0.0190	0.96		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	155		8.93		**Direct Entry,**
42.0	1,443	Total			

Summary for Subcatchment 35S: Tc Increased

Runoff = 72.29 cfs @ 12.21 hrs, Volume= 6.591 af, Depth= 1.31"
Routed to Reach SP35 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	32,311	58	Meadow, non-grazed, HSG B
	36,347	71	Meadow, non-grazed, HSG C
	1,435,818	78	Meadow, non-grazed, HSG D
	0	48	Brush, Good, HSG B
	26,860	73	Brush, Good, HSG D
	450,341	55	Woods, Good, HSG B
	79,608	70	Woods, Good, HSG C
	204,500	77	Woods, Good, HSG D
*	262,087	98	Impervious
*	86,419	96	Gravel
*	20,487	98	Water
	2,634,778	76	Weighted Average
	2,352,204		89.28% Pervious Area
	282,574		10.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 36S:

Runoff = 149.27 cfs @ 12.36 hrs, Volume= 17.571 af, Depth= 1.37"
Routed to Reach SP36 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	52,184	58	Meadow, non-grazed, HSG B
	695	71	Meadow, non-grazed, HSG C
	5,084,227	78	Meadow, non-grazed, HSG D
	1,145	48	Brush, Good, HSG B
	16,580	73	Brush, Good, HSG D
	260,974	55	Woods, Good, HSG B
	346,117	70	Woods, Good, HSG C
	759,795	77	Woods, Good, HSG D
*	65,616	98	Impervious
	110,128	96	Gravel surface, HSG D
	6,697,461	77	Weighted Average
	6,631,845		99.02% Pervious Area
	65,616		0.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.4					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 37S: Tc Decreased

Runoff = 86.40 cfs @ 12.38 hrs, Volume= 10.383 af, Depth= 1.37"
Routed to Reach SP37 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
*	45,998	98	Impervious
	43,580	96	Gravel surface, HSG A
	38,279	58	Meadow, non-grazed, HSG B
	3,240,699	78	Meadow, non-grazed, HSG D
	805	48	Brush, Good, HSG B
	915	73	Brush, Good, HSG D
	112,226	55	Woods, Good, HSG B
	61,578	70	Woods, Good, HSG C
	406,259	77	Woods, Good, HSG D
*	7,485	98	Water
	3,957,824	77	Weighted Average
	3,904,341		98.65% Pervious Area
	53,483		1.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
39.5					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 38S:

Runoff = 16.44 cfs @ 12.36 hrs, Volume= 1.927 af, Depth= 1.37"
Routed to Reach SP38 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

Area (sf)	CN	Description
358,535	78	Meadow, non-grazed, HSG D
376,018	77	Woods, Good, HSG D
734,553	77	Weighted Average
734,553		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.1					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 39S:

Runoff = 34.06 cfs @ 12.59 hrs, Volume= 5.376 af, Depth= 1.13"
Routed to Reach SP39 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	123,759	30	Woods, Good, HSG A
*	17,184	98	Impervious Pavement
	126,757	30	Meadow, non-grazed, HSG A
	11,527	30	Brush, Good, HSG A
	37,275	70	Woods, Good, HSG C
	0	71	Meadow, non-grazed, HSG C
	193,814	77	Woods, Good, HSG D
	106,670	73	Brush, Good, HSG D
*	31,902	96	Gravel
	1,846,549	78	Meadow, non-grazed, HSG D
	2,495,437	73	Weighted Average
	2,478,253		99.31% Pervious Area
	17,184		0.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
54.4					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 41S: Tc Decreased

Runoff = 14.43 cfs @ 12.49 hrs, Volume= 2.051 af, Depth= 1.07"
Routed to Reach SP41 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
*	16,863	98	Impervious
*	72,825	96	Gravel
	5,483	58	Meadow, non-grazed, HSG B
	588,558	71	Meadow, non-grazed, HSG C
	144,388	78	Meadow, non-grazed, HSG D
	12,946	55	Woods, Good, HSG B
	30,598	70	Woods, Good, HSG C
	0	77	Woods, Good, HSG D
	45,174	48	Brush, Good, HSG B
	46,122	65	Brush, Good, HSG C
	33,461	61	>75% Grass cover, Good, HSG B
	6,740	74	>75% Grass cover, Good, HSG C
	1,003,158	72	Weighted Average
	986,295		98.32% Pervious Area
	16,863		1.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
46.3					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 42S: Tc Decreased

Runoff = 88.40 cfs @ 13.05 hrs, Volume= 19.709 af, Depth= 1.37"
Routed to Reach SP42 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

Area (sf)	CN	Description
20,734	98	Water Surface, HSG A
0	98	Unconnected roofs, HSG A
103,574	96	Gravel surface, HSG A
937,658	71	Meadow, non-grazed, HSG C
5,676,297	78	Meadow, non-grazed, HSG D
1,664	65	Brush, Good, HSG C
84,283	73	Brush, Good, HSG D
15,094	70	Woods, Good, HSG C
673,129	77	Woods, Good, HSG D
7,512,433	77	Weighted Average
7,491,699		99.72% Pervious Area
20,734		0.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
90.9					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 43S:

Runoff = 49.77 cfs @ 12.50 hrs, Volume= 6.941 af, Depth= 1.37"
Routed to Reach SP43 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
*	2,810	98	Impervious
*	31,551	96	Gravel
	437,819	71	Meadow, non-grazed, HSG C
	2,143,512	78	Meadow, non-grazed, HSG D
	11,726	70	Woods, Good, HSG C
	18,430	77	Woods, Good, HSG D
	2,645,848	77	Weighted Average
	2,643,038		99.89% Pervious Area
	2,810		0.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
48.7					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 44S:

Runoff = 60.50 cfs @ 13.15 hrs, Volume= 14.091 af, Depth= 1.44"
Routed to Reach SP44 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
*	136,521	98	Water
*	96,600	96	Gravel
	130,201	58	Meadow, non-grazed, HSG B
	48,275	71	Meadow, non-grazed, HSG C
	4,197,773	78	Meadow, non-grazed, HSG D
	199	65	Brush, Good, HSG C
	120,170	73	Brush, Good, HSG D
	3,597	55	Woods, Good, HSG B
	392,848	77	Woods, Good, HSG D
	5,126,184	78	Weighted Average
	4,989,663		97.34% Pervious Area
	136,521		2.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
97.1					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 44SA:

Runoff = 24.34 cfs @ 12.20 hrs, Volume= 2.159 af, Depth= 1.44"
Routed to Reach SP44A :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
*	8,459	98	Water
*	21,218	98	Impervious
*	12,958	96	Gravel
	4,574	58	Meadow, non-grazed, HSG B
	57,514	71	Meadow, non-grazed, HSG C
	588,570	78	Meadow, non-grazed, HSG D
	988	48	Brush, Good, HSG B
	17,587	73	Brush, Good, HSG D
	2,222	55	Woods, Good, HSG B
	22,179	70	Woods, Good, HSG C
	49,212	77	Woods, Good, HSG D
	785,481	78	Weighted Average
	755,804		96.22% Pervious Area
	29,677		3.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.5					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 45S: Tc Increased

Runoff = 18.30 cfs @ 12.24 hrs, Volume= 1.751 af, Depth= 1.57"
Routed to Reach SP45 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
*	49,323	98	Impervious
	33,429	77	Woods, Good, HSG D
	12,134	73	Brush, Good, HSG D
*	7,562	98	Water
*	17,226	96	Gravel
	462,284	78	Meadow, non-grazed, HSG D
	581,958	80	Weighted Average
	525,073		90.23% Pervious Area
	56,885		9.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.1					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 46S:

Runoff = 33.26 cfs @ 12.58 hrs, Volume= 5.085 af, Depth= 1.25"
Routed to Reach SP46 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	273,270	77	Woods, Good, HSG D
	229,882	55	Woods, Good, HSG B
	1,564,954	78	Meadow, non-grazed, HSG D
*	22,352	96	Gravel
	43,511	73	Brush, Good, HSG D
	2,133,969	75	Weighted Average
	2,133,969		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
53.8					**Direct Entry, SEE SPREADSHEET**

Summary for Reach SP20:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 56.928 ac, 2.55% Impervious, Inflow Depth = 1.18" for 10-yr event
Inflow = 21.46 cfs @ 13.38 hrs, Volume= 5.598 af
Outflow = 21.46 cfs @ 13.38 hrs, Volume= 5.598 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Summary for Pond 20P: Plunge Pool

Inflow Area = 56.928 ac, 2.55% Impervious, Inflow Depth = 1.19" for 10-yr event
Inflow = 21.47 cfs @ 13.38 hrs, Volume= 5.622 af
Outflow = 21.46 cfs @ 13.38 hrs, Volume= 5.598 af, Atten= 0%, Lag= 0.1 min
Primary = 21.46 cfs @ 13.38 hrs, Volume= 5.598 af
Routed to Reach SP20 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 703.29' @ 13.38 hrs Surf.Area= 1,564 sf Storage= 1,444 cf

Plug-Flow detention time= 4.3 min calculated for 5.598 af (100% of inflow)
Center-of-Mass det. time= 1.5 min (951.6 - 950.1)

Volume	Invert	Avail.Storage	Storage Description
#1	702.00'	2,775 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
702.00	0	0	0
702.10	880	44	44
703.00	1,300	981	1,025
704.00	2,200	1,750	2,775

Device	Routing	Invert	Outlet Devices
#1	Primary	703.00'	**40.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.0' Crest Height

Primary OutFlow Max=21.43 cfs @ 13.38 hrs HW=703.29' (Free Discharge)
1=Sharp-Crested Rectangular Weir (Weir Controls 21.43 cfs @ 1.83 fps)

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Runoff Area=3,020,873 sf 2.32% Impervious Runoff Depth=1.07"
Flow Length=3,272' Tc=52.0 min CN=65 Runoff=37.81 cfs 6.180 af

Subcatchment 3S: Runoff Area=324,754 sf 0.00% Impervious Runoff Depth=1.01"
Flow Length=836' Tc=23.1 min CN=64 Runoff=6.72 cfs 0.629 af

Subcatchment 4S: Runoff Area=16,260,538 sf 1.80% Impervious Runoff Depth=1.38"
Flow Length=7,788' Tc=76.3 min CN=70 Runoff=211.69 cfs 42.822 af

Subcatchment 5S: Runoff Area=1,679,234 sf 4.96% Impervious Runoff Depth=1.58"
Tc=34.3 min CN=73 Runoff=46.35 cfs 5.069 af

Subcatchment 6S: Runoff Area=598,623 sf 0.00% Impervious Runoff Depth=1.51"
Flow Length=1,150' Tc=39.7 min CN=72 Runoff=14.15 cfs 1.729 af

Subcatchment 7S: Runoff Area=10,734,763 sf 0.12% Impervious Runoff Depth=1.38"
Flow Length=6,505' Tc=76.1 min CN=70 Runoff=140.36 cfs 28.270 af

Subcatchment 8S: Runoff Area=1,124,521 sf 2.06% Impervious Runoff Depth=1.44"
Flow Length=2,618' Tc=29.5 min CN=71 Runoff=30.95 cfs 3.103 af

Subcatchment 9S: Runoff Area=698,860 sf 9.80% Impervious Runoff Depth=1.79"
Flow Length=1,212' Tc=81.2 min CN=76 Runoff=11.91 cfs 2.396 af

Subcatchment 10S: Runoff Area=1,561,270 sf 0.03% Impervious Runoff Depth=1.79"
Flow Length=2,211' Tc=88.4 min CN=76 Runoff=25.04 cfs 5.353 af

Subcatchment 11S: Runoff Area=521,344 sf 3.42% Impervious Runoff Depth=2.02"
Flow Length=1,039' Tc=43.1 min CN=79 Runoff=16.24 cfs 2.015 af

Subcatchment 12S: Runoff Area=1,437,516 sf 0.71% Impervious Runoff Depth=1.94"
Flow Length=2,388' Tc=104.6 min CN=78 Runoff=22.09 cfs 5.343 af

Subcatchment 13S: Tc Increase Runoff Area=2,395,812 sf 0.01% Impervious Runoff Depth=1.65"
Tc=84.2 min CN=74 Runoff=36.15 cfs 7.553 af

Subcatchment 14S: Tc Increase Runoff Area=516,650 sf 1.80% Impervious Runoff Depth=1.79"
Tc=36.6 min CN=76 Runoff=15.76 cfs 1.772 af

Subcatchment 15S: Runoff Area=329,223 sf 1.70% Impervious Runoff Depth=1.13"
Flow Length=707' Tc=30.6 min CN=66 Runoff=6.48 cfs 0.710 af

Subcatchment 16S: Runoff Area=1,134,608 sf 1.18% Impervious Runoff Depth=1.94"
Flow Length=1,611' Tc=58.8 min CN=78 Runoff=27.01 cfs 4.217 af

Subcatchment 16SA: Runoff Area=657,258 sf 1.69% Impervious Runoff Depth=1.79"
Tc=39.9 min CN=76 Runoff=18.88 cfs 2.254 af

Subcatchment 17S: Tc Increase Runoff Area=6,847,927 sf 0.62% Impervious Runoff Depth=1.87"
Tc=94.5 min CN=77 Runoff=109.25 cfs 24.456 af

Subcatchment 18S: Runoff Area=4,001,602 sf 0.46% Impervious Runoff Depth=1.87"
Flow Length=3,889' Tc=66.4 min CN=77 Runoff=83.28 cfs 14.291 af

Subcatchment 19S: Runoff Area=5,028,770 sf 1.45% Impervious Runoff Depth=1.79"
Flow Length=4,703' Tc=80.9 min CN=76 Runoff=85.81 cfs 17.243 af

Subcatchment 20S: Runoff Area=2,479,797 sf 2.55% Impervious Runoff Depth=1.65"
Tc=108.6 min CN=74 Runoff=30.72 cfs 7.818 af

Subcatchment 21S: Runoff Area=332,609 sf 6.35% Impervious Runoff Depth=1.31"
Flow Length=921' Tc=31.9 min CN=69 Runoff=7.73 cfs 0.835 af

Subcatchment 22S: Runoff Area=785,644 sf 0.82% Impervious Runoff Depth=1.31"
Flow Length=1,439' Tc=53.3 min CN=69 Runoff=12.63 cfs 1.972 af

Subcatchment 23S: Runoff Area=17,302,399 sf 0.48% Impervious Runoff Depth=1.79"
Flow Length=9,131' Tc=88.7 min CN=76 Runoff=275.76 cfs 59.327 af

Subcatchment 24S: Runoff Area=260,905 sf 6.58% Impervious Runoff Depth=2.02"
Flow Length=1,200' Tc=31.2 min CN=79 Runoff=10.15 cfs 1.008 af

Subcatchment 25S: Runoff Area=10,643,407 sf 0.30% Impervious Runoff Depth=1.72"
Flow Length=7,278' Tc=71.0 min CN=75 Runoff=191.48 cfs 35.009 af

Subcatchment 26S: Runoff Area=823,994 sf 2.72% Impervious Runoff Depth=1.94"
Flow Length=1,347' Tc=43.1 min CN=78 Runoff=24.59 cfs 3.063 af

Subcatchment 27S: Tc Decreased Runoff Area=1,317,635 sf 4.08% Impervious Runoff Depth=1.44"
Flow Length=3,106' Tc=46.3 min CN=71 Runoff=26.37 cfs 3.636 af

Subcatchment 28S: Runoff Area=2,868,130 sf 1.48% Impervious Runoff Depth=1.58"
Flow Length=2,822' Tc=32.9 min CN=73 Runoff=81.51 cfs 8.658 af

Subcatchment 29S: Runoff Area=776,122 sf 2.71% Impervious Runoff Depth=1.65"
Flow Length=1,737' Tc=24.4 min CN=74 Runoff=28.23 cfs 2.447 af

Subcatchment 30S: Runoff Area=618,450 sf 1.49% Impervious Runoff Depth=1.51"
Flow Length=1,427' Tc=38.4 min CN=72 Runoff=14.96 cfs 1.786 af

Subcatchment 31S: Runoff Area=2,981,588 sf 0.45% Impervious Runoff Depth=1.65"
Flow Length=1,885' Tc=60.7 min CN=74 Runoff=57.32 cfs 9.399 af

Subcatchment 32S: Tc Increased Runoff Area=4,274,758 sf 0.81% Impervious Runoff Depth=1.01"
Tc=75.2 min CN=64 Runoff=37.87 cfs 8.276 af

Subcatchment 33S: Tc Decreased Runoff Area=4,477,391 sf 0.02% Impervious Runoff Depth=1.25"
Flow Length=2,390' Tc=58.5 min CN=68 Runoff=63.10 cfs 10.703 af

Subcatchment 34S: Runoff Area=1,658,827 sf 0.06% Impervious Runoff Depth=1.44"
Flow Length=1,443' Tc=42.0 min CN=71 Runoff=35.60 cfs 4.577 af

Subcatchment 35S: Tc Increased Runoff Area=2,634,778 sf 10.72% Impervious Runoff Depth=1.79"
Tc=26.1 min CN=76 Runoff=100.95 cfs 9.034 af

Subcatchment 36S: Runoff Area=6,697,461 sf 0.98% Impervious Runoff Depth=1.87"
Tc=38.4 min CN=77 Runoff=207.05 cfs 23.919 af

Subcatchment 37S: Tc Decreased Runoff Area=3,957,824 sf 1.35% Impervious Runoff Depth=1.87"
Tc=39.5 min CN=77 Runoff=119.98 cfs 14.135 af

Subcatchment 38S: Runoff Area=734,553 sf 0.00% Impervious Runoff Depth=1.87"
Tc=38.1 min CN=77 Runoff=22.81 cfs 2.623 af

Subcatchment 39S: Runoff Area=2,495,437 sf 0.69% Impervious Runoff Depth=1.58"
Tc=54.4 min CN=73 Runoff=49.45 cfs 7.533 af

Subcatchment 41S: Tc Decreased Runoff Area=1,003,158 sf 1.68% Impervious Runoff Depth=1.51"
Tc=46.3 min CN=72 Runoff=21.21 cfs 2.897 af

Subcatchment 42S: Tc Decreased Runoff Area=7,512,433 sf 0.28% Impervious Runoff Depth=1.87"
Tc=90.9 min CN=77 Runoff=123.05 cfs 26.830 af

Subcatchment 43S: Runoff Area=2,645,848 sf 0.11% Impervious Runoff Depth=1.87"
Tc=48.7 min CN=77 Runoff=69.11 cfs 9.449 af

Subcatchment 44S: Runoff Area=5,126,184 sf 2.66% Impervious Runoff Depth=1.94"
Tc=97.1 min CN=78 Runoff=83.34 cfs 19.053 af

Subcatchment 44SA: Runoff Area=785,481 sf 3.78% Impervious Runoff Depth=1.94"
Tc=25.5 min CN=78 Runoff=33.33 cfs 2.919 af

Subcatchment 45S: Tc Increased Runoff Area=581,958 sf 9.77% Impervious Runoff Depth=2.10"
Tc=29.1 min CN=80 Runoff=24.65 cfs 2.338 af

Subcatchment 46S: Runoff Area=2,133,969 sf 0.00% Impervious Runoff Depth=1.72"
Tc=53.8 min CN=75 Runoff=47.12 cfs 7.019 af

Reach SP20: Inflow=30.72 cfs 7.794 af
Outflow=30.72 cfs 7.794 af

Pond 20P: Plunge Pool Peak Elev=703.37' Storage=1,568 cf Inflow=30.72 cfs 7.818 af
Outflow=30.72 cfs 7.794 af

Total Runoff Area = 3,369.717 ac Runoff Volume = 461.667 af Average Runoff Depth = 1.64"
98.73% Pervious = 3,327.070 ac 1.27% Impervious = 42.647 ac

Summary for Subcatchment 1S:

Runoff = 37.81 cfs @ 12.57 hrs, Volume= 6.180 af, Depth= 1.07"
Routed to Reach SP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	94,532	77	Woods, Good, HSG D
	177,755	55	Woods, Good, HSG B
	8,365	48	Brush, Good, HSG B
	9,216	73	Brush, Good, HSG D
*	70,022	98	Impervious Pavement
	1,850,413	58	Meadow, non-grazed, HSG B
	800,918	78	Meadow, non-grazed, HSG D
*	9,652	96	Gravel Access Roads
	3,020,873	65	Weighted Average
	2,950,851		97.68% Pervious Area
	70,022		2.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.7	100	0.0060	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
15.8	784	0.0140	0.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.5	2,388		4.20		**Direct Entry, Small Tributary & Swamp w/ Channels**
52.0	3,272	Total			

Summary for Subcatchment 3S:

Runoff = 6.72 cfs @ 12.19 hrs, Volume= 0.629 af, Depth= 1.01"
Routed to Reach SP3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

Area (sf)	CN	Description
1,021	55	Woods, Good, HSG B
223,756	58	Meadow, non-grazed, HSG B
1,749	73	Brush, Good, HSG D
970	77	Woods, Good, HSG D
97,258	78	Meadow, non-grazed, HSG D
0	48	Brush, Good, HSG B
324,754	64	Weighted Average
324,754		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
2.6	241	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.1	445	0.0170	0.91		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	50	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.1	836	Total			

Summary for Subcatchment 4S:

[47] Hint: Peak is 2545% of capacity of segment #4
[47] Hint: Peak is 760% of capacity of segment #7
[47] Hint: Peak is 1521% of capacity of segment #9
[47] Hint: Peak is 657% of capacity of segment #11
[47] Hint: Peak is 7227% of capacity of segment #13
[47] Hint: Peak is 628% of capacity of segment #15

Runoff = 211.69 cfs @ 12.91 hrs, Volume= 42.822 af, Depth= 1.38"
Routed to Reach SP4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
*	5,055,245	58	Meadow, non-grazed, HSG B
*	37,498	48	Brush, Good, HSG B
*	1,235,064	55	Woods, Good, HSG B
*	605,955	71	Meadow, non-grazed, HSG C
*	0	65	Brush, Good, HSG C
*	42,916	70	Woods, Good, HSG C
*	7,600,605	78	Meadow, non-grazed, HSG D
*	66,844	73	Brush, Good, HSG D
*	1,163,308	77	Woods, Good, HSG D
*	292,513	98	Impervious
*	160,590	96	Impervious Gravel
	16,260,538	70	Weighted Average
	15,968,025		98.20% Pervious Area
	292,513		1.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.7	100	0.0060	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
5.4	277	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.6	778	0.0240	2.32		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.3	40	0.0050	2.65	8.32	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
2.1	741		5.90		**Direct Entry, Small Tributary & Swamp w/ Channels**
1.8	401		3.76		**Direct Entry, Small Tributary & Swamp w/Channels**
0.0	18	0.0560	8.86	27.84	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
2.3	605		4.30		**Direct Entry, Small Tributary & Swamp w/ Channels**
0.1	36	0.0140	4.43	13.92	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
2.3	627		4.46		**Direct Entry, Small Tributary & Swamp w/ Channels**
0.1	40	0.0750	10.25	32.22	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
2.1	527		4.20		**Direct Entry, Small Tributary & Swamp w/ Channels**
0.2	40	0.0250	3.73	2.93	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.025 Corrugated metal
4.0	593		2.47		**Direct Entry, Roadside Ditch**
0.1	40	0.0250	6.87	33.72	**Pipe Channel,** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.025 Corrugated metal
23.2	2,925		2.10		**Direct Entry, Small Tributary & Swamp w/ Channels**
76.3	7,788	Total			

Summary for Subcatchment 5S:

Runoff = 46.35 cfs @ 12.31 hrs, Volume= 5.069 af, Depth= 1.58"
Routed to Reach SP4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	52,679	58	Meadow, non-grazed, HSG B
	3,284	48	Brush, Good, HSG B
	55,693	55	Woods, Good, HSG B
	840,293	71	Meadow, non-grazed, HSG C
	86,000	65	Brush, Good, HSG C
	106,467	70	Woods, Good, HSG C
	384,691	78	Meadow, non-grazed, HSG D
	6,417	73	Brush, Good, HSG D
	517	77	Woods, Good, HSG D
*	83,276	98	Impervious
*	59,917	96	Impervious Gravel
	1,679,234	73	Weighted Average
	1,595,958		95.04% Pervious Area
	83,276		4.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
34.3					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 6S:

Runoff = 14.15 cfs @ 12.39 hrs, Volume= 1.729 af, Depth= 1.51"
Routed to Reach SP6 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

Area (sf)	CN	Description
450,041	71	Meadow, non-grazed, HSG C
31,090	65	Brush, Good, HSG C
23,988	70	Woods, Good, HSG C
76,643	78	Meadow, non-grazed, HSG D
11,524	73	Brush, Good, HSG D
5,337	77	Woods, Good, HSG D
598,623	72	Weighted Average
598,623		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7	100	0.0050	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
4.3	256	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.5	341	0.1030	2.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	316	0.1870	2.16		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.8	137		1.26		**Direct Entry, Grassed Waterway**
39.7	1,150	Total			

Summary for Subcatchment 7S:

Runoff = 140.36 cfs @ 12.90 hrs, Volume= 28.270 af, Depth= 1.38"
Routed to Reach SP7 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	2,818,354	58	Meadow, non-grazed, HSG B
	23,489	48	Brush, Good, HSG B
	609,636	55	Woods, Good, HSG B
	2,235,076	71	Meadow, non-grazed, HSG C
	2,183	65	Brush, Good, HSG C
	140,335	70	Woods, Good, HSG C
	2,961,060	78	Meadow, non-grazed, HSG D
	59,423	73	Brush, Good, HSG D
	1,804,999	77	Woods, Good, HSG D
*	13,334	98	Impervious
*	66,874	96	Impervious Gravel
	10,734,763	70	Weighted Average
	10,721,429		99.88% Pervious Area
	13,334		0.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0190	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
5.4	449	0.0390	1.38		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.2	512	0.0220	1.04		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.3	945	0.0240	0.77		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.6	192	0.0310	0.88		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.9	3,312		3.70		**Direct Entry, Small Tributary & Swamp w/ Channels**
4.1	284	0.0530	1.15		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.8	711		4.30		**Direct Entry, Small Tributary & Swamp w/ Channels**
76.1	6,505	Total			

Summary for Subcatchment 8S:

Runoff = 30.95 cfs @ 12.26 hrs, Volume= 3.103 af, Depth= 1.44"
Routed to Reach SP8 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	388,863	58	Meadow, non-grazed, HSG B
	12,787	48	Brush, Good, HSG B
	25,785	55	Woods, Good, HSG B
	12,891	71	Meadow, non-grazed, HSG C
	617,944	78	Meadow, non-grazed, HSG D
	0	73	Brush, Good, HSG D
	24,932	77	Woods, Good, HSG D
*	23,130	98	Impervious
*	18,189	96	Impervious Gravel
	1,124,521	71	Weighted Average
	1,101,391		97.94% Pervious Area
	23,130		2.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.2	100	0.0420	0.14		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
6.0	364	0.0210	1.01		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.3	1,017		2.68		**Direct Entry, Roadside Ditch**
5.0	1,137		3.82		**Direct Entry, Roadside Ditch**
29.5	2,618	Total			

Summary for Subcatchment 9S:

Runoff = 11.91 cfs @ 12.91 hrs, Volume= 2.396 af, Depth= 1.79"
Routed to Reach SP9 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	110,684	58	Meadow, non-grazed, HSG B
	7,321	48	Brush, Good, HSG B
	2,058	55	Woods, Good, HSG B
	477,069	78	Meadow, non-grazed, HSG D
	30,437	73	Brush, Good, HSG D
	0	77	Woods, Good, HSG D
*	68,468	98	Impervious
*	2,823	96	Impervious Gravel
	698,860	76	Weighted Average
	630,392		90.20% Pervious Area
	68,468		9.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
54.6	100	0.0010	0.03		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
18.0	540	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.6	572		1.11		**Direct Entry, Large Tributary**
81.2	1,212	Total			

Summary for Subcatchment 10S:

Runoff = 25.04 cfs @ 13.04 hrs, Volume= 5.353 af, Depth= 1.79"
Routed to Reach SP10 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	29,043	55	Woods, Good, HSG B
	1,789	48	Brush, Good, HSG B
	101,568	58	Meadow, non-grazed, HSG B
	11,050	73	Brush, Good, HSG D
	2,326	77	Woods, Good, HSG D
	1,408,691	78	Meadow, non-grazed, HSG D
*	6,323	96	Impervious Gravel
*	480	98	Impervious
	1,561,270	76	Weighted Average
	1,560,790		99.97% Pervious Area
	480		0.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
54.6	100	0.0010	0.03		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
16.9	388	0.0030	0.38		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	33	0.0610	1.23		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.6	165	0.0120	0.77		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.2	310		1.63		**Direct Entry, Small Tributary & Swamp w/ Channels**
8.2	920		1.88		**Direct Entry, Small Tributary & Swamp w/ Channels**
1.5	295		3.39		**Direct Entry, Small Tributary & Swamp w/ Channels**
88.4	2,211	Total			

Summary for Subcatchment 11S:

Runoff = 16.24 cfs @ 12.41 hrs, Volume= 2.015 af, Depth= 2.02"
Routed to Reach SP11 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	493,130	78	Meadow, non-grazed, HSG D
	1,884	73	Brush, Good, HSG D
*	17,843	98	Impervious
*	8,487	96	Impervious Gravel
	521,344	79	Weighted Average
	503,501		96.58% Pervious Area
	17,843		3.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.2	100	0.0120	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
11.8	521	0.0110	0.73		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.1	418	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
43.1	1,039	Total			

Summary for Subcatchment 12S:

Runoff = 22.09 cfs @ 13.24 hrs, Volume= 5.343 af, Depth= 1.94"
Routed to Reach SP12 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

Area (sf)	CN	Description
10,201	98	Unconnected roofs, HSG A
8,610	58	Meadow, non-grazed, HSG B
1,312,538	78	Meadow, non-grazed, HSG D
5,822	73	Brush, Good, HSG D
100,345	77	Woods, Good, HSG D
1,437,516	78	Weighted Average
1,427,315		99.29% Pervious Area
10,201		0.71% Impervious Area
10,201		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.7	100	0.0470	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.40"
25.9	601	0.0060	0.39		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
48.0	1,687	0.0070	0.59		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
104.6	2,388	Total			

Summary for Subcatchment 13S: Tc Increase

Runoff = 36.15 cfs @ 12.99 hrs, Volume= 7.553 af, Depth= 1.65"
Routed to Reach SP13 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	279,424	58	Meadow, non-grazed, HSG B
	1,560,883	78	Meadow, non-grazed, HSG D
	0	48	Brush, Good, HSG B
	77,098	73	Brush, Good, HSG D
	137,874	55	Woods, Good, HSG B
	323,619	77	Woods, Good, HSG D
*	219	98	Impervious
*	16,695	96	Gravel
	2,395,812	74	Weighted Average
	2,395,593		99.99% Pervious Area
	219		0.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
84.2					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 14S: Tc Increase

Runoff = 15.76 cfs @ 12.34 hrs, Volume= 1.772 af, Depth= 1.79"
Routed to Reach SP14 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
*	9,279	98	Impervious
	70,836	58	Meadow, non-grazed, HSG B
	422,033	78	Meadow, non-grazed, HSG D
	739	48	Brush, Good, HSG B
	189	73	Brush, Good, HSG D
*	13,574	96	Gravel
	516,650	76	Weighted Average
	507,371		98.20% Pervious Area
	9,279		1.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.6					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 15S:

Runoff = 6.48 cfs @ 12.28 hrs, Volume= 0.710 af, Depth= 1.13"
Routed to Reach SP15 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
*	5,583	98	Impervious
	182,614	58	Meadow, non-grazed, HSG B
	124,093	78	Meadow, non-grazed, HSG D
	4,836	48	Brush, Good, HSG B
	2,091	73	Brush, Good, HSG D
	5,021	55	Woods, Good, HSG B
	4,077	77	Woods, Good, HSG D
*	908	96	Gravel
	329,223	66	Weighted Average
	323,640		98.30% Pervious Area
	5,583		1.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.9	100	0.0220	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
6.4	387	0.0210	1.01		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.3	220	0.0040	0.44		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
30.6	707	Total			

Summary for Subcatchment 16S:

Runoff = 27.01 cfs @ 12.62 hrs, Volume= 4.217 af, Depth= 1.94"
Routed to Reach SP16 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
*	13,357	98	Impervious
*	38,791	96	Gravel
	22,931	71	Meadow, non-grazed, HSG C
	906,909	78	Meadow, non-grazed, HSG D
	0	65	Brush, Good, HSG C
	22,358	73	Brush, Good, HSG D
	863	70	Woods, Good, HSG C
	129,399	77	Woods, Good, HSG D
	1,134,608	78	Weighted Average
	1,121,251		98.82% Pervious Area
	13,357		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.0	100	0.0170	0.06		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 2.40"
3.8	142	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
26.0	1,035	0.0090	0.66		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.0	334		2.74		**Direct Entry, Small Tributary & Swamp w/ Channels**
58.8	1,611	Total			

Summary for Subcatchment 16SA:

Runoff = 18.88 cfs @ 12.38 hrs, Volume= 2.254 af, Depth= 1.79"
Routed to Reach SP16 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
*	11,093	98	Impervious
*	7,200	96	Gravel
	70,093	58	Meadow, non-grazed, HSG B
	352,729	78	Meadow, non-grazed, HSG D
	259	48	Brush, Good, HSG B
	14,806	73	Brush, Good, HSG D
	0	70	Woods, Good, HSG C
	201,078	77	Woods, Good, HSG D
	657,258	76	Weighted Average
	646,165		98.31% Pervious Area
	11,093		1.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
39.9					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 17S: Tc Increase

Runoff = 109.25 cfs @ 13.10 hrs, Volume= 24.456 af, Depth= 1.87"
Routed to Reach SP17 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	250,002	71	Meadow, non-grazed, HSG C
	4,840,683	78	Meadow, non-grazed, HSG D
	15,222	65	Brush, Good, HSG C
	303,983	73	Brush, Good, HSG D
	105,112	70	Woods, Good, HSG C
	1,226,602	77	Woods, Good, HSG D
*	19,863	98	Impervious
*	22,826	98	Water
*	63,634	96	Gravel
	6,847,927	77	Weighted Average
	6,805,238		99.38% Pervious Area
	42,689		0.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
94.5					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 18S:

Runoff = 83.28 cfs @ 12.73 hrs, Volume= 14.291 af, Depth= 1.87"
Routed to Reach SP18 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	3,354	98	Water Surface, HSG A
*	15,090	98	Impervious
	5,936	58	Meadow, non-grazed, HSG B
	29,943	71	Meadow, non-grazed, HSG C
	2,418,932	78	Meadow, non-grazed, HSG D
	156,565	73	Brush, Good, HSG D
	23,440	55	Woods, Good, HSG B
	321,869	70	Woods, Good, HSG C
	978,658	77	Woods, Good, HSG D
	0	48	Brush, Good, HSG B
*	47,815	96	Gravel
	4,001,602	77	Weighted Average
	3,983,158		99.54% Pervious Area
	18,444		0.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.8	100	0.0150	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
6.8	205	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.6	2,144	0.0920	1.52		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	1,440		2.92		**Direct Entry, Ditch**
66.4	3,889	Total			

Summary for Subcatchment 19S:

Runoff = 85.81 cfs @ 12.93 hrs, Volume= 17.243 af, Depth= 1.79"
Routed to Reach SP19 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
*	28,979	98	Impervious
*	21,540	96	Gravel
*	44,123	98	Water
	84,343	58	Meadow, non-grazed, HSG B
	89,334	71	Meadow, non-grazed, HSG C
	2,665,044	78	Meadow, non-grazed, HSG D
	10,082	48	Brush, Good, HSG B
	47,175	73	Brush, Good, HSG D
	16,971	55	Woods, Good, HSG B
	681,805	70	Woods, Good, HSG C
	1,339,374	77	Woods, Good, HSG D
	5,028,770	76	Weighted Average
	4,955,668		98.55% Pervious Area
	73,102		1.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.7	100	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
21.4	1,915	0.0890	1.49		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.3	706	0.0720	1.88		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.7	109	0.0050	0.49		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.9	244	0.0410	1.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.2	706		1.63		**Direct Entry, Small Tributary & Swamp w/ Channels**
6.7	923		2.30		**Direct Entry, Small Tributary & Swamps w/ Channels**
80.9	4,703	Total			

Summary for Subcatchment 20S:

Runoff = 30.72 cfs @ 13.35 hrs, Volume= 7.818 af, Depth= 1.65"
Routed to Pond 20P : Plunge Pool

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
*	21,402	98	Water
*	41,934	98	Impervious
*	22,850	96	Gravel
	97,547	30	Meadow, non-grazed, HSG A
	56,401	58	Meadow, non-grazed, HSG B
	129,691	71	Meadow, non-grazed, HSG C
	1,647,144	78	Meadow, non-grazed, HSG D
	60,097	73	Brush, Good, HSG D
	131,709	55	Woods, Good, HSG B
	6,015	70	Woods, Good, HSG C
	265,007	77	Woods, Good, HSG D
	0	30	Brush, Good, HSG A
	0	48	Brush, Good, HSG B
	0	65	Brush, Good, HSG C
	2,479,797	74	Weighted Average
	2,416,461		97.45% Pervious Area
	63,336		2.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
108.6					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 21S:

Runoff = 7.73 cfs @ 12.29 hrs, Volume= 0.835 af, Depth= 1.31"
Routed to Reach SP21 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	29,188	30	Meadow, non-grazed, HSG A
	257,297	71	Meadow, non-grazed, HSG C
	12,465	78	Meadow, non-grazed, HSG D
	683	30	Brush, Good, HSG A
	5,947	65	Brush, Good, HSG C
	1,326	30	Woods, Good, HSG A
*	21,108	98	Impervious
*	4,595	96	Gravel
	332,609	69	Weighted Average
	311,501		93.65% Pervious Area
	21,108		6.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0410	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
19.5	821	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
31.9	921	Total			

Summary for Subcatchment 22S:

Runoff = 12.63 cfs @ 12.58 hrs, Volume= 1.972 af, Depth= 1.31"
Routed to Reach SP39 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

Area (sf)	CN	Description
87,751	30	Meadow, non-grazed, HSG A
420,889	71	Meadow, non-grazed, HSG C
132,262	78	Meadow, non-grazed, HSG D
814	65	Brush, Good, HSG C
7,253	73	Brush, Good, HSG D
376	30	Woods, Good, HSG A
3,389	70	Woods, Good, HSG C
126,479	77	Woods, Good, HSG D
6,431	98	Paved roads w/curbs & sewers, HSG A
785,644	69	Weighted Average
779,213		99.18% Pervious Area
6,431		0.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7	100	0.0050	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
22.4	1,072	0.0130	0.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	83	0.1330	1.82		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	184		2.20		**Direct Entry, Small Tributary & Swamp w/ Channels**
53.3	1,439	Total			

Summary for Subcatchment 23S:

Runoff = 275.76 cfs @ 13.05 hrs, Volume= 59.327 af, Depth= 1.79"
Routed to Reach SP23 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	33,362	30	Meadow, non-grazed, HSG A
	494,394	71	Meadow, non-grazed, HSG C
	7,481,745	78	Meadow, non-grazed, HSG D
	299,742	65	Brush, Good, HSG C
	1,781,898	73	Brush, Good, HSG D
	1,493,479	70	Woods, Good, HSG C
	5,556,751	77	Woods, Good, HSG D
*	68,445	98	Impervious
	78,077	96	Gravel surface, HSG D
*	14,506	98	Water
	17,302,399	76	Weighted Average
	17,219,448		99.52% Pervious Area
	82,951		0.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.4	100	0.0420	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
22.2	1,941	0.0850	1.46		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.2	806	0.0580	1.20		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.6	1,740		2.49		**Direct Entry, Small Tributary & Swamp w/ Channels**
4.2	1,229		4.93		**Direct Entry, Small Tributary & Swamp w/ Channels**
9.5	1,895		3.32		**Direct Entry, Small Tributary & Swamp w/ Channels**
3.8	650		2.82		**Direct Entry, Small Tributary & Swamp w/ Channels**
7.8	770		1.64		**Direct Entry, Roadside Ditch**
88.7	9,131	Total			

Summary for Subcatchment 24S:

Runoff = 10.15 cfs @ 12.26 hrs, Volume= 1.008 af, Depth= 2.02"
Routed to Reach SP24 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	226,793	78	Meadow, non-grazed, HSG D
	7,721	73	Brush, Good, HSG D
	9,216	77	Woods, Good, HSG D
*	17,175	98	Impervious
	260,905	79	Weighted Average
	243,730		93.42% Pervious Area
	17,175		6.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	100	0.0250	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
14.0	830	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.1	270		2.17		**Direct Entry, Small Tributary & Swamp w/ Channels**
31.2	1,200	Total			

Summary for Subcatchment 25S:

Runoff = 191.48 cfs @ 12.80 hrs, Volume= 35.009 af, Depth= 1.72"
Routed to Reach SP25 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	862,128	58	Meadow, non-grazed, HSG B
	932,684	71	Meadow, non-grazed, HSG C
	5,546,681	78	Meadow, non-grazed, HSG D
	0	48	Brush, Good, HSG B
	0	65	Brush, Good, HSG C
	119,208	73	Brush, Good, HSG D
	153,918	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	2,861,400	77	Woods, Good, HSG D
*	24,324	98	Impervious
*	135,269	96	Gravel
*	7,795	98	Water
	10,643,407	75	Weighted Average
	10,611,288		99.70% Pervious Area
	32,119		0.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0190	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
18.9	1,281	0.0510	1.13		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.8	640	0.0300	1.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.1	4,093		3.98		**Direct Entry, Small Tributary & Swamp w/ Channels**
4.6	482		1.76		**Direct Entry, Small Tributary & Swamp w/ Channels**
4.8	682		2.39		**Direct Entry, Small Tributary & Swamp w/ Channels**
71.0	7,278	Total			

Summary for Subcatchment 26S:

Runoff = 24.59 cfs @ 12.41 hrs, Volume= 3.063 af, Depth= 1.94"
Routed to Reach SP26 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	64,296	77	Woods, Good, HSG D
*	4,254	98	Water
	49,680	71	Meadow, non-grazed, HSG C
*	18,136	98	Impervious Pavement
	675,322	78	Meadow, non-grazed, HSG D
	0	65	Brush, Good, HSG C
	0	73	Brush, Good, HSG D
*	12,306	96	Gravel
	823,994	78	Weighted Average
	801,604		97.28% Pervious Area
	22,390		2.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.5	100	0.0150	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
5.4	527		1.64		**Direct Entry, Ditch**
19.2	720	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
43.1	1,347	Total			

Summary for Subcatchment 27S: Tc Decreased

Runoff = 26.37 cfs @ 12.48 hrs, Volume= 3.636 af, Depth= 1.44"
Routed to Reach SP27 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

Area (sf)	CN	Description
102,401	30	Meadow, non-grazed, HSG A
72,705	58	Meadow, non-grazed, HSG B
352,955	71	Meadow, non-grazed, HSG C
599,484	78	Meadow, non-grazed, HSG D
12,548	48	Brush, Good, HSG B
136	65	Brush, Good, HSG C
30,962	73	Brush, Good, HSG D
1,761	30	Woods, Good, HSG A
10,015	55	Woods, Good, HSG B
44,190	70	Woods, Good, HSG C
27,054	77	Woods, Good, HSG D
53,768	98	Paved roads w/curbs & sewers, HSG A
9,656	96	Gravel surface, HSG A
0	30	Brush, Good, HSG A
1,317,635	71	Weighted Average
1,263,867		95.92% Pervious Area
53,768		4.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
0.1	20	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.2	952	0.0980	2.19		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.4	548	0.0820	1.43		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.0	152	0.0330	1.27		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.9	824	0.0230	1.06		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.3	510		1.34		**Direct Entry, Small Tributary & Swamp w/ Channels**
46.3	3,106	Total			

Summary for Subcatchment 28S:

Runoff = 81.51 cfs @ 12.29 hrs, Volume= 8.658 af, Depth= 1.58"
Routed to Reach SP28 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	101,277	58	Meadow, non-grazed, HSG B
	1,345,272	71	Meadow, non-grazed, HSG C
	1,105,675	78	Meadow, non-grazed, HSG D
	66,838	48	Brush, Good, HSG B
	158	65	Brush, Good, HSG C
	107,034	73	Brush, Good, HSG D
	36,439	55	Woods, Good, HSG B
	794	70	Woods, Good, HSG C
	10,011	77	Woods, Good, HSG D
*	26,701	98	Impervious Surface
*	15,860	98	Water
*	52,071	96	Gravel
	2,868,130	73	Weighted Average
	2,825,569		98.52% Pervious Area
	42,561		1.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	100	0.0130	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
2.3	163	0.0290	1.19		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.0	2,559		3.88		**Direct Entry, Roadside Ditch**
32.9	2,822	Total			

Summary for Subcatchment 29S:

Runoff = 28.23 cfs @ 12.19 hrs, Volume= 2.447 af, Depth= 1.65"
Routed to Reach SP29 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	247,600	71	Meadow, non-grazed, HSG C
	34,093	70	Woods, Good, HSG C
*	21,045	98	Impervious Pavement
*	5,127	96	Gravel
	11,168	55	Woods, Good, HSG B
	9,072	48	Brush, Good, HSG B
	56,526	58	Meadow, non-grazed, HSG B
	3,801	77	Woods, Good, HSG D
	386,950	78	Meadow, non-grazed, HSG D
	0	73	Brush, Good, HSG D
	740	65	Brush, Good, HSG C
	776,122	74	Weighted Average
	755,077		97.29% Pervious Area
	21,045		2.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	100	0.0650	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
0.5	63	0.0950	2.16		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	31	0.1290	1.80		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.1	612	0.0570	1.67		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	31	0.6100	3.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.1	900		2.12		**Direct Entry, Roadside Ditch**
24.4	1,737	Total			

Summary for Subcatchment 30S:

Runoff = 14.96 cfs @ 12.37 hrs, Volume= 1.786 af, Depth= 1.51"
Routed to Reach SP30 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	519,229	71	Meadow, non-grazed, HSG C
	80,992	78	Meadow, non-grazed, HSG D
	8,985	70	Woods, Good, HSG C
*	9,244	98	Impervious Surface
	0	65	Brush, Good, HSG C
	0	73	Brush, Good, HSG D
	618,450	72	Weighted Average
	609,206		98.51% Pervious Area
	9,244		1.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.7	100	0.0060	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
10.4	1,152	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.3	175		2.28		**Direct Entry, Roadside Ditch**
38.4	1,427	Total			

Summary for Subcatchment 31S:

Runoff = 57.32 cfs @ 12.66 hrs, Volume= 9.399 af, Depth= 1.65"
Routed to Reach SP31 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	71,984	58	Meadow, non-grazed, HSG B
	1,182,870	71	Meadow, non-grazed, HSG C
	1,399,315	78	Meadow, non-grazed, HSG D
	1,947	73	Brush, Good, HSG D
	79,506	55	Woods, Good, HSG B
	1,957	70	Woods, Good, HSG C
	195,809	77	Woods, Good, HSG D
*	13,479	98	Impervious Surface
*	34,721	96	Gravel
	0	48	Brush, Good, HSG B
	0	65	Brush, Good, HSG C
	2,981,588	74	Weighted Average
	2,968,109		99.55% Pervious Area
	13,479		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.2	100	0.0030	0.05		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
6.2	219	0.0070	0.59		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.4	252	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.7	592	0.0440	1.47		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.2	722		2.87		**Direct Entry, Small Tributary & Swamp w/ Channels**
60.7	1,885	Total			

Summary for Subcatchment 32S: Tc Increased

Runoff = 37.87 cfs @ 12.94 hrs, Volume= 8.276 af, Depth= 1.01"
Routed to Reach SP33 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	2,511,941	58	Meadow, non-grazed, HSG B
	718,775	71	Meadow, non-grazed, HSG C
	504,318	78	Meadow, non-grazed, HSG D
	869	48	Brush, Good, HSG B
	3,094	65	Brush, Good, HSG C
	3,715	73	Brush, Good, HSG D
	194,229	55	Woods, Good, HSG B
	36,472	70	Woods, Good, HSG C
	208,159	77	Woods, Good, HSG D
*	34,797	98	Impervious Surface
	58,389	96	Gravel surface, HSG A
	4,274,758	64	Weighted Average
	4,239,961		99.19% Pervious Area
	34,797		0.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
75.2					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 33S: Tc Decreased

Runoff = 63.10 cfs @ 12.66 hrs, Volume= 10.703 af, Depth= 1.25"
Routed to Reach SP33 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	1,673,064	58	Meadow, non-grazed, HSG B
	1,532,439	78	Meadow, non-grazed, HSG D
	30,000	48	Brush, Good, HSG B
	1,381	73	Brush, Good, HSG D
	365,248	55	Woods, Good, HSG B
	817,228	77	Woods, Good, HSG D
*	990	98	Impervious
*	57,041	96	Gravel
	4,477,391	68	Weighted Average
	4,476,401		99.98% Pervious Area
	990		0.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.1	100	0.0340	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
24.6	932	0.0160	0.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	808	0.0420	1.43		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	34	0.0850	4.69		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.2	315	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	60	0.3120	2.79		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	141		3.19		**Direct Entry, Small Tributary & Swamp w/ Channels**
58.5	2,390	Total			

Summary for Subcatchment 34S:

Runoff = 35.60 cfs @ 12.42 hrs, Volume= 4.577 af, Depth= 1.44"
Routed to Reach SP35 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	48,755	58	Meadow, non-grazed, HSG B
	901,892	78	Meadow, non-grazed, HSG D
	14,431	48	Brush, Good, HSG B
	122,984	73	Brush, Good, HSG D
	402,745	55	Woods, Good, HSG B
	142,417	77	Woods, Good, HSG D
*	924	98	Impervious
*	24,679	96	Gravel
	1,658,827	71	Weighted Average
	1,657,903		99.94% Pervious Area
	924		0.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5	100	0.0320	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
2.9	130	0.0220	0.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.3	1,058	0.0190	0.96		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	155		8.93		**Direct Entry,**
42.0	1,443	Total			

Summary for Subcatchment 35S: Tc Increased

Runoff = 100.95 cfs @ 12.21 hrs, Volume= 9.034 af, Depth= 1.79"
Routed to Reach SP35 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	32,311	58	Meadow, non-grazed, HSG B
	36,347	71	Meadow, non-grazed, HSG C
	1,435,818	78	Meadow, non-grazed, HSG D
	0	48	Brush, Good, HSG B
	26,860	73	Brush, Good, HSG D
	450,341	55	Woods, Good, HSG B
	79,608	70	Woods, Good, HSG C
	204,500	77	Woods, Good, HSG D
*	262,087	98	Impervious
*	86,419	96	Gravel
*	20,487	98	Water
	2,634,778	76	Weighted Average
	2,352,204		89.28% Pervious Area
	282,574		10.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 36S:

Runoff = 207.05 cfs @ 12.36 hrs, Volume= 23.919 af, Depth= 1.87"
Routed to Reach SP36 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	52,184	58	Meadow, non-grazed, HSG B
	695	71	Meadow, non-grazed, HSG C
	5,084,227	78	Meadow, non-grazed, HSG D
	1,145	48	Brush, Good, HSG B
	16,580	73	Brush, Good, HSG D
	260,974	55	Woods, Good, HSG B
	346,117	70	Woods, Good, HSG C
	759,795	77	Woods, Good, HSG D
*	65,616	98	Impervious
	110,128	96	Gravel surface, HSG D
	6,697,461	77	Weighted Average
	6,631,845		99.02% Pervious Area
	65,616		0.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.4					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 37S: Tc Decreased

Runoff = 119.98 cfs @ 12.37 hrs, Volume= 14.135 af, Depth= 1.87"
Routed to Reach SP37 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
*	45,998	98	Impervious
	43,580	96	Gravel surface, HSG A
	38,279	58	Meadow, non-grazed, HSG B
	3,240,699	78	Meadow, non-grazed, HSG D
	805	48	Brush, Good, HSG B
	915	73	Brush, Good, HSG D
	112,226	55	Woods, Good, HSG B
	61,578	70	Woods, Good, HSG C
	406,259	77	Woods, Good, HSG D
*	7,485	98	Water
	3,957,824	77	Weighted Average
	3,904,341		98.65% Pervious Area
	53,483		1.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
39.5					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 38S:

Runoff = 22.81 cfs @ 12.35 hrs, Volume= 2.623 af, Depth= 1.87"
Routed to Reach SP38 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

Area (sf)	CN	Description
358,535	78	Meadow, non-grazed, HSG D
376,018	77	Woods, Good, HSG D
734,553	77	Weighted Average
734,553		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.1					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 39S:

Runoff = 49.45 cfs @ 12.58 hrs, Volume= 7.533 af, Depth= 1.58"
Routed to Reach SP39 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	123,759	30	Woods, Good, HSG A
*	17,184	98	Impervious Pavement
	126,757	30	Meadow, non-grazed, HSG A
	11,527	30	Brush, Good, HSG A
	37,275	70	Woods, Good, HSG C
	0	71	Meadow, non-grazed, HSG C
	193,814	77	Woods, Good, HSG D
	106,670	73	Brush, Good, HSG D
*	31,902	96	Gravel
	1,846,549	78	Meadow, non-grazed, HSG D
	2,495,437	73	Weighted Average
	2,478,253		99.31% Pervious Area
	17,184		0.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
54.4					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 41S: Tc Decreased

Runoff = 21.21 cfs @ 12.48 hrs, Volume= 2.897 af, Depth= 1.51"
Routed to Reach SP41 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
*	16,863	98	Impervious
*	72,825	96	Gravel
	5,483	58	Meadow, non-grazed, HSG B
	588,558	71	Meadow, non-grazed, HSG C
	144,388	78	Meadow, non-grazed, HSG D
	12,946	55	Woods, Good, HSG B
	30,598	70	Woods, Good, HSG C
	0	77	Woods, Good, HSG D
	45,174	48	Brush, Good, HSG B
	46,122	65	Brush, Good, HSG C
	33,461	61	>75% Grass cover, Good, HSG B
	6,740	74	>75% Grass cover, Good, HSG C
	1,003,158	72	Weighted Average
	986,295		98.32% Pervious Area
	16,863		1.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
46.3					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 42S: Tc Decreased

Runoff = 123.05 cfs @ 13.04 hrs, Volume= 26.830 af, Depth= 1.87"
Routed to Reach SP42 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

Area (sf)	CN	Description
20,734	98	Water Surface, HSG A
0	98	Unconnected roofs, HSG A
103,574	96	Gravel surface, HSG A
937,658	71	Meadow, non-grazed, HSG C
5,676,297	78	Meadow, non-grazed, HSG D
1,664	65	Brush, Good, HSG C
84,283	73	Brush, Good, HSG D
15,094	70	Woods, Good, HSG C
673,129	77	Woods, Good, HSG D
7,512,433	77	Weighted Average
7,491,699		99.72% Pervious Area
20,734		0.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
90.9					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 43S:

Runoff = 69.11 cfs @ 12.49 hrs, Volume= 9.449 af, Depth= 1.87"
Routed to Reach SP43 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
*	2,810	98	Impervious
*	31,551	96	Gravel
	437,819	71	Meadow, non-grazed, HSG C
	2,143,512	78	Meadow, non-grazed, HSG D
	11,726	70	Woods, Good, HSG C
	18,430	77	Woods, Good, HSG D
	2,645,848	77	Weighted Average
	2,643,038		99.89% Pervious Area
	2,810		0.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
48.7					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 44S:

Runoff = 83.34 cfs @ 13.13 hrs, Volume= 19.053 af, Depth= 1.94"
Routed to Reach SP44 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
*	136,521	98	Water
*	96,600	96	Gravel
	130,201	58	Meadow, non-grazed, HSG B
	48,275	71	Meadow, non-grazed, HSG C
	4,197,773	78	Meadow, non-grazed, HSG D
	199	65	Brush, Good, HSG C
	120,170	73	Brush, Good, HSG D
	3,597	55	Woods, Good, HSG B
	392,848	77	Woods, Good, HSG D
	5,126,184	78	Weighted Average
	4,989,663		97.34% Pervious Area
	136,521		2.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
97.1					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 44SA:

Runoff = 33.33 cfs @ 12.20 hrs, Volume= 2.919 af, Depth= 1.94"
Routed to Reach SP44A :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
*	8,459	98	Water
*	21,218	98	Impervious
*	12,958	96	Gravel
	4,574	58	Meadow, non-grazed, HSG B
	57,514	71	Meadow, non-grazed, HSG C
	588,570	78	Meadow, non-grazed, HSG D
	988	48	Brush, Good, HSG B
	17,587	73	Brush, Good, HSG D
	2,222	55	Woods, Good, HSG B
	22,179	70	Woods, Good, HSG C
	49,212	77	Woods, Good, HSG D
	785,481	78	Weighted Average
	755,804		96.22% Pervious Area
	29,677		3.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.5					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 45S: Tc Increased

Runoff = 24.65 cfs @ 12.24 hrs, Volume= 2.338 af, Depth= 2.10"
Routed to Reach SP45 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
*	49,323	98	Impervious
	33,429	77	Woods, Good, HSG D
	12,134	73	Brush, Good, HSG D
*	7,562	98	Water
*	17,226	96	Gravel
	462,284	78	Meadow, non-grazed, HSG D
	581,958	80	Weighted Average
	525,073		90.23% Pervious Area
	56,885		9.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.1					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 46S:

Runoff = 47.12 cfs @ 12.57 hrs, Volume= 7.019 af, Depth= 1.72"
Routed to Reach SP46 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	273,270	77	Woods, Good, HSG D
	229,882	55	Woods, Good, HSG B
	1,564,954	78	Meadow, non-grazed, HSG D
*	22,352	96	Gravel
	43,511	73	Brush, Good, HSG D
	2,133,969	75	Weighted Average
	2,133,969		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
53.8					**Direct Entry, SEE SPREADSHEET**

Summary for Reach SP20:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 56.928 ac, 2.55% Impervious, Inflow Depth = 1.64" for 25-yr event
Inflow = 30.72 cfs @ 13.35 hrs, Volume= 7.794 af
Outflow = 30.72 cfs @ 13.35 hrs, Volume= 7.794 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Summary for Pond 20P: Plunge Pool

Inflow Area = 56.928 ac, 2.55% Impervious, Inflow Depth = 1.65" for 25-yr event
Inflow = 30.72 cfs @ 13.35 hrs, Volume= 7.818 af
Outflow = 30.72 cfs @ 13.35 hrs, Volume= 7.794 af, Atten= 0%, Lag= 0.2 min
Primary = 30.72 cfs @ 13.35 hrs, Volume= 7.794 af
Routed to Reach SP20 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 703.37' @ 13.35 hrs Surf.Area= 1,633 sf Storage= 1,568 cf

Plug-Flow detention time= 3.3 min calculated for 7.794 af (100% of inflow)
Center-of-Mass det. time= 1.2 min (941.4 - 940.2)

Volume	Invert	Avail.Storage	Storage Description
#1	702.00'	2,775 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
702.00	0	0	0
702.10	880	44	44
703.00	1,300	981	1,025
704.00	2,200	1,750	2,775

Device	Routing	Invert	Outlet Devices
#1	Primary	703.00'	**40.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.0' Crest Height

Primary OutFlow Max=30.71 cfs @ 13.35 hrs HW=703.37' (Free Discharge)
1=Sharp-Crested Rectangular Weir (Weir Controls 30.71 cfs @ 2.08 fps)

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Runoff Area=3,020,873 sf 2.32% Impervious Runoff Depth=1.70"
Flow Length=3,272' Tc=52.0 min CN=65 Runoff=64.68 cfs 9.826 af

Subcatchment 3S: Runoff Area=324,754 sf 0.00% Impervious Runoff Depth=1.63"
Flow Length=836' Tc=23.1 min CN=64 Runoff=11.58 cfs 1.010 af

Subcatchment 4S: Runoff Area=16,260,538 sf 1.80% Impervious Runoff Depth=2.09"
Flow Length=7,788' Tc=76.3 min CN=70 Runoff=334.30 cfs 64.964 af

Subcatchment 5S: Runoff Area=1,679,234 sf 4.96% Impervious Runoff Depth=2.34"
Tc=34.3 min CN=73 Runoff=70.28 cfs 7.503 af

Subcatchment 6S: Runoff Area=598,623 sf 0.00% Impervious Runoff Depth=2.25"
Flow Length=1,150' Tc=39.7 min CN=72 Runoff=21.72 cfs 2.579 af

Subcatchment 7S: Runoff Area=10,734,763 sf 0.12% Impervious Runoff Depth=2.09"
Flow Length=6,505' Tc=76.1 min CN=70 Runoff=221.62 cfs 42.888 af

Subcatchment 8S: Runoff Area=1,124,521 sf 2.06% Impervious Runoff Depth=2.17"
Flow Length=2,618' Tc=29.5 min CN=71 Runoff=47.97 cfs 4.667 af

Subcatchment 9S: Runoff Area=698,860 sf 9.80% Impervious Runoff Depth=2.59"
Flow Length=1,212' Tc=81.2 min CN=76 Runoff=17.57 cfs 3.467 af

Subcatchment 10S: Runoff Area=1,561,270 sf 0.03% Impervious Runoff Depth=2.59"
Flow Length=2,211' Tc=88.4 min CN=76 Runoff=36.88 cfs 7.746 af

Subcatchment 11S: Runoff Area=521,344 sf 3.42% Impervious Runoff Depth=2.86"
Flow Length=1,039' Tc=43.1 min CN=79 Runoff=23.21 cfs 2.854 af

Subcatchment 12S: Runoff Area=1,437,516 sf 0.71% Impervious Runoff Depth=2.77"
Flow Length=2,388' Tc=104.6 min CN=78 Runoff=31.94 cfs 7.621 af

Subcatchment 13S: Tc Increase Runoff Area=2,395,812 sf 0.01% Impervious Runoff Depth=2.42"
Tc=84.2 min CN=74 Runoff=54.39 cfs 11.093 af

Subcatchment 14S: Tc Increase Runoff Area=516,650 sf 1.80% Impervious Runoff Depth=2.59"
Tc=36.6 min CN=76 Runoff=23.15 cfs 2.563 af

Subcatchment 15S: Runoff Area=329,223 sf 1.70% Impervious Runoff Depth=1.78"
Flow Length=707' Tc=30.6 min CN=66 Runoff=10.85 cfs 1.118 af

Subcatchment 16S: Runoff Area=1,134,608 sf 1.18% Impervious Runoff Depth=2.77"
Flow Length=1,611' Tc=58.8 min CN=78 Runoff=39.01 cfs 6.015 af

Subcatchment 16SA: Runoff Area=657,258 sf 1.69% Impervious Runoff Depth=2.59"
Tc=39.9 min CN=76 Runoff=27.80 cfs 3.261 af

Subcatchment 17S: Tc Increase Runoff Area=6,847,927 sf 0.62% Impervious Runoff Depth=2.68"
Tc=94.5 min CN=77 Runoff=159.48 cfs 35.131 af

Subcatchment 18S: Runoff Area=4,001,602 sf 0.46% Impervious Runoff Depth=2.68"
Flow Length=3,889' Tc=66.4 min CN=77 Runoff=121.31 cfs 20.529 af

Subcatchment 19S: Runoff Area=5,028,770 sf 1.45% Impervious Runoff Depth=2.59"
Flow Length=4,703' Tc=80.9 min CN=76 Runoff=126.47 cfs 24.949 af

Subcatchment 20S: Runoff Area=2,479,797 sf 2.55% Impervious Runoff Depth=2.42"
Tc=108.6 min CN=74 Runoff=46.21 cfs 11.482 af

Subcatchment 21S: Runoff Area=332,609 sf 6.35% Impervious Runoff Depth=2.01"
Flow Length=921' Tc=31.9 min CN=69 Runoff=12.32 cfs 1.278 af

Subcatchment 22S: Runoff Area=785,644 sf 0.82% Impervious Runoff Depth=2.01"
Flow Length=1,439' Tc=53.3 min CN=69 Runoff=20.19 cfs 3.019 af

Subcatchment 23S: Runoff Area=17,302,399 sf 0.48% Impervious Runoff Depth=2.59"
Flow Length=9,131' Tc=88.7 min CN=76 Runoff=406.51 cfs 85.840 af

Subcatchment 24S: Runoff Area=260,905 sf 6.58% Impervious Runoff Depth=2.86"
Flow Length=1,200' Tc=31.2 min CN=79 Runoff=14.48 cfs 1.429 af

Subcatchment 25S: Runoff Area=10,643,407 sf 0.30% Impervious Runoff Depth=2.51"
Flow Length=7,278' Tc=71.0 min CN=75 Runoff=284.98 cfs 51.029 af

Subcatchment 26S: Runoff Area=823,994 sf 2.72% Impervious Runoff Depth=2.77"
Flow Length=1,347' Tc=43.1 min CN=78 Runoff=35.47 cfs 4.368 af

Subcatchment 27S: Tc Decreased Runoff Area=1,317,635 sf 4.08% Impervious Runoff Depth=2.17"
Flow Length=3,106' Tc=46.3 min CN=71 Runoff=41.00 cfs 5.469 af

Subcatchment 28S: Runoff Area=2,868,130 sf 1.48% Impervious Runoff Depth=2.34"
Flow Length=2,822' Tc=32.9 min CN=73 Runoff=123.53 cfs 12.815 af

Subcatchment 29S: Runoff Area=776,122 sf 2.71% Impervious Runoff Depth=2.42"
Flow Length=1,737' Tc=24.4 min CN=74 Runoff=42.16 cfs 3.593 af

Subcatchment 30S: Runoff Area=618,450 sf 1.49% Impervious Runoff Depth=2.25"
Flow Length=1,427' Tc=38.4 min CN=72 Runoff=22.97 cfs 2.664 af

Subcatchment 31S: Runoff Area=2,981,588 sf 0.45% Impervious Runoff Depth=2.42"
Flow Length=1,885' Tc=60.7 min CN=74 Runoff=86.25 cfs 13.805 af

Subcatchment 32S: Tc Increased Runoff Area=4,274,758 sf 0.81% Impervious Runoff Depth=1.63"
Tc=75.2 min CN=64 Runoff=65.60 cfs 13.299 af

Subcatchment 33S: Tc Decreased Runoff Area=4,477,391 sf 0.02% Impervious Runoff Depth=1.93"
Flow Length=2,390' Tc=58.5 min CN=68 Runoff=102.54 cfs 16.528 af

Subcatchment 34S: Runoff Area=1,658,827 sf 0.06% Impervious Runoff Depth=2.17"
Flow Length=1,443' Tc=42.0 min CN=71 Runoff=55.38 cfs 6.885 af

Subcatchment 35S: Tc Increased Runoff Area=2,634,778 sf 10.72% Impervious Runoff Depth=2.59"
Tc=26.1 min CN=76 Runoff=147.83 cfs 13.072 af

Subcatchment 36S: Runoff Area=6,697,461 sf 0.98% Impervious Runoff Depth=2.68"
Tc=38.4 min CN=77 Runoff=301.27 cfs 34.359 af

Subcatchment 37S: Tc Decreased Runoff Area=3,957,824 sf 1.35% Impervious Runoff Depth=2.68"
Tc=39.5 min CN=77 Runoff=174.63 cfs 20.304 af

Subcatchment 38S: Runoff Area=734,553 sf 0.00% Impervious Runoff Depth=2.68"
Tc=38.1 min CN=77 Runoff=33.18 cfs 3.768 af

Subcatchment 39S: Runoff Area=2,495,437 sf 0.69% Impervious Runoff Depth=2.34"
Tc=54.4 min CN=73 Runoff=75.20 cfs 11.149 af

Subcatchment 41S: Tc Decreased Runoff Area=1,003,158 sf 1.68% Impervious Runoff Depth=2.25"
Tc=46.3 min CN=72 Runoff=32.57 cfs 4.322 af

Subcatchment 42S: Tc Decreased Runoff Area=7,512,433 sf 0.28% Impervious Runoff Depth=2.68"
Tc=90.9 min CN=77 Runoff=179.72 cfs 38.540 af

Subcatchment 43S: Runoff Area=2,645,848 sf 0.11% Impervious Runoff Depth=2.68"
Tc=48.7 min CN=77 Runoff=100.68 cfs 13.574 af

Subcatchment 44S: Runoff Area=5,126,184 sf 2.66% Impervious Runoff Depth=2.77"
Tc=97.1 min CN=78 Runoff=120.52 cfs 27.177 af

Subcatchment 44SA: Runoff Area=785,481 sf 3.78% Impervious Runoff Depth=2.77"
Tc=25.5 min CN=78 Runoff=47.87 cfs 4.164 af

Subcatchment 45S: Tc Increased Runoff Area=581,958 sf 9.77% Impervious Runoff Depth=2.95"
Tc=29.1 min CN=80 Runoff=34.82 cfs 3.289 af

Subcatchment 46S: Runoff Area=2,133,969 sf 0.00% Impervious Runoff Depth=2.51"
Tc=53.8 min CN=75 Runoff=70.08 cfs 10.231 af

Reach SP20: Inflow=46.20 cfs 11.458 af
Outflow=46.20 cfs 11.458 af

Pond 20P: Plunge Pool Peak Elev=703.48' Storage=1,756 cf Inflow=46.21 cfs 11.482 af
Outflow=46.20 cfs 11.458 af

Total Runoff Area = 3,369.717 ac Runoff Volume = 677.237 af Average Runoff Depth = 2.41"
98.73% Pervious = 3,327.070 ac 1.27% Impervious = 42.647 ac

Summary for Subcatchment 1S:

Runoff = 64.68 cfs @ 12.56 hrs, Volume= 9.826 af, Depth= 1.70"
Routed to Reach SP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	94,532	77	Woods, Good, HSG D
	177,755	55	Woods, Good, HSG B
	8,365	48	Brush, Good, HSG B
	9,216	73	Brush, Good, HSG D
*	70,022	98	Impervious Pavement
	1,850,413	58	Meadow, non-grazed, HSG B
	800,918	78	Meadow, non-grazed, HSG D
*	9,652	96	Gravel Access Roads
	3,020,873	65	Weighted Average
	2,950,851		97.68% Pervious Area
	70,022		2.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.7	100	0.0060	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
15.8	784	0.0140	0.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
9.5	2,388		4.20		**Direct Entry, Small Tributary & Swamp w/ Channels**
52.0	3,272	Total			

Summary for Subcatchment 3S:

Runoff = 11.58 cfs @ 12.18 hrs, Volume= 1.010 af, Depth= 1.63"
Routed to Reach SP3 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

Area (sf)	CN	Description
1,021	55	Woods, Good, HSG B
223,756	58	Meadow, non-grazed, HSG B
1,749	73	Brush, Good, HSG D
970	77	Woods, Good, HSG D
97,258	78	Meadow, non-grazed, HSG D
0	48	Brush, Good, HSG B
324,754	64	Weighted Average
324,754		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
2.6	241	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.1	445	0.0170	0.91		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.0	50	0.0300	0.87		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.1	836	Total			

Summary for Subcatchment 4S:

[47] Hint: Peak is 4019% of capacity of segment #4
[47] Hint: Peak is 1201% of capacity of segment #7
[47] Hint: Peak is 2402% of capacity of segment #9
[47] Hint: Peak is 1038% of capacity of segment #11
[47] Hint: Peak is 11412% of capacity of segment #13
[47] Hint: Peak is 991% of capacity of segment #15

Runoff = 334.30 cfs @ 12.87 hrs, Volume= 64.964 af, Depth= 2.09"
Routed to Reach SP4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
*	5,055,245	58	Meadow, non-grazed, HSG B
*	37,498	48	Brush, Good, HSG B
*	1,235,064	55	Woods, Good, HSG B
*	605,955	71	Meadow, non-grazed, HSG C
*	0	65	Brush, Good, HSG C
*	42,916	70	Woods, Good, HSG C
*	7,600,605	78	Meadow, non-grazed, HSG D
*	66,844	73	Brush, Good, HSG D
*	1,163,308	77	Woods, Good, HSG D
*	292,513	98	Impervious
*	160,590	96	Impervious Gravel
	16,260,538	70	Weighted Average
	15,968,025		98.20% Pervious Area
	292,513		1.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.7	100	0.0060	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
5.4	277	0.0150	0.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.6	778	0.0240	2.32		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.3	40	0.0050	2.65	8.32	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
2.1	741		5.90		**Direct Entry, Small Tributary & Swamp w/ Channels**
1.8	401		3.76		**Direct Entry, Small Tributary & Swamp w/Channels**
0.0	18	0.0560	8.86	27.84	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
2.3	605		4.30		**Direct Entry, Small Tributary & Swamp w/ Channels**
0.1	36	0.0140	4.43	13.92	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
2.3	627		4.46		**Direct Entry, Small Tributary & Swamp w/ Channels**
0.1	40	0.0750	10.25	32.22	**Pipe Channel,** 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.025 Corrugated metal
2.1	527		4.20		**Direct Entry, Small Tributary & Swamp w/ Channels**
0.2	40	0.0250	3.73	2.93	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.025 Corrugated metal
4.0	593		2.47		**Direct Entry, Roadside Ditch**
0.1	40	0.0250	6.87	33.72	**Pipe Channel,** 30.0" Round Area= 4.9 sf Perim= 7.9' r= 0.63' n= 0.025 Corrugated metal
23.2	2,925		2.10		**Direct Entry, Small Tributary & Swamp w/ Channels**
76.3	7,788	Total			

Summary for Subcatchment 5S:

Runoff = 70.28 cfs @ 12.30 hrs, Volume= 7.503 af, Depth= 2.34"
Routed to Reach SP4 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	52,679	58	Meadow, non-grazed, HSG B
	3,284	48	Brush, Good, HSG B
	55,693	55	Woods, Good, HSG B
	840,293	71	Meadow, non-grazed, HSG C
	86,000	65	Brush, Good, HSG C
	106,467	70	Woods, Good, HSG C
	384,691	78	Meadow, non-grazed, HSG D
	6,417	73	Brush, Good, HSG D
	517	77	Woods, Good, HSG D
*	83,276	98	Impervious
*	59,917	96	Impervious Gravel
	1,679,234	73	Weighted Average
	1,595,958		95.04% Pervious Area
	83,276		4.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
34.3					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 6S:

Runoff = 21.72 cfs @ 12.38 hrs, Volume= 2.579 af, Depth= 2.25"
Routed to Reach SP6 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

Area (sf)	CN	Description
450,041	71	Meadow, non-grazed, HSG C
31,090	65	Brush, Good, HSG C
23,988	70	Woods, Good, HSG C
76,643	78	Meadow, non-grazed, HSG D
11,524	73	Brush, Good, HSG D
5,337	77	Woods, Good, HSG D
598,623	72	Weighted Average
598,623		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7	100	0.0050	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
4.3	256	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.5	341	0.1030	2.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	316	0.1870	2.16		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.8	137		1.26		**Direct Entry, Grassed Waterway**
39.7	1,150	Total			

Summary for Subcatchment 7S:

Runoff = 221.62 cfs @ 12.87 hrs, Volume= 42.888 af, Depth= 2.09"
Routed to Reach SP7 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	2,818,354	58	Meadow, non-grazed, HSG B
	23,489	48	Brush, Good, HSG B
	609,636	55	Woods, Good, HSG B
	2,235,076	71	Meadow, non-grazed, HSG C
	2,183	65	Brush, Good, HSG C
	140,335	70	Woods, Good, HSG C
	2,961,060	78	Meadow, non-grazed, HSG D
	59,423	73	Brush, Good, HSG D
	1,804,999	77	Woods, Good, HSG D
*	13,334	98	Impervious
*	66,874	96	Impervious Gravel
	10,734,763	70	Weighted Average
	10,721,429		99.88% Pervious Area
	13,334		0.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0190	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
5.4	449	0.0390	1.38		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.2	512	0.0220	1.04		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.3	945	0.0240	0.77		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.6	192	0.0310	0.88		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
14.9	3,312		3.70		**Direct Entry, Small Tributary & Swamp w/ Channels**
4.1	284	0.0530	1.15		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.8	711		4.30		**Direct Entry, Small Tributary & Swamp w/ Channels**
76.1	6,505	Total			

Summary for Subcatchment 8S:

Runoff = 47.97 cfs @ 12.25 hrs, Volume= 4.667 af, Depth= 2.17"
Routed to Reach SP8 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	388,863	58	Meadow, non-grazed, HSG B
	12,787	48	Brush, Good, HSG B
	25,785	55	Woods, Good, HSG B
	12,891	71	Meadow, non-grazed, HSG C
	617,944	78	Meadow, non-grazed, HSG D
	0	73	Brush, Good, HSG D
	24,932	77	Woods, Good, HSG D
*	23,130	98	Impervious
*	18,189	96	Impervious Gravel
	1,124,521	71	Weighted Average
	1,101,391		97.94% Pervious Area
	23,130		2.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.2	100	0.0420	0.14		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
6.0	364	0.0210	1.01		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.3	1,017		2.68		**Direct Entry, Roadside Ditch**
5.0	1,137		3.82		**Direct Entry, Roadside Ditch**
29.5	2,618	Total			

Summary for Subcatchment 9S:

Runoff = 17.57 cfs @ 12.91 hrs, Volume= 3.467 af, Depth= 2.59"
Routed to Reach SP9 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	110,684	58	Meadow, non-grazed, HSG B
	7,321	48	Brush, Good, HSG B
	2,058	55	Woods, Good, HSG B
	477,069	78	Meadow, non-grazed, HSG D
	30,437	73	Brush, Good, HSG D
	0	77	Woods, Good, HSG D
*	68,468	98	Impervious
*	2,823	96	Impervious Gravel
	698,860	76	Weighted Average
	630,392		90.20% Pervious Area
	68,468		9.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
54.6	100	0.0010	0.03		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
18.0	540	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.6	572		1.11		**Direct Entry, Large Tributary**
81.2	1,212	Total			

Summary for Subcatchment 10S:

Runoff = 36.88 cfs @ 13.03 hrs, Volume= 7.746 af, Depth= 2.59"
Routed to Reach SP10 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	29,043	55	Woods, Good, HSG B
	1,789	48	Brush, Good, HSG B
	101,568	58	Meadow, non-grazed, HSG B
	11,050	73	Brush, Good, HSG D
	2,326	77	Woods, Good, HSG D
	1,408,691	78	Meadow, non-grazed, HSG D
*	6,323	96	Impervious Gravel
*	480	98	Impervious
	1,561,270	76	Weighted Average
	1,560,790		99.97% Pervious Area
	480		0.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
54.6	100	0.0010	0.03		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
16.9	388	0.0030	0.38		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	33	0.0610	1.23		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.6	165	0.0120	0.77		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.2	310		1.63		**Direct Entry, Small Tributary & Swamp w/ Channels**
8.2	920		1.88		**Direct Entry, Small Tributary & Swamp w/ Channels**
1.5	295		3.39		**Direct Entry, Small Tributary & Swamp w/ Channels**
88.4	2,211	Total			

Summary for Subcatchment 11S:

Runoff = 23.21 cfs @ 12.41 hrs, Volume= 2.854 af, Depth= 2.86"
Routed to Reach SP11 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	493,130	78	Meadow, non-grazed, HSG D
	1,884	73	Brush, Good, HSG D
*	17,843	98	Impervious
*	8,487	96	Impervious Gravel
	521,344	79	Weighted Average
	503,501		96.58% Pervious Area
	17,843		3.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.2	100	0.0120	0.08		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
11.8	521	0.0110	0.73		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.1	418	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
43.1	1,039	Total			

Summary for Subcatchment 12S:

Runoff = 31.94 cfs @ 13.23 hrs, Volume= 7.621 af, Depth= 2.77"
Routed to Reach SP12 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

Area (sf)	CN	Description
10,201	98	Unconnected roofs, HSG A
8,610	58	Meadow, non-grazed, HSG B
1,312,538	78	Meadow, non-grazed, HSG D
5,822	73	Brush, Good, HSG D
100,345	77	Woods, Good, HSG D
1,437,516	78	Weighted Average
1,427,315		99.29% Pervious Area
10,201		0.71% Impervious Area
10,201		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.7	100	0.0470	0.05		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 2.40"
25.9	601	0.0060	0.39		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
48.0	1,687	0.0070	0.59		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
104.6	2,388	Total			

Summary for Subcatchment 13S: Tc Increase

Runoff = 54.39 cfs @ 12.98 hrs, Volume= 11.093 af, Depth= 2.42"
Routed to Reach SP13 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	279,424	58	Meadow, non-grazed, HSG B
	1,560,883	78	Meadow, non-grazed, HSG D
	0	48	Brush, Good, HSG B
	77,098	73	Brush, Good, HSG D
	137,874	55	Woods, Good, HSG B
	323,619	77	Woods, Good, HSG D
*	219	98	Impervious
*	16,695	96	Gravel
	2,395,812	74	Weighted Average
	2,395,593		99.99% Pervious Area
	219		0.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
84.2					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 14S: Tc Increase

Runoff = 23.15 cfs @ 12.33 hrs, Volume= 2.563 af, Depth= 2.59"
Routed to Reach SP14 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
*	9,279	98	Impervious
	70,836	58	Meadow, non-grazed, HSG B
	422,033	78	Meadow, non-grazed, HSG D
	739	48	Brush, Good, HSG B
	189	73	Brush, Good, HSG D
*	13,574	96	Gravel
	516,650	76	Weighted Average
	507,371		98.20% Pervious Area
	9,279		1.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
36.6					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 15S:

Runoff = 10.85 cfs @ 12.27 hrs, Volume= 1.118 af, Depth= 1.78"
Routed to Reach SP15 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
*	5,583	98	Impervious
	182,614	58	Meadow, non-grazed, HSG B
	124,093	78	Meadow, non-grazed, HSG D
	4,836	48	Brush, Good, HSG B
	2,091	73	Brush, Good, HSG D
	5,021	55	Woods, Good, HSG B
	4,077	77	Woods, Good, HSG D
*	908	96	Gravel
	329,223	66	Weighted Average
	323,640		98.30% Pervious Area
	5,583		1.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.9	100	0.0220	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
6.4	387	0.0210	1.01		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.3	220	0.0040	0.44		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
30.6	707	Total			

Summary for Subcatchment 16S:

Runoff = 39.01 cfs @ 12.61 hrs, Volume= 6.015 af, Depth= 2.77"
Routed to Reach SP16 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
*	13,357	98	Impervious
*	38,791	96	Gravel
	22,931	71	Meadow, non-grazed, HSG C
	906,909	78	Meadow, non-grazed, HSG D
	0	65	Brush, Good, HSG C
	22,358	73	Brush, Good, HSG D
	863	70	Woods, Good, HSG C
	129,399	77	Woods, Good, HSG D
	1,134,608	78	Weighted Average
	1,121,251		98.82% Pervious Area
	13,357		1.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.0	100	0.0170	0.06		**Sheet Flow,** Grass: Bermuda n= 0.410 P2= 2.40"
3.8	142	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
26.0	1,035	0.0090	0.66		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.0	334		2.74		**Direct Entry, Small Tributary & Swamp w/ Channels**
58.8	1,611	Total			

Summary for Subcatchment 16SA:

Runoff = 27.80 cfs @ 12.37 hrs, Volume= 3.261 af, Depth= 2.59"
Routed to Reach SP16 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
*	11,093	98	Impervious
*	7,200	96	Gravel
	70,093	58	Meadow, non-grazed, HSG B
	352,729	78	Meadow, non-grazed, HSG D
	259	48	Brush, Good, HSG B
	14,806	73	Brush, Good, HSG D
	0	70	Woods, Good, HSG C
	201,078	77	Woods, Good, HSG D
	657,258	76	Weighted Average
	646,165		98.31% Pervious Area
	11,093		1.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
39.9					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 17S: Tc Increase

Runoff = 159.48 cfs @ 13.09 hrs, Volume= 35.131 af, Depth= 2.68"
Routed to Reach SP17 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	250,002	71	Meadow, non-grazed, HSG C
	4,840,683	78	Meadow, non-grazed, HSG D
	15,222	65	Brush, Good, HSG C
	303,983	73	Brush, Good, HSG D
	105,112	70	Woods, Good, HSG C
	1,226,602	77	Woods, Good, HSG D
*	19,863	98	Impervious
*	22,826	98	Water
*	63,634	96	Gravel
	6,847,927	77	Weighted Average
	6,805,238		99.38% Pervious Area
	42,689		0.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
94.5					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 18S:

Runoff = 121.31 cfs @ 12.72 hrs, Volume= 20.529 af, Depth= 2.68"
Routed to Reach SP18 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	3,354	98	Water Surface, HSG A
*	15,090	98	Impervious
	5,936	58	Meadow, non-grazed, HSG B
	29,943	71	Meadow, non-grazed, HSG C
	2,418,932	78	Meadow, non-grazed, HSG D
	156,565	73	Brush, Good, HSG D
	23,440	55	Woods, Good, HSG B
	321,869	70	Woods, Good, HSG C
	978,658	77	Woods, Good, HSG D
	0	48	Brush, Good, HSG B
*	47,815	96	Gravel
	4,001,602	77	Weighted Average
	3,983,158		99.54% Pervious Area
	18,444		0.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.8	100	0.0150	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
6.8	205	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
23.6	2,144	0.0920	1.52		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	1,440		2.92		**Direct Entry, Ditch**
66.4	3,889	Total			

Summary for Subcatchment 19S:

Runoff = 126.47 cfs @ 12.90 hrs, Volume= 24.949 af, Depth= 2.59"
Routed to Reach SP19 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
*	28,979	98	Impervious
*	21,540	96	Gravel
*	44,123	98	Water
	84,343	58	Meadow, non-grazed, HSG B
	89,334	71	Meadow, non-grazed, HSG C
	2,665,044	78	Meadow, non-grazed, HSG D
	10,082	48	Brush, Good, HSG B
	47,175	73	Brush, Good, HSG D
	16,971	55	Woods, Good, HSG B
	681,805	70	Woods, Good, HSG C
	1,339,374	77	Woods, Good, HSG D
	5,028,770	76	Weighted Average
	4,955,668		98.55% Pervious Area
	73,102		1.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.7	100	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
21.4	1,915	0.0890	1.49		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.3	706	0.0720	1.88		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.7	109	0.0050	0.49		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.9	244	0.0410	1.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.2	706		1.63		**Direct Entry, Small Tributary & Swamp w/ Channels**
6.7	923		2.30		**Direct Entry, Small Tributary & Swamps w/ Channels**
80.9	4,703	Total			

Summary for Subcatchment 20S:

Runoff = 46.21 cfs @ 13.31 hrs, Volume= 11.482 af, Depth= 2.42"
Routed to Pond 20P : Plunge Pool

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
*	21,402	98	Water
*	41,934	98	Impervious
*	22,850	96	Gravel
	97,547	30	Meadow, non-grazed, HSG A
	56,401	58	Meadow, non-grazed, HSG B
	129,691	71	Meadow, non-grazed, HSG C
	1,647,144	78	Meadow, non-grazed, HSG D
	60,097	73	Brush, Good, HSG D
	131,709	55	Woods, Good, HSG B
	6,015	70	Woods, Good, HSG C
	265,007	77	Woods, Good, HSG D
	0	30	Brush, Good, HSG A
	0	48	Brush, Good, HSG B
	0	65	Brush, Good, HSG C
	2,479,797	74	Weighted Average
	2,416,461		97.45% Pervious Area
	63,336		2.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
108.6					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 21S:

Runoff = 12.32 cfs @ 12.28 hrs, Volume= 1.278 af, Depth= 2.01"
Routed to Reach SP21 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	29,188	30	Meadow, non-grazed, HSG A
	257,297	71	Meadow, non-grazed, HSG C
	12,465	78	Meadow, non-grazed, HSG D
	683	30	Brush, Good, HSG A
	5,947	65	Brush, Good, HSG C
	1,326	30	Woods, Good, HSG A
*	21,108	98	Impervious
*	4,595	96	Gravel
	332,609	69	Weighted Average
	311,501		93.65% Pervious Area
	21,108		6.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0410	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
19.5	821	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
31.9	921	Total			

Summary for Subcatchment 22S:

Runoff = 20.19 cfs @ 12.56 hrs, Volume= 3.019 af, Depth= 2.01"
Routed to Reach SP39 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

Area (sf)	CN	Description
87,751	30	Meadow, non-grazed, HSG A
420,889	71	Meadow, non-grazed, HSG C
132,262	78	Meadow, non-grazed, HSG D
814	65	Brush, Good, HSG C
7,253	73	Brush, Good, HSG D
376	30	Woods, Good, HSG A
3,389	70	Woods, Good, HSG C
126,479	77	Woods, Good, HSG D
6,431	98	Paved roads w/curbs & sewers, HSG A
785,644	69	Weighted Average
779,213		99.18% Pervious Area
6,431		0.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.7	100	0.0050	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
22.4	1,072	0.0130	0.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	83	0.1330	1.82		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	184		2.20		**Direct Entry, Small Tributary & Swamp w/ Channels**
53.3	1,439	Total			

Summary for Subcatchment 23S:

Runoff = 406.51 cfs @ 13.02 hrs, Volume= 85.840 af, Depth= 2.59"
Routed to Reach SP23 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	33,362	30	Meadow, non-grazed, HSG A
	494,394	71	Meadow, non-grazed, HSG C
	7,481,745	78	Meadow, non-grazed, HSG D
	299,742	65	Brush, Good, HSG C
	1,781,898	73	Brush, Good, HSG D
	1,493,479	70	Woods, Good, HSG C
	5,556,751	77	Woods, Good, HSG D
*	68,445	98	Impervious
	78,077	96	Gravel surface, HSG D
*	14,506	98	Water
	17,302,399	76	Weighted Average
	17,219,448		99.52% Pervious Area
	82,951		0.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.4	100	0.0420	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
22.2	1,941	0.0850	1.46		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.2	806	0.0580	1.20		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.6	1,740		2.49		**Direct Entry, Small Tributary & Swamp w/ Channels**
4.2	1,229		4.93		**Direct Entry, Small Tributary & Swamp w/ Channels**
9.5	1,895		3.32		**Direct Entry, Small Tributary & Swamp w/ Channels**
3.8	650		2.82		**Direct Entry, Small Tributary & Swamp w/ Channels**
7.8	770		1.64		**Direct Entry, Roadside Ditch**
88.7	9,131	Total			

Summary for Subcatchment 24S:

Runoff = 14.48 cfs @ 12.26 hrs, Volume= 1.429 af, Depth= 2.86"
Routed to Reach SP24 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	226,793	78	Meadow, non-grazed, HSG D
	7,721	73	Brush, Good, HSG D
	9,216	77	Woods, Good, HSG D
*	17,175	98	Impervious
	260,905	79	Weighted Average
	243,730		93.42% Pervious Area
	17,175		6.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	100	0.0250	0.11		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
14.0	830	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.1	270		2.17		**Direct Entry, Small Tributary & Swamp w/ Channels**
31.2	1,200	Total			

Summary for Subcatchment 25S:

Runoff = 284.98 cfs @ 12.78 hrs, Volume= 51.029 af, Depth= 2.51"
Routed to Reach SP25 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	862,128	58	Meadow, non-grazed, HSG B
	932,684	71	Meadow, non-grazed, HSG C
	5,546,681	78	Meadow, non-grazed, HSG D
	0	48	Brush, Good, HSG B
	0	65	Brush, Good, HSG C
	119,208	73	Brush, Good, HSG D
	153,918	55	Woods, Good, HSG B
	0	70	Woods, Good, HSG C
	2,861,400	77	Woods, Good, HSG D
*	24,324	98	Impervious
*	135,269	96	Gravel
*	7,795	98	Water
	10,643,407	75	Weighted Average
	10,611,288		99.70% Pervious Area
	32,119		0.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0190	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
18.9	1,281	0.0510	1.13		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.8	640	0.0300	1.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.1	4,093		3.98		**Direct Entry, Small Tributary & Swamp w/ Channels**
4.6	482		1.76		**Direct Entry, Small Tributary & Swamp w/ Channels**
4.8	682		2.39		**Direct Entry, Small Tributary & Swamp w/ Channels**
71.0	7,278	Total			

Summary for Subcatchment 26S:

Runoff = 35.47 cfs @ 12.41 hrs, Volume= 4.368 af, Depth= 2.77"
Routed to Reach SP26 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	64,296	77	Woods, Good, HSG D
*	4,254	98	Water
	49,680	71	Meadow, non-grazed, HSG C
*	18,136	98	Impervious Pavement
	675,322	78	Meadow, non-grazed, HSG D
	0	65	Brush, Good, HSG C
	0	73	Brush, Good, HSG D
*	12,306	96	Gravel
	823,994	78	Weighted Average
	801,604		97.28% Pervious Area
	22,390		2.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.5	100	0.0150	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
5.4	527		1.64		**Direct Entry, Ditch**
19.2	720	0.0080	0.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
43.1	1,347	Total			

Summary for Subcatchment 27S: Tc Decreased

Runoff = 41.00 cfs @ 12.47 hrs, Volume= 5.469 af, Depth= 2.17"
Routed to Reach SP27 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

Area (sf)	CN	Description
102,401	30	Meadow, non-grazed, HSG A
72,705	58	Meadow, non-grazed, HSG B
352,955	71	Meadow, non-grazed, HSG C
599,484	78	Meadow, non-grazed, HSG D
12,548	48	Brush, Good, HSG B
136	65	Brush, Good, HSG C
30,962	73	Brush, Good, HSG D
1,761	30	Woods, Good, HSG A
10,015	55	Woods, Good, HSG B
44,190	70	Woods, Good, HSG C
27,054	77	Woods, Good, HSG D
53,768	98	Paved roads w/curbs & sewers, HSG A
9,656	96	Gravel surface, HSG A
0	30	Brush, Good, HSG A
1,317,635	71	Weighted Average
1,263,867		95.92% Pervious Area
53,768		4.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	100	0.0500	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
0.1	20	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.2	952	0.0980	2.19		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.4	548	0.0820	1.43		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.0	152	0.0330	1.27		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.9	824	0.0230	1.06		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.3	510		1.34		**Direct Entry, Small Tributary & Swamp w/ Channels**
46.3	3,106	Total			

Summary for Subcatchment 28S:

Runoff = 123.53 cfs @ 12.29 hrs, Volume= 12.815 af, Depth= 2.34"
Routed to Reach SP28 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	101,277	58	Meadow, non-grazed, HSG B
	1,345,272	71	Meadow, non-grazed, HSG C
	1,105,675	78	Meadow, non-grazed, HSG D
	66,838	48	Brush, Good, HSG B
	158	65	Brush, Good, HSG C
	107,034	73	Brush, Good, HSG D
	36,439	55	Woods, Good, HSG B
	794	70	Woods, Good, HSG C
	10,011	77	Woods, Good, HSG D
*	26,701	98	Impervious Surface
*	15,860	98	Water
*	52,071	96	Gravel
	2,868,130	73	Weighted Average
	2,825,569		98.52% Pervious Area
	42,561		1.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.6	100	0.0130	0.09		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
2.3	163	0.0290	1.19		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.0	2,559		3.88		**Direct Entry, Roadside Ditch**
32.9	2,822	Total			

Summary for Subcatchment 29S:

Runoff = 42.16 cfs @ 12.18 hrs, Volume= 3.593 af, Depth= 2.42"
Routed to Reach SP29 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	247,600	71	Meadow, non-grazed, HSG C
	34,093	70	Woods, Good, HSG C
*	21,045	98	Impervious Pavement
*	5,127	96	Gravel
	11,168	55	Woods, Good, HSG B
	9,072	48	Brush, Good, HSG B
	56,526	58	Meadow, non-grazed, HSG B
	3,801	77	Woods, Good, HSG D
	386,950	78	Meadow, non-grazed, HSG D
	0	73	Brush, Good, HSG D
	740	65	Brush, Good, HSG C
	776,122	74	Weighted Average
	755,077		97.29% Pervious Area
	21,045		2.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	100	0.0650	0.16		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
0.5	63	0.0950	2.16		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	31	0.1290	1.80		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.1	612	0.0570	1.67		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	31	0.6100	3.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.1	900		2.12		**Direct Entry, Roadside Ditch**
24.4	1,737	Total			

Summary for Subcatchment 30S:

Runoff = 22.97 cfs @ 12.36 hrs, Volume= 2.664 af, Depth= 2.25"
Routed to Reach SP30 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	519,229	71	Meadow, non-grazed, HSG C
	80,992	78	Meadow, non-grazed, HSG D
	8,985	70	Woods, Good, HSG C
*	9,244	98	Impervious Surface
	0	65	Brush, Good, HSG C
	0	73	Brush, Good, HSG D
	618,450	72	Weighted Average
	609,206		98.51% Pervious Area
	9,244		1.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.7	100	0.0060	0.06		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
10.4	1,152	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.3	175		2.28		**Direct Entry, Roadside Ditch**
38.4	1,427	Total			

Summary for Subcatchment 31S:

Runoff = 86.25 cfs @ 12.64 hrs, Volume= 13.805 af, Depth= 2.42"
Routed to Reach SP31 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	71,984	58	Meadow, non-grazed, HSG B
	1,182,870	71	Meadow, non-grazed, HSG C
	1,399,315	78	Meadow, non-grazed, HSG D
	1,947	73	Brush, Good, HSG D
	79,506	55	Woods, Good, HSG B
	1,957	70	Woods, Good, HSG C
	195,809	77	Woods, Good, HSG D
*	13,479	98	Impervious Surface
*	34,721	96	Gravel
	0	48	Brush, Good, HSG B
	0	65	Brush, Good, HSG C
	2,981,588	74	Weighted Average
	2,968,109		99.55% Pervious Area
	13,479		0.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
35.2	100	0.0030	0.05		**Sheet Flow,** Grass: Dense n= 0.240 P2= 2.40"
6.2	219	0.0070	0.59		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.4	252	0.0100	0.50		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.7	592	0.0440	1.47		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.2	722		2.87		**Direct Entry, Small Tributary & Swamp w/ Channels**
60.7	1,885	Total			

Summary for Subcatchment 32S: Tc Increased

Runoff = 65.60 cfs @ 12.90 hrs, Volume= 13.299 af, Depth= 1.63"
Routed to Reach SP33 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	2,511,941	58	Meadow, non-grazed, HSG B
	718,775	71	Meadow, non-grazed, HSG C
	504,318	78	Meadow, non-grazed, HSG D
	869	48	Brush, Good, HSG B
	3,094	65	Brush, Good, HSG C
	3,715	73	Brush, Good, HSG D
	194,229	55	Woods, Good, HSG B
	36,472	70	Woods, Good, HSG C
	208,159	77	Woods, Good, HSG D
*	34,797	98	Impervious Surface
	58,389	96	Gravel surface, HSG A
	4,274,758	64	Weighted Average
	4,239,961		99.19% Pervious Area
	34,797		0.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
75.2					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 33S: Tc Decreased

Runoff = 102.54 cfs @ 12.64 hrs, Volume= 16.528 af, Depth= 1.93"
Routed to Reach SP33 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	1,673,064	58	Meadow, non-grazed, HSG B
	1,532,439	78	Meadow, non-grazed, HSG D
	30,000	48	Brush, Good, HSG B
	1,381	73	Brush, Good, HSG D
	365,248	55	Woods, Good, HSG B
	817,228	77	Woods, Good, HSG D
*	990	98	Impervious
*	57,041	96	Gravel
	4,477,391	68	Weighted Average
	4,476,401		99.98% Pervious Area
	990		0.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.1	100	0.0340	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
24.6	932	0.0160	0.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.4	808	0.0420	1.43		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	34	0.0850	4.69		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.2	315	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	60	0.3120	2.79		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.7	141		3.19		**Direct Entry, Small Tributary & Swamp w/ Channels**
58.5	2,390	Total			

Summary for Subcatchment 34S:

Runoff = 55.38 cfs @ 12.41 hrs, Volume= 6.885 af, Depth= 2.17"
Routed to Reach SP35 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	48,755	58	Meadow, non-grazed, HSG B
	901,892	78	Meadow, non-grazed, HSG D
	14,431	48	Brush, Good, HSG B
	122,984	73	Brush, Good, HSG D
	402,745	55	Woods, Good, HSG B
	142,417	77	Woods, Good, HSG D
*	924	98	Impervious
*	24,679	96	Gravel
	1,658,827	71	Weighted Average
	1,657,903		99.94% Pervious Area
	924		0.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5	100	0.0320	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.40"
2.9	130	0.0220	0.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.3	1,058	0.0190	0.96		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	155		8.93		**Direct Entry,**
42.0	1,443	Total			

Summary for Subcatchment 35S: Tc Increased

Runoff = 147.83 cfs @ 12.20 hrs, Volume= 13.072 af, Depth= 2.59"
Routed to Reach SP35 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	32,311	58	Meadow, non-grazed, HSG B
	36,347	71	Meadow, non-grazed, HSG C
	1,435,818	78	Meadow, non-grazed, HSG D
	0	48	Brush, Good, HSG B
	26,860	73	Brush, Good, HSG D
	450,341	55	Woods, Good, HSG B
	79,608	70	Woods, Good, HSG C
	204,500	77	Woods, Good, HSG D
*	262,087	98	Impervious
*	86,419	96	Gravel
*	20,487	98	Water
	2,634,778	76	Weighted Average
	2,352,204		89.28% Pervious Area
	282,574		10.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.1					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 36S:

Runoff = 301.27 cfs @ 12.35 hrs, Volume= 34.359 af, Depth= 2.68"
Routed to Reach SP36 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	52,184	58	Meadow, non-grazed, HSG B
	695	71	Meadow, non-grazed, HSG C
	5,084,227	78	Meadow, non-grazed, HSG D
	1,145	48	Brush, Good, HSG B
	16,580	73	Brush, Good, HSG D
	260,974	55	Woods, Good, HSG B
	346,117	70	Woods, Good, HSG C
	759,795	77	Woods, Good, HSG D
*	65,616	98	Impervious
	110,128	96	Gravel surface, HSG D
	6,697,461	77	Weighted Average
	6,631,845		99.02% Pervious Area
	65,616		0.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.4					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 37S: Tc Decreased

Runoff = 174.63 cfs @ 12.36 hrs, Volume= 20.304 af, Depth= 2.68"
Routed to Reach SP37 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
*	45,998	98	Impervious
	43,580	96	Gravel surface, HSG A
	38,279	58	Meadow, non-grazed, HSG B
	3,240,699	78	Meadow, non-grazed, HSG D
	805	48	Brush, Good, HSG B
	915	73	Brush, Good, HSG D
	112,226	55	Woods, Good, HSG B
	61,578	70	Woods, Good, HSG C
	406,259	77	Woods, Good, HSG D
*	7,485	98	Water
	3,957,824	77	Weighted Average
	3,904,341		98.65% Pervious Area
	53,483		1.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
39.5					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 38S:

Runoff = 33.18 cfs @ 12.35 hrs, Volume= 3.768 af, Depth= 2.68"
Routed to Reach SP38 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

Area (sf)	CN	Description
358,535	78	Meadow, non-grazed, HSG D
376,018	77	Woods, Good, HSG D
734,553	77	Weighted Average
734,553		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.1					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 39S:

Runoff = 75.20 cfs @ 12.56 hrs, Volume= 11.149 af, Depth= 2.34"
Routed to Reach SP39 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	123,759	30	Woods, Good, HSG A
*	17,184	98	Impervious Pavement
	126,757	30	Meadow, non-grazed, HSG A
	11,527	30	Brush, Good, HSG A
	37,275	70	Woods, Good, HSG C
	0	71	Meadow, non-grazed, HSG C
	193,814	77	Woods, Good, HSG D
	106,670	73	Brush, Good, HSG D
*	31,902	96	Gravel
	1,846,549	78	Meadow, non-grazed, HSG D
	2,495,437	73	Weighted Average
	2,478,253		99.31% Pervious Area
	17,184		0.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
54.4					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 41S: Tc Decreased

Runoff = 32.57 cfs @ 12.46 hrs, Volume= 4.322 af, Depth= 2.25"
Routed to Reach SP41 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
*	16,863	98	Impervious
*	72,825	96	Gravel
	5,483	58	Meadow, non-grazed, HSG B
	588,558	71	Meadow, non-grazed, HSG C
	144,388	78	Meadow, non-grazed, HSG D
	12,946	55	Woods, Good, HSG B
	30,598	70	Woods, Good, HSG C
	0	77	Woods, Good, HSG D
	45,174	48	Brush, Good, HSG B
	46,122	65	Brush, Good, HSG C
	33,461	61	>75% Grass cover, Good, HSG B
	6,740	74	>75% Grass cover, Good, HSG C
	1,003,158	72	Weighted Average
	986,295		98.32% Pervious Area
	16,863		1.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
46.3					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 42S: Tc Decreased

Runoff = 179.72 cfs @ 13.03 hrs, Volume= 38.540 af, Depth= 2.68"
Routed to Reach SP42 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

Area (sf)	CN	Description
20,734	98	Water Surface, HSG A
0	98	Unconnected roofs, HSG A
103,574	96	Gravel surface, HSG A
937,658	71	Meadow, non-grazed, HSG C
5,676,297	78	Meadow, non-grazed, HSG D
1,664	65	Brush, Good, HSG C
84,283	73	Brush, Good, HSG D
15,094	70	Woods, Good, HSG C
673,129	77	Woods, Good, HSG D
7,512,433	77	Weighted Average
7,491,699		99.72% Pervious Area
20,734		0.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
90.9					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 43S:

Runoff = 100.68 cfs @ 12.49 hrs, Volume= 13.574 af, Depth= 2.68"
Routed to Reach SP43 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
*	2,810	98	Impervious
*	31,551	96	Gravel
	437,819	71	Meadow, non-grazed, HSG C
	2,143,512	78	Meadow, non-grazed, HSG D
	11,726	70	Woods, Good, HSG C
	18,430	77	Woods, Good, HSG D
	2,645,848	77	Weighted Average
	2,643,038		99.89% Pervious Area
	2,810		0.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
48.7					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 44S:

Runoff = 120.52 cfs @ 13.11 hrs, Volume= 27.177 af, Depth= 2.77"
Routed to Reach SP44 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
*	136,521	98	Water
*	96,600	96	Gravel
	130,201	58	Meadow, non-grazed, HSG B
	48,275	71	Meadow, non-grazed, HSG C
	4,197,773	78	Meadow, non-grazed, HSG D
	199	65	Brush, Good, HSG C
	120,170	73	Brush, Good, HSG D
	3,597	55	Woods, Good, HSG B
	392,848	77	Woods, Good, HSG D
	5,126,184	78	Weighted Average
	4,989,663		97.34% Pervious Area
	136,521		2.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
97.1					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 44SA:

Runoff = 47.87 cfs @ 12.19 hrs, Volume= 4.164 af, Depth= 2.77"
Routed to Reach SP44A :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
*	8,459	98	Water
*	21,218	98	Impervious
*	12,958	96	Gravel
	4,574	58	Meadow, non-grazed, HSG B
	57,514	71	Meadow, non-grazed, HSG C
	588,570	78	Meadow, non-grazed, HSG D
	988	48	Brush, Good, HSG B
	17,587	73	Brush, Good, HSG D
	2,222	55	Woods, Good, HSG B
	22,179	70	Woods, Good, HSG C
	49,212	77	Woods, Good, HSG D
	785,481	78	Weighted Average
	755,804		96.22% Pervious Area
	29,677		3.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.5					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 45S: Tc Increased

Runoff = 34.82 cfs @ 12.23 hrs, Volume= 3.289 af, Depth= 2.95"
Routed to Reach SP45 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
*	49,323	98	Impervious
	33,429	77	Woods, Good, HSG D
	12,134	73	Brush, Good, HSG D
*	7,562	98	Water
*	17,226	96	Gravel
	462,284	78	Meadow, non-grazed, HSG D
	581,958	80	Weighted Average
	525,073		90.23% Pervious Area
	56,885		9.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
29.1					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 46S:

Runoff = 70.08 cfs @ 12.55 hrs, Volume= 10.231 af, Depth= 2.51"
Routed to Reach SP46 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	273,270	77	Woods, Good, HSG D
	229,882	55	Woods, Good, HSG B
	1,564,954	78	Meadow, non-grazed, HSG D
*	22,352	96	Gravel
	43,511	73	Brush, Good, HSG D
	2,133,969	75	Weighted Average
	2,133,969		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
53.8					**Direct Entry, SEE SPREADSHEET**

Summary for Reach SP20:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 56.928 ac, 2.55% Impervious, Inflow Depth = 2.42" for 100-yr event
Inflow = 46.20 cfs @ 13.31 hrs, Volume= 11.458 af
Outflow = 46.20 cfs @ 13.31 hrs, Volume= 11.458 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Summary for Pond 20P: Plunge Pool

Inflow Area = 56.928 ac, 2.55% Impervious, Inflow Depth = 2.42" for 100-yr event
Inflow = 46.21 cfs @ 13.31 hrs, Volume= 11.482 af
Outflow = 46.20 cfs @ 13.31 hrs, Volume= 11.458 af, Atten= 0%, Lag= 0.2 min
Primary = 46.20 cfs @ 13.31 hrs, Volume= 11.458 af
Routed to Reach SP20 :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs / 2
Peak Elev= 703.48' @ 13.31 hrs Surf.Area= 1,734 sf Storage= 1,756 cf

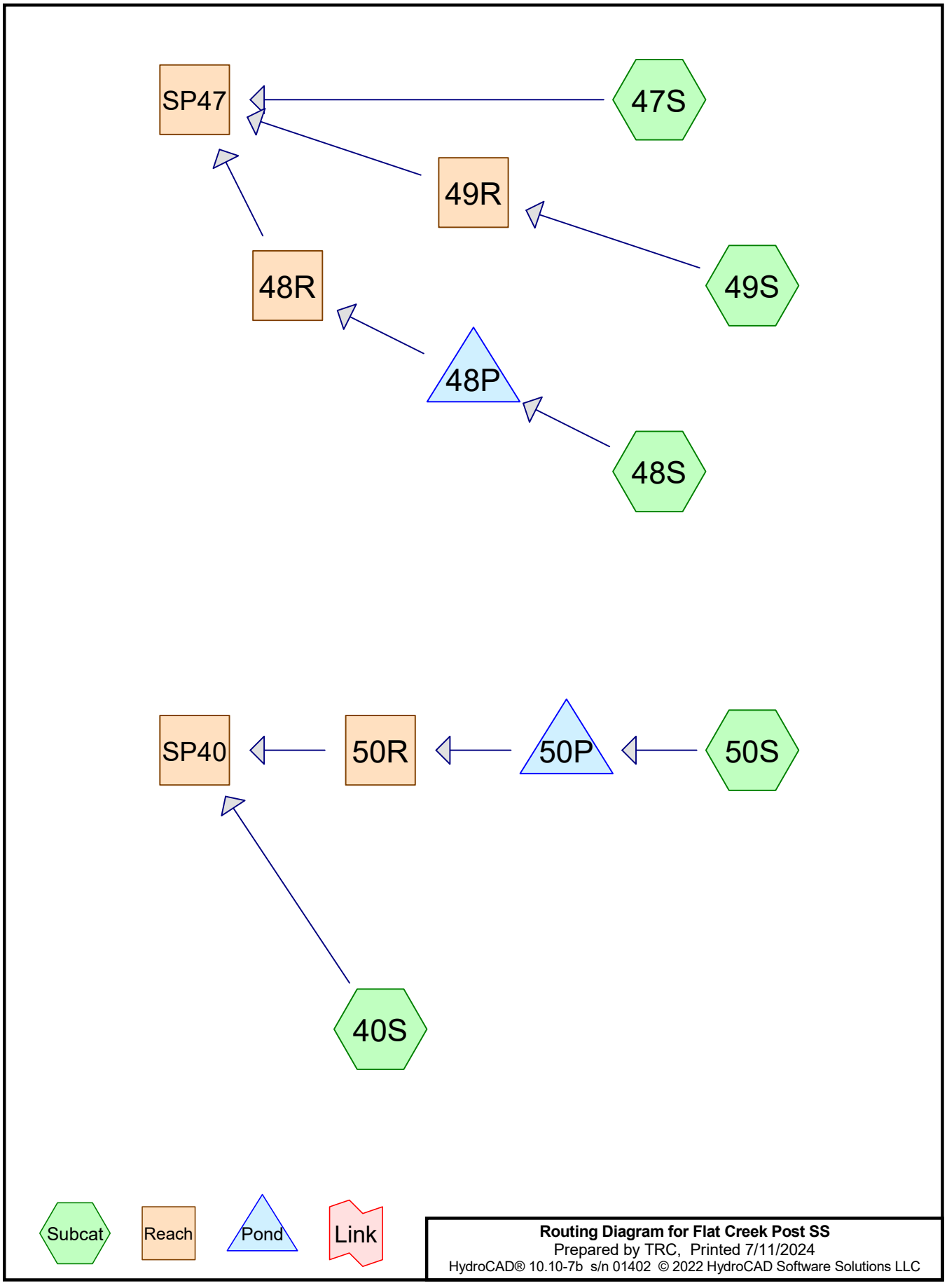
Plug-Flow detention time= 2.3 min calculated for 11.442 af (100% of inflow)
Center-of-Mass det. time= 1.0 min (930.0 - 929.0)

Volume	Invert	Avail.Storage	Storage Description
#1	702.00'	2,775 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
702.00	0	0	0
702.10	880	44	44
703.00	1,300	981	1,025
704.00	2,200	1,750	2,775

Device	Routing	Invert	Outlet Devices
#1	Primary	703.00'	**40.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 1.0' Crest Height

Primary OutFlow Max=46.19 cfs @ 13.31 hrs HW=703.48' (Free Discharge)
1=Sharp-Crested Rectangular Weir (Weir Controls 46.19 cfs @ 2.40 fps)



Routing Diagram for Flat Creek Post SS
Prepared by TRC, Printed 7/11/2024
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Flat Creek Post SS
Prepared by TRC
Printed 7/11/2024

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-yr	Type II 24-hr		Default	24.00	1	2.04	2
2	10-yr	Type II 24-hr		Default	24.00	1	3.42	2
3	25-yr	Type II 24-hr		Default	24.00	1	4.07	2
4	100-yr	Type II 24-hr		Default	24.00	1	5.07	2

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.832	73	Brush, Good, HSG D (40S, 47S, 49S)
6.791	96	Gravel (40S, 47S, 48S)
2.080	96	Gravel surface, HSG D (50S)
0.676	98	Impervious (47S, 48S, 49S, 50S)
0.630	98	Impervious Pavement (40S)
103.685	78	Meadow, non-grazed, HSG D (40S, 47S, 48S, 49S, 50S)
4.010	77	Woods, Good, HSG D (40S, 47S, 49S)
118.704	**79**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
110.607	HSG D	40S, 47S, 48S, 49S, 50S
8.097	Other	40S, 47S, 48S, 49S, 50S
118.704		**TOTAL AREA**

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.832	0.000	0.832	Brush, Good	40S, 47S, 49S
0.000	0.000	0.000	0.000	6.791	6.791	Gravel	40S, 47S, 48S
0.000	0.000	0.000	2.080	0.000	2.080	Gravel surface	50S
0.000	0.000	0.000	0.000	0.676	0.676	Impervious	47S, 48S, 49S, 50S
0.000	0.000	0.000	0.000	0.630	0.630	Impervious Pavement	40S
0.000	0.000	0.000	103.685	0.000	103.685	Meadow, non-grazed	40S, 47S, 48S, 49S, 50S
0.000	0.000	0.000	4.010	0.000	4.010	Woods, Good	40S, 47S, 49S
0.000	**0.000**	**0.000**	**110.607**	**8.097**	**118.704**	**TOTAL AREA**	

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 40S: Runoff Area=2,710,782 sf 1.01% Impervious Runoff Depth=0.55"
Tc=47.3 min CN=79 Runoff=18.70 cfs 2.832 af

Subcatchment 47S: Runoff Area=1,773,424 sf 1.09% Impervious Runoff Depth=0.51"
Tc=55.8 min CN=78 Runoff=9.77 cfs 1.720 af

Subcatchment 48S: Runoff Area=321,036 sf 1.43% Impervious Runoff Depth=1.13"
Tc=6.0 min CN=90 Runoff=14.24 cfs 0.693 af

Subcatchment 49S: Runoff Area=246,142 sf 1.03% Impervious Runoff Depth=0.51"
Tc=19.2 min CN=78 Runoff=2.88 cfs 0.239 af

Subcatchment 50S: Runoff Area=119,361 sf 2.44% Impervious Runoff Depth=1.27"
Tc=6.0 min CN=92 Runoff=5.90 cfs 0.291 af

Reach 48R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=1,115.0' S=0.0130 '/' Capacity=172.33 cfs Outflow=0.00 cfs 0.000 af

Reach 49R: Avg. Flow Depth=0.06' Max Vel=1.00 fps Inflow=2.88 cfs 0.239 af
n=0.030 L=1,984.0' S=0.0189 '/' Capacity=207.76 cfs Outflow=1.25 cfs 0.239 af

Reach 50R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=1,063.0' S=0.0125 '/' Capacity=48.43 cfs Outflow=0.00 cfs 0.000 af

Reach SP40: Inflow=18.70 cfs 2.832 af
Outflow=18.70 cfs 2.832 af

Reach SP47: Inflow=10.33 cfs 1.959 af
Outflow=10.33 cfs 1.959 af

Pond 48P: Peak Elev=754.40' Storage=30,182 cf Inflow=14.24 cfs 0.693 af
Outflow=0.00 cfs 0.000 af

Pond 50P: Peak Elev=748.11' Storage=12,661 cf Inflow=5.90 cfs 0.291 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 118.704 ac Runoff Volume = 5.774 af Average Runoff Depth = 0.58"
98.90% Pervious = 117.398 ac 1.10% Impervious = 1.306 ac

Summary for Subcatchment 40S:

Runoff = 18.70 cfs @ 12.52 hrs, Volume= 2.832 af, Depth= 0.55"
Routed to Reach SP40 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	135,919	77	Woods, Good, HSG D
	20,930	73	Brush, Good, HSG D
*	27,449	98	Impervious Pavement
	2,457,407	78	Meadow, non-grazed, HSG D
*	69,077	96	Gravel
	2,710,782	79	Weighted Average
	2,683,333		98.99% Pervious Area
	27,449		1.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
47.3					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 47S:

Runoff = 9.77 cfs @ 12.64 hrs, Volume= 1.720 af, Depth= 0.51"
Routed to Reach SP47 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
*	19,390	98	Impervious
*	10,900	96	Gravel
	1,700,012	78	Meadow, non-grazed, HSG D
	11,604	73	Brush, Good, HSG D
	31,518	77	Woods, Good, HSG D
	1,773,424	78	Weighted Average
	1,754,034		98.91% Pervious Area
	19,390		1.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
55.8					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 48S:

Runoff = 14.24 cfs @ 11.97 hrs, Volume= 0.693 af, Depth= 1.13"
Routed to Pond 48P :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
*	4,600	98	Impervious
*	215,838	96	Gravel
	100,598	78	Meadow, non-grazed, HSG D
	0	77	Woods, Good, HSG D
	321,036	90	Weighted Average
	316,436		98.57% Pervious Area
	4,600		1.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 49S:

Runoff = 2.88 cfs @ 12.14 hrs, Volume= 0.239 af, Depth= 0.51"
Routed to Reach 49R :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
*	2,547	98	Impervious
	232,669	78	Meadow, non-grazed, HSG D
	3,706	73	Brush, Good, HSG D
	7,220	77	Woods, Good, HSG D
	246,142	78	Weighted Average
	243,595		98.97% Pervious Area
	2,547		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.2					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 50S:

Runoff = 5.90 cfs @ 11.97 hrs, Volume= 0.291 af, Depth= 1.27"
Routed to Pond 50P :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-yr Rainfall=2.04"

	Area (sf)	CN	Description
	90,622	96	Gravel surface, HSG D
	25,830	78	Meadow, non-grazed, HSG D
*	2,909	98	Impervious
	119,361	92	Weighted Average
	116,452		97.56% Pervious Area
	2,909		2.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, SEE SPREADSHEET**

Summary for Reach 48R:

Inflow Area = 7.370 ac, 1.43% Impervious, Inflow Depth = 0.00" for 1-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP47 :

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.00' Flow Area= 40.0 sf, Capacity= 172.33 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.0 '/' Top Width= 60.00'
Length= 1,115.0' Slope= 0.0130 '/'
Inlet Invert= 749.00', Outlet Invert= 734.50'

‡

Summary for Reach 49R:

Inflow Area = 5.651 ac, 1.03% Impervious, Inflow Depth = 0.51" for 1-yr event
Inflow = 2.88 cfs @ 12.14 hrs, Volume= 0.239 af
Outflow = 1.25 cfs @ 12.95 hrs, Volume= 0.239 af, Atten= 56%, Lag= 48.7 min
Routed to Reach SP47 :

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.00 fps, Min. Travel Time= 33.1 min
Avg. Velocity = 0.40 fps, Avg. Travel Time= 83.2 min

Peak Storage= 2,491 cf @ 12.40 hrs
Average Depth at Peak Storage= 0.06' , Surface Width= 22.37'
Bank-Full Depth= 1.00' Flow Area= 40.0 sf, Capacity= 207.76 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.0 '/' Top Width= 60.00'
Length= 1,984.0' Slope= 0.0189 '/'
Inlet Invert= 772.00', Outlet Invert= 734.50'

‡

Summary for Reach 50R:

Inflow Area = 2.740 ac, 2.44% Impervious, Inflow Depth = 0.00" for 1-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP40 :

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.50' Flow Area= 9.8 sf, Capacity= 48.43 cfs

2.00' x 1.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 11.00'
Length= 1,063.0' Slope= 0.0125 '/'
Inlet Invert= 747.00', Outlet Invert= 733.70'

‡

Summary for Reach SP40:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 64.971 ac, 1.07% Impervious, Inflow Depth = 0.52" for 1-yr event
Inflow = 18.70 cfs @ 12.52 hrs, Volume= 2.832 af
Outflow = 18.70 cfs @ 12.52 hrs, Volume= 2.832 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Summary for Reach SP47:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 53.733 ac, 1.13% Impervious, Inflow Depth = 0.44" for 1-yr event
Inflow = 10.33 cfs @ 12.73 hrs, Volume= 1.959 af
Outflow = 10.33 cfs @ 12.73 hrs, Volume= 1.959 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Summary for Pond 48P:

Inflow Area = 7.370 ac, 1.43% Impervious, Inflow Depth = 1.13" for 1-yr event
Inflow = 14.24 cfs @ 11.97 hrs, Volume= 0.693 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 48R :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 754.40' @ 24.40 hrs Surf.Area= 35,309 sf Storage= 30,182 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	753.50'	91,563 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
753.50	32,047	0	0
754.00	33,854	16,475	16,475
755.00	37,525	35,690	52,165
756.00	41,271	39,398	91,563

Device	Routing	Invert	Outlet Devices
#1	Primary	755.00'	**8.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=753.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 50P:

Inflow Area = 2.740 ac, 2.44% Impervious, Inflow Depth = 1.27" for 1-yr event
Inflow = 5.90 cfs @ 11.97 hrs, Volume= 0.291 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 50R :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 748.11' @ 24.40 hrs Surf.Area= 21,398 sf Storage= 12,661 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	747.50'	57,125 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
747.50	20,055	0	0
748.00	21,149	10,301	10,301
749.00	23,394	22,272	32,573
750.00	25,711	24,553	57,125

Device	Routing	Invert	Outlet Devices
#1	Primary	749.00'	**8.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=747.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 40S: Runoff Area=2,710,782 sf 1.01% Impervious Runoff Depth=1.50"
Tc=47.3 min CN=79 Runoff=58.02 cfs 7.800 af

Subcatchment 47S: Runoff Area=1,773,424 sf 1.09% Impervious Runoff Depth=1.44"
Tc=55.8 min CN=78 Runoff=31.87 cfs 4.875 af

Subcatchment 48S: Runoff Area=321,036 sf 1.43% Impervious Runoff Depth=2.37"
Tc=6.0 min CN=90 Runoff=29.06 cfs 1.458 af

Subcatchment 49S: Runoff Area=246,142 sf 1.03% Impervious Runoff Depth=1.44"
Tc=19.2 min CN=78 Runoff=9.07 cfs 0.677 af

Subcatchment 50S: Runoff Area=119,361 sf 2.44% Impervious Runoff Depth=2.56"
Tc=6.0 min CN=92 Runoff=11.45 cfs 0.585 af

Reach 48R: Avg. Flow Depth=0.03' Max Vel=0.56 fps Inflow=0.38 cfs 0.259 af
n=0.030 L=1,115.0' S=0.0130 '/' Capacity=172.33 cfs Outflow=0.38 cfs 0.258 af

Reach 49R: Avg. Flow Depth=0.14' Max Vel=1.73 fps Inflow=9.07 cfs 0.677 af
n=0.030 L=1,984.0' S=0.0189 '/' Capacity=207.76 cfs Outflow=5.70 cfs 0.677 af

Reach 50R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=1,063.0' S=0.0125 '/' Capacity=48.43 cfs Outflow=0.00 cfs 0.000 af

Reach SP40: Inflow=58.02 cfs 7.800 af
Outflow=58.02 cfs 7.800 af

Reach SP47: Inflow=37.57 cfs 5.809 af
Outflow=37.57 cfs 5.809 af

Pond 48P: Peak Elev=755.07' Storage=54,873 cf Inflow=29.06 cfs 1.458 af
Outflow=0.38 cfs 0.259 af

Pond 50P: Peak Elev=748.69' Storage=25,466 cf Inflow=11.45 cfs 0.585 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 118.704 ac Runoff Volume = 15.394 af Average Runoff Depth = 1.56"
98.90% Pervious = 117.398 ac 1.10% Impervious = 1.306 ac

Summary for Subcatchment 40S:

Runoff = 58.02 cfs @ 12.47 hrs, Volume= 7.800 af, Depth= 1.50"
Routed to Reach SP40 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	135,919	77	Woods, Good, HSG D
	20,930	73	Brush, Good, HSG D
*	27,449	98	Impervious Pavement
	2,457,407	78	Meadow, non-grazed, HSG D
*	69,077	96	Gravel
	2,710,782	79	Weighted Average
	2,683,333		98.99% Pervious Area
	27,449		1.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
47.3					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 47S:

Runoff = 31.87 cfs @ 12.59 hrs, Volume= 4.875 af, Depth= 1.44"
Routed to Reach SP47 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
*	19,390	98	Impervious
*	10,900	96	Gravel
	1,700,012	78	Meadow, non-grazed, HSG D
	11,604	73	Brush, Good, HSG D
	31,518	77	Woods, Good, HSG D
	1,773,424	78	Weighted Average
	1,754,034		98.91% Pervious Area
	19,390		1.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
55.8					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 48S:

Runoff = 29.06 cfs @ 11.97 hrs, Volume= 1.458 af, Depth= 2.37"
Routed to Pond 48P :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
*	4,600	98	Impervious
*	215,838	96	Gravel
	100,598	78	Meadow, non-grazed, HSG D
	0	77	Woods, Good, HSG D
	321,036	90	Weighted Average
	316,436		98.57% Pervious Area
	4,600		1.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 49S:

Runoff = 9.07 cfs @ 12.12 hrs, Volume= 0.677 af, Depth= 1.44"
Routed to Reach 49R :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
*	2,547	98	Impervious
	232,669	78	Meadow, non-grazed, HSG D
	3,706	73	Brush, Good, HSG D
	7,220	77	Woods, Good, HSG D
	246,142	78	Weighted Average
	243,595		98.97% Pervious Area
	2,547		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.2					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 50S:

Runoff = 11.45 cfs @ 11.96 hrs, Volume= 0.585 af, Depth= 2.56"
Routed to Pond 50P :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=3.42"

	Area (sf)	CN	Description
	90,622	96	Gravel surface, HSG D
	25,830	78	Meadow, non-grazed, HSG D
*	2,909	98	Impervious
	119,361	92	Weighted Average
	116,452		97.56% Pervious Area
	2,909		2.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, SEE SPREADSHEET**

Summary for Reach 48R:

Inflow Area = 7.370 ac, 1.43% Impervious, Inflow Depth > 0.42" for 10-yr event
Inflow = 0.38 cfs @ 18.86 hrs, Volume= 0.259 af
Outflow = 0.38 cfs @ 19.80 hrs, Volume= 0.258 af, Atten= 1%, Lag= 56.1 min
Routed to Reach SP47 :

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.56 fps, Min. Travel Time= 32.9 min
Avg. Velocity = 0.38 fps, Avg. Travel Time= 48.9 min

Peak Storage= 741 cf @ 19.25 hrs
Average Depth at Peak Storage= 0.03' , Surface Width= 21.29'
Bank-Full Depth= 1.00' Flow Area= 40.0 sf, Capacity= 172.33 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.0 '/' Top Width= 60.00'
Length= 1,115.0' Slope= 0.0130 '/'
Inlet Invert= 749.00', Outlet Invert= 734.50'

‡

Summary for Reach 49R:

Inflow Area = 5.651 ac, 1.03% Impervious, Inflow Depth = 1.44" for 10-yr event
Inflow = 9.07 cfs @ 12.12 hrs, Volume= 0.677 af
Outflow = 5.70 cfs @ 12.60 hrs, Volume= 0.677 af, Atten= 37%, Lag= 28.8 min
Routed to Reach SP47 :

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.73 fps, Min. Travel Time= 19.1 min
Avg. Velocity = 0.49 fps, Avg. Travel Time= 67.9 min

Peak Storage= 6,563 cf @ 12.28 hrs
Average Depth at Peak Storage= 0.14' , Surface Width= 25.78'
Bank-Full Depth= 1.00' Flow Area= 40.0 sf, Capacity= 207.76 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.0 '/' Top Width= 60.00'
Length= 1,984.0' Slope= 0.0189 '/'
Inlet Invert= 772.00', Outlet Invert= 734.50'

‡

Summary for Reach 50R:

Inflow Area = 2.740 ac, 2.44% Impervious, Inflow Depth = 0.00" for 10-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP40 :

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.50' Flow Area= 9.8 sf, Capacity= 48.43 cfs

2.00' x 1.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 11.00'
Length= 1,063.0' Slope= 0.0125 '/'
Inlet Invert= 747.00', Outlet Invert= 733.70'

‡

Summary for Reach SP40:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 64.971 ac, 1.07% Impervious, Inflow Depth = 1.44" for 10-yr event
Inflow = 58.02 cfs @ 12.47 hrs, Volume= 7.800 af
Outflow = 58.02 cfs @ 12.47 hrs, Volume= 7.800 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Summary for Reach SP47:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 53.733 ac, 1.13% Impervious, Inflow Depth > 1.30" for 10-yr event
Inflow = 37.57 cfs @ 12.60 hrs, Volume= 5.809 af
Outflow = 37.57 cfs @ 12.60 hrs, Volume= 5.809 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Summary for Pond 48P:

Inflow Area = 7.370 ac, 1.43% Impervious, Inflow Depth = 2.37" for 10-yr event
Inflow = 29.06 cfs @ 11.97 hrs, Volume= 1.458 af
Outflow = 0.38 cfs @ 18.86 hrs, Volume= 0.259 af, Atten= 99%, Lag= 413.8 min
Primary = 0.38 cfs @ 18.86 hrs, Volume= 0.259 af
Routed to Reach 48R :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 755.07' @ 18.86 hrs Surf.Area= 37,794 sf Storage= 54,873 cf

Plug-Flow detention time= 643.4 min calculated for 0.259 af (18% of inflow)
Center-of-Mass det. time= 481.0 min (1,282.3 - 801.3)

Volume	Invert	Avail.Storage	Storage Description
#1	753.50'	91,563 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
753.50	32,047	0	0
754.00	33,854	16,475	16,475
755.00	37,525	35,690	52,165
756.00	41,271	39,398	91,563

Device	Routing	Invert	Outlet Devices
#1	Primary	755.00'	**8.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.38 cfs @ 18.86 hrs HW=755.07' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.38 cfs @ 0.65 fps)

Summary for Pond 50P:

Inflow Area = 2.740 ac, 2.44% Impervious, Inflow Depth = 2.56" for 10-yr event
Inflow = 11.45 cfs @ 11.96 hrs, Volume= 0.585 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 50R :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 748.69' @ 24.40 hrs Surf.Area= 22,702 sf Storage= 25,466 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	747.50'	57,125 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
747.50	20,055	0	0
748.00	21,149	10,301	10,301
749.00	23,394	22,272	32,573
750.00	25,711	24,553	57,125

Device	Routing	Invert	Outlet Devices
#1	Primary	749.00'	**8.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=747.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 40S: Runoff Area=2,710,782 sf 1.01% Impervious Runoff Depth=2.02"
Tc=47.3 min CN=79 Runoff=79.07 cfs 10.478 af

Subcatchment 47S: Runoff Area=1,773,424 sf 1.09% Impervious Runoff Depth=1.94"
Tc=55.8 min CN=78 Runoff=43.85 cfs 6.592 af

Subcatchment 48S: Runoff Area=321,036 sf 1.43% Impervious Runoff Depth=2.99"
Tc=6.0 min CN=90 Runoff=36.10 cfs 1.834 af

Subcatchment 49S: Runoff Area=246,142 sf 1.03% Impervious Runoff Depth=1.94"
Tc=19.2 min CN=78 Runoff=12.39 cfs 0.915 af

Subcatchment 50S: Runoff Area=119,361 sf 2.44% Impervious Runoff Depth=3.19"
Tc=6.0 min CN=92 Runoff=14.05 cfs 0.727 af

Reach 48R: Avg. Flow Depth=0.06' Max Vel=0.82 fps Inflow=1.04 cfs 0.635 af
n=0.030 L=1,115.0' S=0.0130 '/' Capacity=172.33 cfs Outflow=1.03 cfs 0.634 af

Reach 49R: Avg. Flow Depth=0.18' Max Vel=1.97 fps Inflow=12.39 cfs 0.915 af
n=0.030 L=1,984.0' S=0.0189 '/' Capacity=207.76 cfs Outflow=8.34 cfs 0.915 af

Reach 50R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
n=0.030 L=1,063.0' S=0.0125 '/' Capacity=48.43 cfs Outflow=0.00 cfs 0.000 af

Reach SP40: Inflow=79.07 cfs 10.478 af
Outflow=79.07 cfs 10.478 af

Reach SP47: Inflow=52.08 cfs 8.140 af
Outflow=52.08 cfs 8.140 af

Pond 48P: Peak Elev=755.14' Storage=57,514 cf Inflow=36.10 cfs 1.834 af
Outflow=1.04 cfs 0.635 af

Pond 50P: Peak Elev=748.96' Storage=31,682 cf Inflow=14.05 cfs 0.727 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 118.704 ac Runoff Volume = 20.545 af Average Runoff Depth = 2.08"
98.90% Pervious = 117.398 ac 1.10% Impervious = 1.306 ac

Summary for Subcatchment 40S:

Runoff = 79.07 cfs @ 12.46 hrs, Volume= 10.478 af, Depth= 2.02"
Routed to Reach SP40 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	135,919	77	Woods, Good, HSG D
	20,930	73	Brush, Good, HSG D
*	27,449	98	Impervious Pavement
	2,457,407	78	Meadow, non-grazed, HSG D
*	69,077	96	Gravel
	2,710,782	79	Weighted Average
	2,683,333		98.99% Pervious Area
	27,449		1.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
47.3					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 47S:

Runoff = 43.85 cfs @ 12.59 hrs, Volume= 6.592 af, Depth= 1.94"
Routed to Reach SP47 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
*	19,390	98	Impervious
*	10,900	96	Gravel
	1,700,012	78	Meadow, non-grazed, HSG D
	11,604	73	Brush, Good, HSG D
	31,518	77	Woods, Good, HSG D
	1,773,424	78	Weighted Average
	1,754,034		98.91% Pervious Area
	19,390		1.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
55.8					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 48S:

Runoff = 36.10 cfs @ 11.97 hrs, Volume= 1.834 af, Depth= 2.99"
Routed to Pond 48P :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
*	4,600	98	Impervious
*	215,838	96	Gravel
	100,598	78	Meadow, non-grazed, HSG D
	0	77	Woods, Good, HSG D
	321,036	90	Weighted Average
	316,436		98.57% Pervious Area
	4,600		1.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 49S:

Runoff = 12.39 cfs @ 12.12 hrs, Volume= 0.915 af, Depth= 1.94"
Routed to Reach 49R :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
*	2,547	98	Impervious
	232,669	78	Meadow, non-grazed, HSG D
	3,706	73	Brush, Good, HSG D
	7,220	77	Woods, Good, HSG D
	246,142	78	Weighted Average
	243,595		98.97% Pervious Area
	2,547		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.2					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 50S:

Runoff = 14.05 cfs @ 11.96 hrs, Volume= 0.727 af, Depth= 3.19"
Routed to Pond 50P :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=4.07"

	Area (sf)	CN	Description
	90,622	96	Gravel surface, HSG D
	25,830	78	Meadow, non-grazed, HSG D
*	2,909	98	Impervious
	119,361	92	Weighted Average
	116,452		97.56% Pervious Area
	2,909		2.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, SEE SPREADSHEET**

Summary for Reach 48R:

Inflow Area = 7.370 ac, 1.43% Impervious, Inflow Depth > 1.03" for 25-yr event
Inflow = 1.04 cfs @ 14.12 hrs, Volume= 0.635 af
Outflow = 1.03 cfs @ 14.90 hrs, Volume= 0.634 af, Atten= 2%, Lag= 47.0 min
Routed to Reach SP47 :

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.82 fps, Min. Travel Time= 22.5 min
Avg. Velocity = 0.48 fps, Avg. Travel Time= 38.9 min

Peak Storage= 1,388 cf @ 14.52 hrs
Average Depth at Peak Storage= 0.06' , Surface Width= 22.35'
Bank-Full Depth= 1.00' Flow Area= 40.0 sf, Capacity= 172.33 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.0 '/' Top Width= 60.00'
Length= 1,115.0' Slope= 0.0130 '/'
Inlet Invert= 749.00', Outlet Invert= 734.50'

‡

Summary for Reach 49R:

Inflow Area = 5.651 ac, 1.03% Impervious, Inflow Depth = 1.94" for 25-yr event
Inflow = 12.39 cfs @ 12.12 hrs, Volume= 0.915 af
Outflow = 8.34 cfs @ 12.55 hrs, Volume= 0.915 af, Atten= 33%, Lag= 25.5 min
Routed to Reach SP47 :

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.97 fps, Min. Travel Time= 16.8 min
Avg. Velocity = 0.52 fps, Avg. Travel Time= 63.8 min

Peak Storage= 8,441 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.18' , Surface Width= 27.21'
Bank-Full Depth= 1.00' Flow Area= 40.0 sf, Capacity= 207.76 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.0 '/' Top Width= 60.00'
Length= 1,984.0' Slope= 0.0189 '/'
Inlet Invert= 772.00', Outlet Invert= 734.50'

‡

Summary for Reach 50R:

Inflow Area = 2.740 ac, 2.44% Impervious, Inflow Depth = 0.00" for 25-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Reach SP40 :

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.50' Flow Area= 9.8 sf, Capacity= 48.43 cfs

2.00' x 1.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 11.00'
Length= 1,063.0' Slope= 0.0125 '/'
Inlet Invert= 747.00', Outlet Invert= 733.70'

‡

Summary for Reach SP40:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 64.971 ac, 1.07% Impervious, Inflow Depth = 1.94" for 25-yr event
Inflow = 79.07 cfs @ 12.46 hrs, Volume= 10.478 af
Outflow = 79.07 cfs @ 12.46 hrs, Volume= 10.478 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Summary for Reach SP47:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 53.733 ac, 1.13% Impervious, Inflow Depth > 1.82" for 25-yr event
Inflow = 52.08 cfs @ 12.57 hrs, Volume= 8.140 af
Outflow = 52.08 cfs @ 12.57 hrs, Volume= 8.140 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Summary for Pond 48P:

Inflow Area = 7.370 ac, 1.43% Impervious, Inflow Depth = 2.99" for 25-yr event
Inflow = 36.10 cfs @ 11.97 hrs, Volume= 1.834 af
Outflow = 1.04 cfs @ 14.12 hrs, Volume= 0.635 af, Atten= 97%, Lag= 129.0 min
Primary = 1.04 cfs @ 14.12 hrs, Volume= 0.635 af
Routed to Reach 48R :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 755.14' @ 14.12 hrs Surf.Area= 38,055 sf Storage= 57,514 cf

Plug-Flow detention time= 424.0 min calculated for 0.635 af (35% of inflow)
Center-of-Mass det. time= 295.0 min (1,089.8 - 794.8)

Volume	Invert	Avail.Storage	Storage Description
#1	753.50'	91,563 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
753.50	32,047	0	0
754.00	33,854	16,475	16,475
755.00	37,525	35,690	52,165
756.00	41,271	39,398	91,563

Device	Routing	Invert	Outlet Devices
#1	Primary	755.00'	**8.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=1.04 cfs @ 14.12 hrs HW=755.14' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 1.04 cfs @ 0.92 fps)

Summary for Pond 50P:

Inflow Area = 2.740 ac, 2.44% Impervious, Inflow Depth = 3.19" for 25-yr event
Inflow = 14.05 cfs @ 11.96 hrs, Volume= 0.727 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Reach 50R :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 748.96' @ 24.40 hrs Surf.Area= 23,308 sf Storage= 31,682 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	747.50'	57,125 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
747.50	20,055	0	0
748.00	21,149	10,301	10,301
749.00	23,394	22,272	32,573
750.00	25,711	24,553	57,125

Device	Routing	Invert	Outlet Devices
#1	Primary	749.00'	**8.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=747.50' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 40S: Runoff Area=2,710,782 sf 1.01% Impervious Runoff Depth=2.86"
Tc=47.3 min CN=79 Runoff=113.06 cfs 14.842 af

Subcatchment 47S: Runoff Area=1,773,424 sf 1.09% Impervious Runoff Depth=2.77"
Tc=55.8 min CN=78 Runoff=63.30 cfs 9.402 af

Subcatchment 48S: Runoff Area=321,036 sf 1.43% Impervious Runoff Depth=3.94"
Tc=6.0 min CN=90 Runoff=46.88 cfs 2.422 af

Subcatchment 49S: Runoff Area=246,142 sf 1.03% Impervious Runoff Depth=2.77"
Tc=19.2 min CN=78 Runoff=17.74 cfs 1.305 af

Subcatchment 50S: Runoff Area=119,361 sf 2.44% Impervious Runoff Depth=4.16"
Tc=6.0 min CN=92 Runoff=18.03 cfs 0.949 af

Reach 48R: Avg. Flow Depth=0.12' Max Vel=1.30 fps Inflow=3.84 cfs 1.223 af
n=0.030 L=1,115.0' S=0.0130 '/' Capacity=172.33 cfs Outflow=3.59 cfs 1.222 af

Reach 49R: Avg. Flow Depth=0.23' Max Vel=2.28 fps Inflow=17.74 cfs 1.305 af
n=0.030 L=1,984.0' S=0.0189 '/' Capacity=207.76 cfs Outflow=12.76 cfs 1.305 af

Reach 50R: Avg. Flow Depth=0.11' Max Vel=1.17 fps Inflow=0.31 cfs 0.202 af
n=0.030 L=1,063.0' S=0.0125 '/' Capacity=48.43 cfs Outflow=0.31 cfs 0.201 af

Reach SP40: Inflow=113.06 cfs 15.044 af
Outflow=113.06 cfs 15.044 af

Reach SP47: Inflow=77.19 cfs 11.929 af
Outflow=77.19 cfs 11.929 af

Pond 48P: Peak Elev=755.33' Storage=64,760 cf Inflow=46.88 cfs 2.422 af
Outflow=3.84 cfs 1.223 af

Pond 50P: Peak Elev=749.06' Storage=34,041 cf Inflow=18.03 cfs 0.949 af
Outflow=0.31 cfs 0.202 af

Total Runoff Area = 118.704 ac Runoff Volume = 28.920 af Average Runoff Depth = 2.92"
98.90% Pervious = 117.398 ac 1.10% Impervious = 1.306 ac

Summary for Subcatchment 40S:

Runoff = 113.06 cfs @ 12.46 hrs, Volume= 14.842 af, Depth= 2.86"
Routed to Reach SP40 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	135,919	77	Woods, Good, HSG D
	20,930	73	Brush, Good, HSG D
*	27,449	98	Impervious Pavement
	2,457,407	78	Meadow, non-grazed, HSG D
*	69,077	96	Gravel
	2,710,782	79	Weighted Average
	2,683,333		98.99% Pervious Area
	27,449		1.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
47.3					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 47S:

Runoff = 63.30 cfs @ 12.58 hrs, Volume= 9.402 af, Depth= 2.77"
Routed to Reach SP47 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
*	19,390	98	Impervious
*	10,900	96	Gravel
	1,700,012	78	Meadow, non-grazed, HSG D
	11,604	73	Brush, Good, HSG D
	31,518	77	Woods, Good, HSG D
	1,773,424	78	Weighted Average
	1,754,034		98.91% Pervious Area
	19,390		1.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
55.8					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 48S:

Runoff = 46.88 cfs @ 11.96 hrs, Volume= 2.422 af, Depth= 3.94"
Routed to Pond 48P :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
*	4,600	98	Impervious
*	215,838	96	Gravel
	100,598	78	Meadow, non-grazed, HSG D
	0	77	Woods, Good, HSG D
	321,036	90	Weighted Average
	316,436		98.57% Pervious Area
	4,600		1.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 49S:

Runoff = 17.74 cfs @ 12.12 hrs, Volume= 1.305 af, Depth= 2.77"
Routed to Reach 49R :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
*	2,547	98	Impervious
	232,669	78	Meadow, non-grazed, HSG D
	3,706	73	Brush, Good, HSG D
	7,220	77	Woods, Good, HSG D
	246,142	78	Weighted Average
	243,595		98.97% Pervious Area
	2,547		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.2					**Direct Entry, SEE SPREADSHEET**

Summary for Subcatchment 50S:

Runoff = 18.03 cfs @ 11.96 hrs, Volume= 0.949 af, Depth= 4.16"
Routed to Pond 50P :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-yr Rainfall=5.07"

	Area (sf)	CN	Description
	90,622	96	Gravel surface, HSG D
	25,830	78	Meadow, non-grazed, HSG D
*	2,909	98	Impervious
	119,361	92	Weighted Average
	116,452		97.56% Pervious Area
	2,909		2.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, SEE SPREADSHEET**

Summary for Reach 48R:

Inflow Area = 7.370 ac, 1.43% Impervious, Inflow Depth > 1.99" for 100-yr event
Inflow = 3.84 cfs @ 12.50 hrs, Volume= 1.223 af
Outflow = 3.59 cfs @ 13.00 hrs, Volume= 1.222 af, Atten= 6%, Lag= 29.7 min
Routed to Reach SP47 :

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.30 fps, Min. Travel Time= 14.3 min
Avg. Velocity = 0.57 fps, Avg. Travel Time= 32.9 min

Peak Storage= 3,077 cf @ 12.76 hrs
Average Depth at Peak Storage= 0.12' , Surface Width= 24.91'
Bank-Full Depth= 1.00' Flow Area= 40.0 sf, Capacity= 172.33 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.0 '/' Top Width= 60.00'
Length= 1,115.0' Slope= 0.0130 '/'
Inlet Invert= 749.00', Outlet Invert= 734.50'

‡

Summary for Reach 49R:

Inflow Area = 5.651 ac, 1.03% Impervious, Inflow Depth = 2.77" for 100-yr event
Inflow = 17.74 cfs @ 12.12 hrs, Volume= 1.305 af
Outflow = 12.76 cfs @ 12.49 hrs, Volume= 1.305 af, Atten= 28%, Lag= 22.4 min
Routed to Reach SP47 :

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.28 fps, Min. Travel Time= 14.5 min
Avg. Velocity = 0.56 fps, Avg. Travel Time= 58.9 min

Peak Storage= 11,177 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.23' , Surface Width= 29.17'
Bank-Full Depth= 1.00' Flow Area= 40.0 sf, Capacity= 207.76 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 20.0 '/' Top Width= 60.00'
Length= 1,984.0' Slope= 0.0189 '/'
Inlet Invert= 772.00', Outlet Invert= 734.50'

‡

Summary for Reach 50R:

Inflow Area = 2.740 ac, 2.44% Impervious, Inflow Depth > 0.88" for 100-yr event
Inflow = 0.31 cfs @ 16.19 hrs, Volume= 0.202 af
Outflow = 0.31 cfs @ 16.68 hrs, Volume= 0.201 af, Atten= 0%, Lag= 29.4 min
Routed to Reach SP40 :

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.17 fps, Min. Travel Time= 15.1 min
Avg. Velocity = 0.70 fps, Avg. Travel Time= 25.2 min

Peak Storage= 280 cf @ 16.42 hrs
Average Depth at Peak Storage= 0.11' , Surface Width= 2.68'
Bank-Full Depth= 1.50' Flow Area= 9.8 sf, Capacity= 48.43 cfs

2.00' x 1.50' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 11.00'
Length= 1,063.0' Slope= 0.0125 '/'
Inlet Invert= 747.00', Outlet Invert= 733.70'

‡

Summary for Reach SP40:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 64.971 ac, 1.07% Impervious, Inflow Depth = 2.78" for 100-yr event
Inflow = 113.06 cfs @ 12.46 hrs, Volume= 15.044 af
Outflow = 113.06 cfs @ 12.46 hrs, Volume= 15.044 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Summary for Reach SP47:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 53.733 ac, 1.13% Impervious, Inflow Depth > 2.66" for 100-yr event
Inflow = 77.19 cfs @ 12.56 hrs, Volume= 11.929 af
Outflow = 77.19 cfs @ 12.56 hrs, Volume= 11.929 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Summary for Pond 48P:

Inflow Area = 7.370 ac, 1.43% Impervious, Inflow Depth = 3.94" for 100-yr event
Inflow = 46.88 cfs @ 11.96 hrs, Volume= 2.422 af
Outflow = 3.84 cfs @ 12.50 hrs, Volume= 1.223 af, Atten= 92%, Lag= 32.1 min
Primary = 3.84 cfs @ 12.50 hrs, Volume= 1.223 af
Routed to Reach 48R :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 755.33' @ 12.50 hrs Surf.Area= 38,762 sf Storage= 64,760 cf

Plug-Flow detention time= 305.0 min calculated for 1.223 af (50% of inflow)
Center-of-Mass det. time= 192.3 min (979.3 - 787.0)

Volume	Invert	Avail.Storage	Storage Description
#1	753.50'	91,563 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
753.50	32,047	0	0
754.00	33,854	16,475	16,475
755.00	37,525	35,690	52,165
756.00	41,271	39,398	91,563

Device	Routing	Invert	Outlet Devices
#1	Primary	755.00'	**8.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=3.84 cfs @ 12.50 hrs HW=755.33' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 3.84 cfs @ 1.45 fps)

Summary for Pond 50P:

Inflow Area = 2.740 ac, 2.44% Impervious, Inflow Depth = 4.16" for 100-yr event
Inflow = 18.03 cfs @ 11.96 hrs, Volume= 0.949 af
Outflow = 0.31 cfs @ 16.19 hrs, Volume= 0.202 af, Atten= 98%, Lag= 253.4 min
Primary = 0.31 cfs @ 16.19 hrs, Volume= 0.202 af
Routed to Reach 50R :

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 749.06' @ 16.19 hrs Surf.Area= 23,539 sf Storage= 34,041 cf

Plug-Flow detention time= 575.6 min calculated for 0.201 af (21% of inflow)
Center-of-Mass det. time= 395.8 min (1,174.8 - 778.9)

Volume	Invert	Avail.Storage	Storage Description
#1	747.50'	57,125 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
747.50	20,055	0	0
748.00	21,149	10,301	10,301
749.00	23,394	22,272	32,573
750.00	25,711	24,553	57,125

Device	Routing	Invert	Outlet Devices
#1	Primary	749.00'	**8.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.31 cfs @ 16.19 hrs HW=749.06' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.31 cfs @ 0.61 fps)

Appendix M – SWPPP Amendments

The Owner/Operator shall have a Qualified Professional amend the SWPPP when one or more of the following occur:

- There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
- The SWPPP proves to be ineffective in:
    - Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
    - Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and

Additionally, the SWPPP shall be amended to identify any new Contractor or Subcontractor that will implement any measure of the SWPPP.

The following information should be documented in this section:

- Dates when major grading activities occur;
- Dates when construction activities temporarily or permanently cease on a portion of the Facility Site; and
- Dates when stabilization measures (temporary and permanent) are initiated.

AMENDMENTS TO STORMWATER POLLUTION PREVENTION PLAN

Date	Person Amending SWPPP (Name and Title)	Page(s), Figure(s), or Plan(s) Where Amendments Made	Details of Amendment

Date	Person Amending SWPPP (Name and Title)	Page(s), Figure(s), or Plan(s) Where Amendments Made	Details of Amendment

Appendix N – SWPPP Inspection Reports

- Blank SWPPP Inspection Form -

- Completed SWPPP Inspection Reports -

Appendix N – Blank SWPPP Inspection Form

General Project Information					
Project Name:					
SPDES Permit Number:				**Type of Construction Activities Being Completed:**	
Date of Inspection:					
Inspector's Name:					
Time On Site:				**Inspection Type:**	
Time Off Site:					
General Project Notes:					
SWPPP Amendment Required:	☐ Yes	☐ No	**If yes, describe:**		

Weather Information		
Has there been a storm event since the last inspection?	☒ Yes	☐ No
If yes, what was the approx. amount of precipitation (inches) since the last inspection:		
Weather conditions at the time of inspection?	Temperature:	°F
☐ Clear ☐ Cloudy ☐ Rain ☐ Sleet ☐ Snow ☐ Fog ☐ High Winds		
Does the Project Site discharge to natural surface waterbodies located within or immediately adjacent to the Project area?	☐ Yes	☐ No
If yes, describe:		
Were there any discharges observed at the time of inspection?	☐ Yes	☐ No
If yes, were sediment laden discharges observed?	☐ Yes	☐ No
Describe:		
If yes, was erosion or sedimentation observed at the discharge location?	☐ Yes	☐ No
Describe:		
Soil Condition:		
Were areas of soil disturbance observed at the time of inspection?	☐ Yes	☐ No
If yes, describe:		

Maintaining Water Quality

Water Quality Observations	Yes	No	N/A
Is there an increase in turbidity causing a substantial visual contrast to natural conditions?	☐	☐	☐
Is there residue from oil and floating substances, visible oil film, or grease or globules?	☐	☐	☐
Are all disturbances within the approved limits, as outlined on the plans?	☐	☐	☐
Have receiving waterbodies and/or wetland been impacted by the Project?	☐	☐	☐
Are the concrete washout facilities located a minimum of 100 feet from sensitive areas and properly maintained?	☐	☐	☐
Comments:			

General Housekeeping

Site Conditions	Yes	No	N/A
Is construction site litter and debris appropriately managed?	☐	☐	☐
Are facilities and equipment necessary for implementation of erosion and sediment controls in working and/or properly maintained?	☐	☐	☐
Is construction impacting adjacent properties?	☐	☐	☐
Is dust adequately controlled?	☐	☐	☐
Comments:			

Runoff Control Practices

Temporary Stream Crossings	Yes	No	N/A
Are the maximum necessary diameter pipes installed to span stream without dredging?	☐	☐	☐
Is non-woven geotextile fabric installed beneath the approaches?	☐	☐	☐
Is fill composed of aggregate (no earthen or soil material)?	☐	☐	☐
Is the rock on approaches clean enough to remove mud/sediment from vehicles and prevent sediment from entering the stream during high flows?	☐	☐	☐
Comments:			

Excavation Dewatering	Yes	No	N/A
Are upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per the Construction Drawings?	☐	☐	☐
Is clean water from the upstream pool being pumped to the downstream pool?	☐	☐	☐
Is sediment laden water from the work area being discharged to a sediment trapping device?	☐	☐	☐
Is the water discharging from the sediment trapping device clear and free of sediment?	☐	☐	☐
Does the constructed upstream berm have a minimum of one-foot freeboard?	☐	☐	☐
Comments:			

Flow Spreader(s)	Yes	No	N/A
Is the flow spreader installed per the Construction Drawings?	☐	☐	☐
Was the flow spreader constructed on undisturbed soil, not on fill?	☐	☐	☐
Does the flow spreader receive only clear, non-sediment laden flows?	☐	☐	☐
Does the discharge from the flow spreader sheet flow out of the spreader without erosion downstream?	☐	☐	☐
Comments:			

Interceptor Dikes and Swales	Yes	No	N/A
Is the dike/swale installed per the Construction Drawings?	☐	☐	☐
Has the dike/swale been stabilized by geotextile fabric, seed, and/or mulch?	☐	☐	☐
Was erosion observed within the dike/swale?	☐	☐	☐
Is sediment-laden runoff directed to a sediment trapping device?	☐	☐	☐
Comments:			

Stone Check Dam(s)	Yes	No	N/A
Are the check dams in good condition (rocks in place and no ponding behind the dams)?	☐	☐	☐
Has geotextile fabric been placed beneath the rock fill?	☐	☐	☐
Was sediment accumulation greater than 50% of the design capacity?	☐	☐	☐
Was erosion observed within the channel?	☐	☐	☐
Comments:			

Rock Outlet Protection	Yes	No	N/A
Is the rock outlet protection installed per approved plans?	☐	☐	☐
Was the outlet protection installed concurrently with pipe installation?	☐	☐	☐
Have the rocks been displaced?	☐	☐	☐
Is the sediment accumulation 0% of the design capacity?	☐	☐	☐
Comments:			

Soil Stabilization

Topsoil and Spoil Stockpiles	Yes	No	N/A
Are stockpiles properly stabilized and contained?	☐	☐	☐
Are sediment control installed at the toe of the slope?	☐	☐	☐
Are idle soil stockpiles are stabilized with vegetation and/or mulch?	☐	☐	☐
Comments:			

Revegetation	Yes	No	N/A
Has temporary seed and mulch been applied to idle areas?	☐	☐	☐
Has a minimum of 4 inches of topsoil been applied under permanent seeding areas?	☐	☐	☐
Comments:			

Sediment Control Practices

Stabilized Construction Entrance(s)	Yes	No	N/A
Is the entrance installed per the Construction Drawings?	☐	☐	☐
Is the stone clean enough to effectively remove mud/sediment from vehicle tires?	☐	☐	☐
Does all traffic enter and exit the site at the stabilized construction entrance(s)?	☐	☐	☐
Is adequate drainage provided to prevent ponding at the entrance(s)?	☐	☐	☐
Comments:			

Linear Sediment Control Barriers	Yes	No	N/A
Are the sediment controls installed along the contour, 10 feet from toe of slope and not within conveyance channels?	☐	☐	☐
Are silt fence joints constructed by wrapping the two ends together for continuous support?	☐	☐	☐
Is the silt fence fabric is buried a minimum of 6 inches?	☐	☐	☐
Are the posts stable and the fabric is tight and without rips/frayed areas?	☐	☐	☐
Does the compost filter sock have good contact with the soil?	☐	☐	☐
Is the sediment accumulation 0% of the design capacity?	☐	☐	☐
Comments:			

Storm Drain Inlet Protection	Yes	No	N/A
Is the inlet protection installed in accordance with the Construction Drawings?	☐	☐	☐
Is the inlet protection structurally sound?	☐	☐	☐
Are the posts stable and the fabric is tight and without rips/frayed areas?	☐	☐	☐
Is the sediment accumulation greater than 50% of the design capacity?	☐	☐	☐
Comments:			

Temporary Sediment Basin	Yes	No	N/A
Is the basin and outlet structure constructed per the Construction Drawings?	☐	☐	☐
Are the basin side slopes stabilized?	☐	☐	☐
Was the drainage structure flushed and basin surface restored upon removal of the sediment basin facility?	☐	☐	☐
Is the sediment basin dewatering at an appropriate rate?	☐	☐	☐
Is the sediment accumulation greater than 50% of the design capacity?	☐	☐	☐
Comments:			

Temporary Sediment Trap	Yes	No	N/A
Is the outlet structure constructed per the Construction Drawings?	☐	☐	☐
Has geotextile fabric been placed beneath the rock fill?	☐	☐	☐
Are the sediment trap slopes and disturbed areas are stabilized?	☐	☐	☐
Is the sediment accumulation greater than 50% of the design capacity?	☐	☐	☐
Comments:			

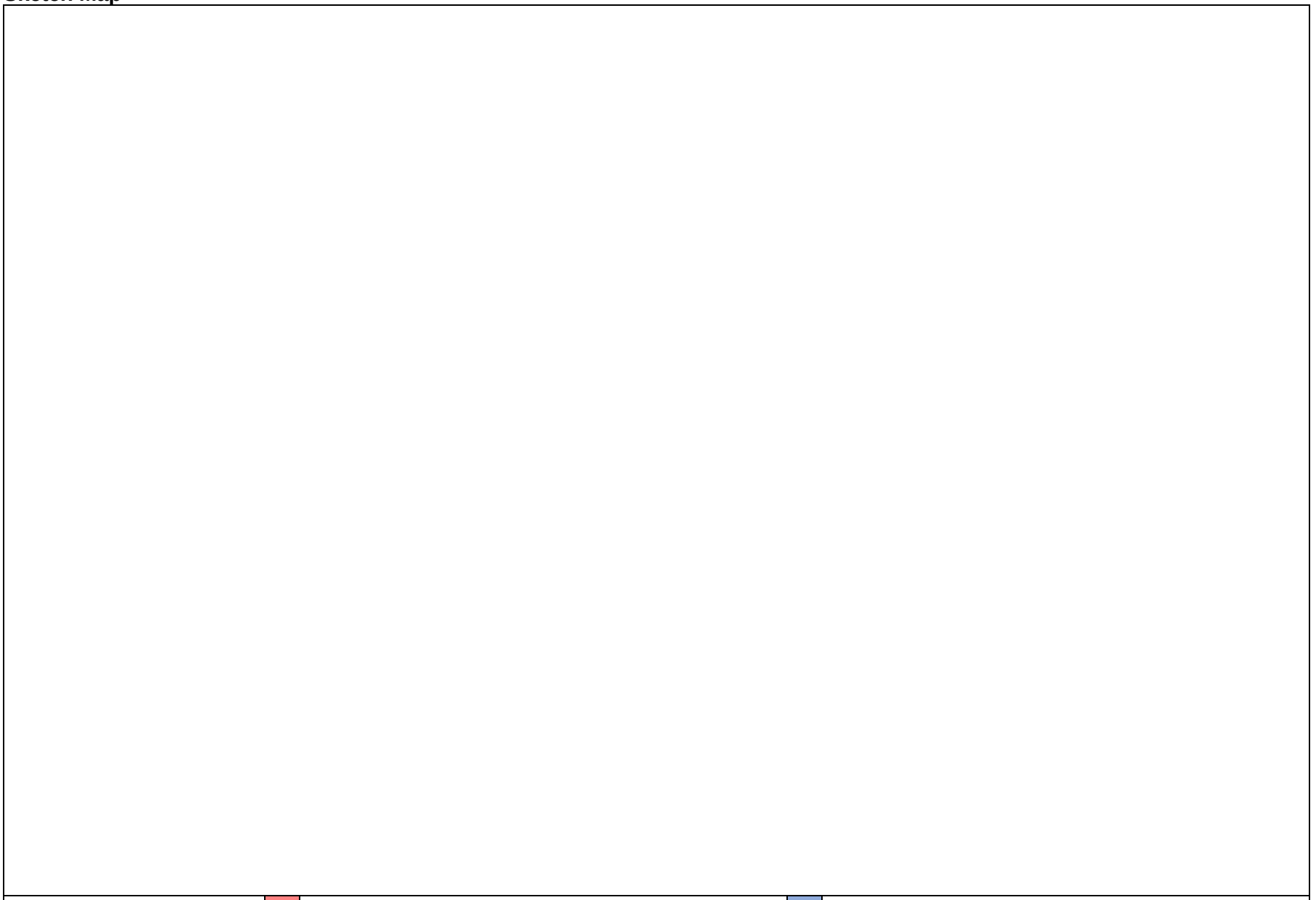
Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design. All practices shall be maintained in accordance with their respective standards.

Qualified Inspector _____ Qualified Inspector Signature _____

Qualified Professional _____ Qualified Professional Signature _____

The above signed acknowledges that, to the best of his/her knowledge, all information provided in this report is accurate and complete. If there are any questions, comments, or concerns regarding the contents of this report, feel free to contact Inspector's Name at XXX-XXX-XXXX or email address.

Sketch Map



Legend:		Area of Active Soil Disturbance		Area has Achieved Temporary Stabilization
		Area of Inactive Soil Disturbance		Area has Achieved Final Stabilization

Inspection Photographs

1		**2**	

3		**4**	

5	**6**

7	**8**

9		**10**	

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11		**12**	

Appendix N – Completed SWPPP Inspection Reports